Graduate research methods in social work

Graduate research methods in social work

A project-based approach

MATTHEW DECARLO, CORY CUMMINGS, AND KATE AGNELLI

OPEN SOCIAL WORK
BLACK ROCK CITY, NV



Graduate research methods in social work by Matthew DeCarlo, Cory Cummings, Kate Agnelli is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License, except where otherwise noted.

Contents

Downloads and resources for students xii

Download this textbook xii

Reading and taking notes in a web browser (phone, tablet, or computer) xii

Reading and taking notes in a PDF reader xiv

Printing this textbook xv

Creating your own version of this textbook xvi

Create and share resources for other students xvi

We want your feedback! xvii

Resources for faculty xviii

Please contact us! xviii

Ancillary resource package xviii

Adopter's survey xix

Other books in this series xix

Creating your own edition of this textbook xx

Community-created resources xx

Copyright information xxi

Publisher xxi

Suggested citation xxi

Copyright license xxi

Suggested attribution xxiii

Reuse of openly licensed work xxiii

Contributors xxiv
Authors xxiv
Our generous funder xxv
Editor xxv
Key contributors xxvi
Advisors xxvii
Peer reviewers xxviii
Dedication xxxi
Foreward 1

Part 1: Introduction to research

1. Science and social work 4
1.1 How do social workers know what to do? 4
1.2 The scientific method 11
1.3 Evidence-based practice 20
1.4 Social work research 27
2. Starting your research project 35
2.1 Choosing a research topic 35
2.2 Your research proposal 41
2.3 Practical and ethical considerations 49
2.4 Raw data 58
2.5 Critical considerations 64
3. Searching the literature 69
3.1 The scholarly literature 69
3.2 Searching basics 84
4. Critical information literacy 99
4.1 Evaluating sources 99
4.2 Annotating sources 112
4.3 Critical information literacy 120

5. Writing your literature review 132
5.1 *Reading results* 132
5.2 *Organizing information* 141
5.3 *Writing your literature review* 149

Part 2: Conceptualizing your research project

6. Research ethics 162
6.1 *Human subjects research* 162
6.2 *Specific ethical issues to consider* 172
6.3 *Benefits and harms of research across the ecosystem* 179
6.4 *Being an ethical researcher* 184
7. Theory and paradigm 191
7.1. *What are your assumptions?* 191
7.2 *Ethical and critical considerations* 201
7.3 *Social work research paradigms* 213
7.4 *Developing your theoretical framework* 230
7.5 *Designing your project using theory and paradigm* 239
8. Reasoning and causality 250
8.1 *Inductive and deductive reasoning* 250
8.2 *Nomothetic causal explanations* 259
8.3 *Idiographic causal relationships* 269
8.4 *Mixed methods research* 276
9. Writing your research question 282
9.1 *Empirical vs. ethical questions* 282
9.2 *Characteristics of a good research question* 285
9.3 *Quantitative research questions* 287
9.4 *Qualitative research questions* 293
9.5 *Evaluating and updating your research questions* 296

Part 3: Using quantitative methods

10. Quantitative sampling 301

10.1 *The sampling process* 301

10.2 *Sampling approaches for quantitative research* 314

10.3 *Sample quality* 323

11. Quantitative measurement 337

11.1 *Conceptual definitions* 337

11.2 *Operational definitions* 347

11.3 *Measurement quality* 368

11.4 *Ethical and social justice considerations* 379

12. Survey design 390

12.1 *What is a survey, and when should you use one?* 390

12.2 *Collecting data using surveys* 398

12.3 *Writing effective questions and questionnaires* 414

12.4 *Bias and cultural considerations* 436

13. Experimental design 450

13.1 *What is an experiment and when should you use one?* 450

13.2 *True experimental design* 455

13.4 *Quasi-experimental designs* 460

13.5 *Non-experimental designs* 464

13.6 *Critical, ethical, and cultural considerations* 469

14. Univariate analysis 472

14.1 *Where do I start with quantitative data analysis?* 474

14.2 *Measures of central tendency* 478

14.3 *Frequencies and variability* 484

15. Bivariate analysis 493

15.1 *What is bivariate analysis?* 493

15.2 *Chi-square* 498

15.3 *Correlations* 502

15.4 *T-tests* 506

15.5 ANOVA (AN*alysis Of* VA*riance*) 509

16. Reporting quantitative results 515
16.1 *Additional resources for quantitative data analysis* 515
16.2 *Reporting quantitative results* 517

Part 4: Using qualitative methods

17. Qualitative data and sampling 522
17.1 *Ethical responsibility and cultural respectfulness* 524
17.2 *Critical considerations* 526
17.3 *Finding the right qualitative data to answer my research question* 530
17.4 *How to gather a qualitative sample* 542
17.5 *What should my sample look like?* 555
18. Qualitative data collection 562
18.1 *Ethical responsibility and cultural respect* 562
18.2 *Critical considerations* 565
18.3 *Preparations for the data gathering process* 567
18.4 *Interviews* 572
18.5 *Focus groups* 582
18.6 *Observations* 592
18.7 *Documents and other artifacts* 596
19. A survey of approaches to qualitative data analysis 605
19.1 *Ethical responsibility and cultural respectfulness* 606
19.2 *Critical considerations* 609
19.3 *Preparations: Creating a plan for qualitative data analysis* 613
19.4 *Thematic analysis* 621
19.5 *Content analysis* 630
19.6 *Grounded theory analysis* 635
19.7 *Photovoice* 640

20. Quality in qualitative studies: Rigor in research design 646
20.1 *Introduction to qualitative rigor* 647
20.2 *Ethical responsibility and cultural respectfulness* 655
20.3 *Critical considerations* 657
20.4 *Data capture: Striving for accuracy in our raw data* 661
20.5 *Data management: Keeping track of our data and our analysis* 664
20.6 *Tools to account for our influence* 669
21. Qualitative research dissemination 682
21.1 *Ethical responsibility and cultural respectfulness* 683
21.2 *Critical considerations* 686
21.3 *Informing your dissemination plan* 688
21.4 *Final product taking shape* 694
22. A survey of qualitative designs 702
22.1 *Case study* 704
22.2 *Constructivist* 709
22.3 *Oral history* 712
22.4 *Ethnography* 718
22.5 *Phenomenology* 723
22.6 *Narrative* 728

Part 5: Research in practice

23. Program evaluation 737
23.1 *What is program evaluation?* 739
23.2 *Planning your program evaluation* 744
23.3 *Process evaluation and implementation science* 749
23.4 *Outcome and impact evaluations* 753
23.5 *Ethics and culture in program evaluation* 755

24. Sharing and consuming research 760
24.1 Sharing your results 760
24.2 Sharing with an academic audience 766
24.3 Sharing with professional and lay audiences 775
24.4 Consuming research as professional development 780
24.5 The future of research is open 787

Appendix A: Student-to-student resources 793
Graduate research methods in social work workbook (Gyourko, et al., 2020) 793
Mendeley Guide (Ovalle, 2020) 794
Appendix B: Faculty-to-faculty resources 795
Graduate research methods in social work quiz bank (Day et al., 2020) 795
Scaffolded assignments for a research proposal (DeCarlo, 2020) 795
Presentations and quiz bank for Scientific inquiry in social work (BSW open text) (DeCarlo, 2018) 796
Glossary 797
CSWE EPAS index 845
Peer review statement 848
Attributions index 855
Version information 859
Version 1.0 (08/23/2021) 859
Version 0.9 (08/15/2020) 859

Downloads and resources for students

Download this textbook

The current edition of the textbook is 1.0, published on 08/23/2021. For more information on updates to the textbook, consult the Version Information section of the back matter.

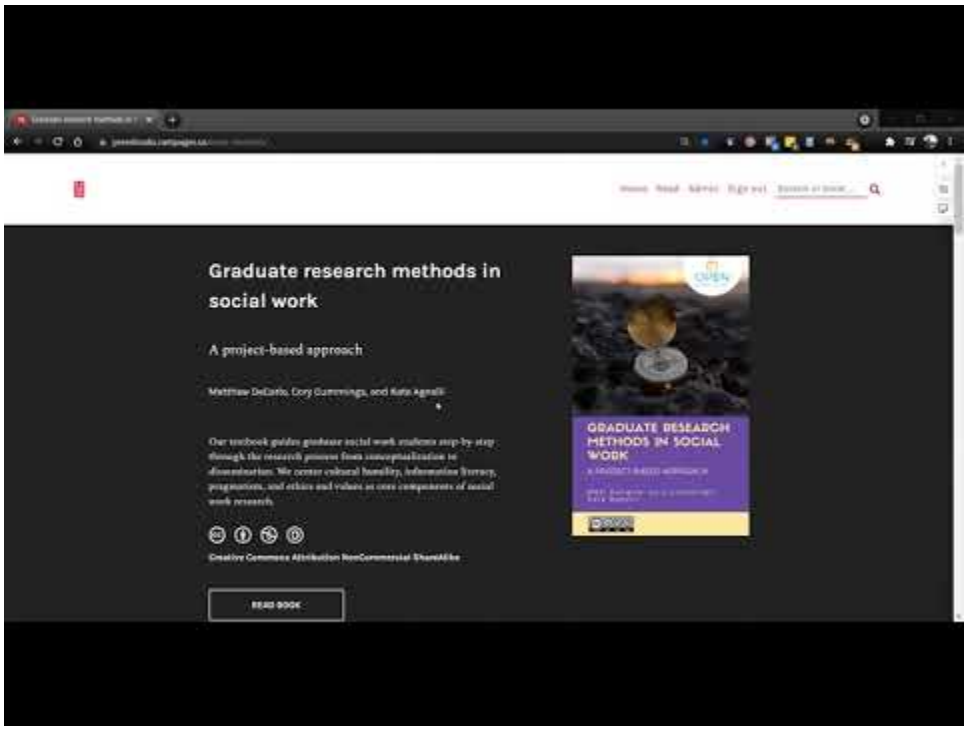
This textbook is available in multiple formats to make it easy for students to access and read. All downloads are free, and can be shared in compliance with the copyright license contained in the Copyright Information section of the front matter. Downloads are hosted in our Google Drive folder.

File format	Used for	Tutorials
PDF (web)	Reading on a phone or computer in a PDF reader	How do I take notes on a PDF?
PDF (print)	Printing on paper	How can I print this textbook?
MOBI	Reading on a Kindle	
EPUB	Reading on iBooks, Nook, and other e-readers	
Pressbooks XML	Copying and pasting some or all of the textbook into a new book.	How do I create my own version of this book?

Most students choose a blend of accessing the textbook using the https://pressbooks.rampages.us/msw-research/ website as well as downloaded copies on their computer, phone, or tablet.

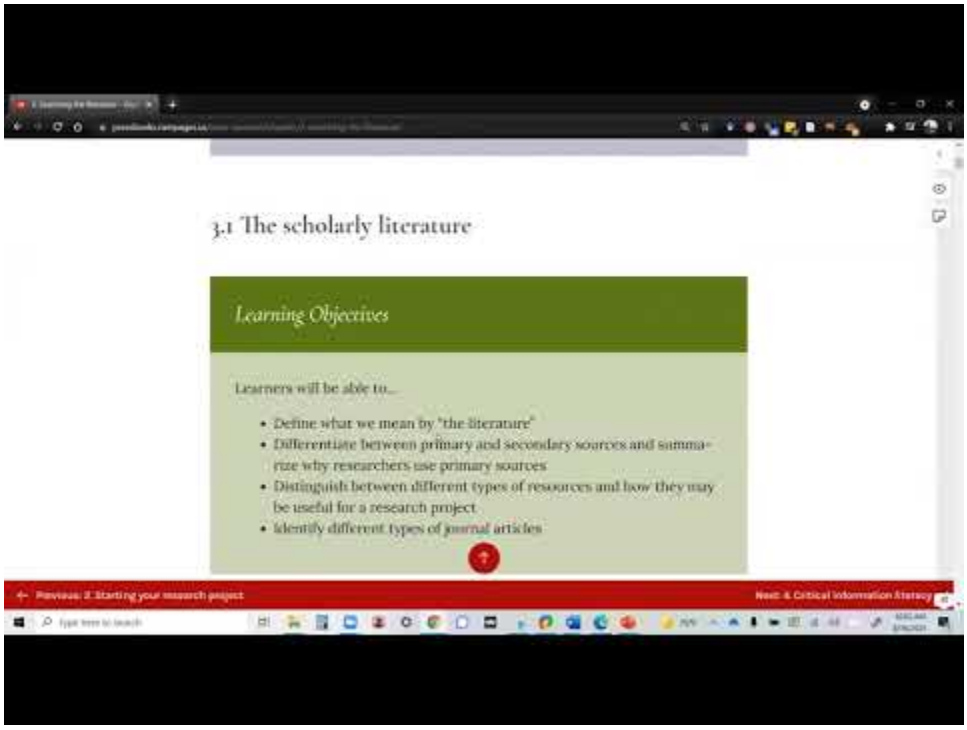
Reading and taking notes in a web browser (phone, tablet, or computer)

In addition to the downloads above, you can browse this textbook like a normal website. If this is your first textbook that is also a website (or maybe just your first one built using Pressbooks), we've made a short introduction video for how to browse around the textbook. It is a good idea to bookmark https://pressbooks.rampages.us/msw-research/ in your mobile and computer web browser, so you can easily access the textbook whenever you may need it. Personally, I (Matt) prefer to read e-textbooks on my phone, but I also prefer to read most things on my phone.



A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.rampages.us/msw-research/?p=382

As you can see in the video below, we also recommend Hypothes.is for taking notes and highlighting directly on a website like this textbook, including doing so with other students in a private group. We strongly prefer that you use private groups when annotating with hypothes.is (not the default public forum).



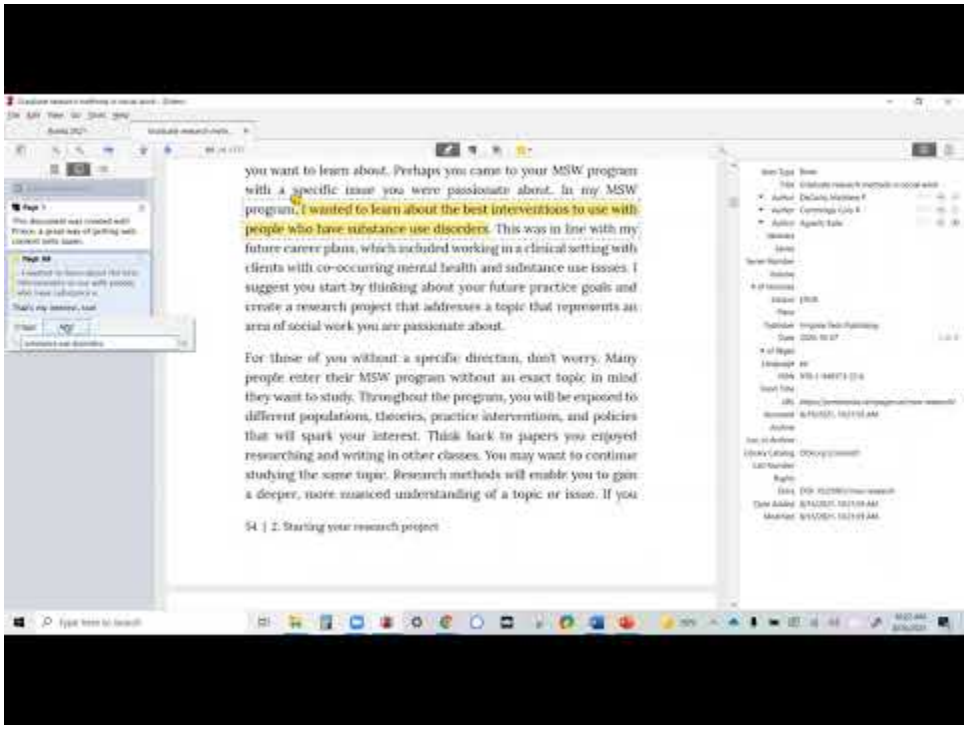
A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.rampages.us/msw-research/?p=382

Reading and taking notes in a PDF reader

PDF is the most commonly used download option on the textbook. If you prefer to make notes directly on an e-textbook (like highlights and comments), you should use a PDF reader beyond what is offered in your web browser. At minimum, you will want a PDF reader like Adobe Acrobat of Foxit Reader which allow you to place comments in PDFs.

If the links inside your PDF do not work, you are using the print PDF instead of the web PDF. The print PDF should only be used to print the book.

We would like to highlight two options for PDF readers, in particular. The beta edition of Zotero includes a PDF annotation tool, and researchers can use tags, notes, highlights, and other features to mark up the textbook and take notes. We have included a tutorial below. Unfortunately, you cannot perform group annotation in Zotero in shared PDFs, so this is for individual note-taking only.



A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.rampages.us/msw-research/?p=382

If you would like to share notes with other students in your class, consider sharing the same PDF copy of the textbook in a shared Google Drive folder. Comments and highlights made in a shared PDF are visible to everyone with access to that document, and it's a nice way to build a social reading and learning space.

Printing this textbook

Some students love print! You can print this textbook out. In many ways, it's superior to taking notes digitally. In our classes, students have printed out chapters as they were due each week, and assembled them into a 3-ring binder along with class notes and activities over the semester.

This is a long textbook, so you might want to talk to your university's printing office or a local copy shop to see if they will print it for you with a 3-hole punch or cheap binding. Copy shops and print vendors are permitted under the CC-BY-NC-SA license to charge you to print a copy.

Creating your own version of this textbook

Hello PhD and DSW students! We would love for you to create your own edition of the textbook! (also…all of your projects should be open pedagogy and renewable assignments). The four core authors of this projects were in the same doctoral cohort together, and we think that open education is a fantastic platform to scale collaboration among social workers receiving the most advanced education our discipline provides!

You can easily create a clone of this textbook (or any subsection of it) using Pressbooks.

1. Download the Pressbooks XML file for this textbook.
2. Create a Pressbooks account for yourself (and your textbook team).
3. Go to Tools/Import.
4. Open this textbook's XML file using the prompt.
5. Select all textbook elements to create a perfect clone or specify which chapters or sections you want to import.
6. It's now yours! Do whatever you want with it!
7. Make sure to abide by the Creative Commons license and provide proper attribution for all material from this resource (see Copyright Information and Attributions Index for examples).
8. To publish your adapted textbook publicly, you will have to pay $99 to Pressbooks to host your book.
9. Feel free to consult the BCCampus self-publishing guide. You can also ask me at profmattdecarlo@gmail.com for help. I'm genuinely happy to help!
10. Tell us about them! Knowing our community impact is part of what keeps this project going!

If you make changes to the ancillary resources or textbook you feel the community would benefit from, or if you develop new resources, please consider sharing them with the the authors for inclusion in future editions of this textbook and on OER Commons or Merlot. Please provide attribution following the best practices in the BCCampus Adaptation guide.

Create and share resources for other students

Open educational resources are all about collaboration, and we hope to foster that collaboration across students using this open textbook. If you create resources you think would be useful to other students, please contact profmattdecarlo@gmail.com and we will consider them for inclusion in Appendix A: Student-to-student resources as well as in an appropriate place in the textbook. We are happy to provide a letter documenting your contribution to the project, if requested.

We want your feedback!

If you have feedback on the textbook (whether it's something you liked or something that could be better), we'd love to hear from you. Contact profmattdecarlo@gmail.com if you prefer to send an email, memo, or marked up document. We encourage you to use the Hypothes.is annotation group for Community Feedback. We check for feedback regularly, but we are usually only able to get to revisions over the summer academic break.

Resources for faculty

Please contact us!

Matt DeCarlo (profmattdecarlo@gmail.com) is the project manager and works on the resource regularly. If you have questions about how to adopt or use the resource, how to set something up, or have some feedback for us, please don't hesitate to get in touch! We're happy you find the resource useful, and we want to make sure our project is useful to as many people as possible.

If you have feedback on the textbook, you can send us a memo with your thoughts or you can use the Hypothes.is annotation group for Community Feedback. We appreciate you not using the Public hypothes.is forum. Updates on the textbook are made every summer, though sometimes smaller changes are made more frequently.

Ancillary resource package

The ancillary resource package for Graduate Research Methods in Social Work is still in production. These resources were created for the pilot implementation during the Spring 2020 semester but have not been updated to include revisions made to many chapters during Summer 2020 & 2021.

Please contact profmattdecarlo@gmail.com for access to the ancillary resource package which contains:

- Slideshows
- Student workbook
- Homework assignments
- Course calendar
- Quiz bank (incomplete)

As junior and adjunct faculty, the authors do not get to choose which classes we teach. Sadly, we did not teach research methods during the 2020-2021 academic year, so we have not revised the ancillary resources we created for the pilot edition yet. We look forward to publishing a revised course package during the 2021-2022 academic year (and our return to the research classroom!) that includes the latest revisions to the textbook.

We also believe these ancillary resources from *Scientific inquiry in social work* may be of value for professors implementing our textbook.

- PowerPoint slideshows
- A set of assignments

Adopter's survey

We would really appreciate for faculty who adopt this resource to fill out our short Adopter's Survey which helps us track how this resource is used by the community and to ensure its long-term sustainability.

The information you provide in the adopter's survey will be stored by the project manager in a cloud storage folder. I will keep all information confidential. I will report summary statistics from the adopter's survey in public statements about this project. This will include items like the number of campuses who have adopted the resources, the total savings accrued by students versus their previously used commercial textbook, and so forth.

I will also use the (optional) email field as a point of contact for major updates to the project, which are completed every summer. We ask that you complete the survey annually so we can keep track of how the resource is used over time.

Other books in this series

Other books in this series include BSW and MSW research methods open textbooks:

- Scientific inquiry in social work; by Matt DeCarlo
- Guidebook for social work literature reviews and research questions, adapted by Rebecca Mauldin from Scientific inquiry in social work; by Matt DeCarlo
- Foundations of social work research; adapted by Rebecca Mauldin from Scientific inquiry in social work; by Matt DeCarlo

For open textbooks in other social work domains, consult Open Social Work's list of open textbooks for social work.

Creating your own edition of this textbook

The authors would like people to adapt their own versions of our book. You can easily customize this textbook for your classroom using Pressbooks.

1. Download the XML file for this textbook.
2. Create a Pressbooks account.
3. Go to Tools/Import.
4. Open this textbook's XML file using the prompt.
5. You can import all sections of the textbook to make a perfect clone or import selected parts.
6. It's your book, now. Take out whatever you want, add stuff, revise wording…do whatever you want with it.
7. Make sure to abide by the Creative Commons license and provide proper attribution for all material from this resource (see Copyright Information and Attributions Index for examples).
8. To publish your adapted textbook publicly, you will have to pay $99 to Pressbooks to host your book.
9. Feel free to consult the BCCampus self-publishing guide. You can also ask me at profmattdecarlo@gmail.com for help. I'm genuinely happy to help!

If you make changes to the ancillary resources or textbook you feel the community would benefit from, or if you develop new resources, please consider sharing them with the the authors for inclusion in future editions of this textbook and on OER Commons or Merlot. Please provide attribution following the best practices in the BCCampus Adaptation guide.

Community-created resources

- Please send us any openly licensed resources you've created or used that we should share as part of this resource. These may include videos, activities, case studies, or other learning resources.
- Any resources you submit will be evaluated for inclusion in Appendix B: Faculty-to-faculty resources as well as in an appropriate place in the textbook. We are happy to provide a letter documenting your contribution to the project, if requested.
- Contact profmattdecarlo@gmail.com to submit resources or for more information.

Copyright information

Publisher

This textbook is part of the Open Social Work project. Open Social Work is dedicated to spreading open education, open access, open science, and the practices that support them in social work education and research. Other social work open textbooks as well as resources for faculty who want to engage in open scholarship are available at www.opensocialwork.org. Together, we can create a social work knowledge base owned by the community.

Suggested citation

DeCarlo, M., Cummings, C., & Agnelli, K. (2021). *Graduate research methods in social work: A project-based approach*. Open Social Work. https://www.doi.org/10.21061/msw-research

Copyright license

Graduate research methods in social work: A project-based approach was created by Matthew DeCarlo, Cory Cummings, and Kate Agnelli. Unless otherwise noted, this textbook and all of the associated

resources (workbook, slideshows, activities, etc.) are © 2021 by these authors and licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License (https://creativecommons.org/licenses/by-nc-sa/4.0/).



Creative Commons Attribution, Non-Commercial, Share-alike license

This means you are free to:

- **Share** – *copy and redistribute the material in any medium or format*
- **Adapt** – *remix, transform, and build upon the material*

If you adapt the textbook or create derivative resources, you must follow these license terms:

- **Attribution** – *You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.*
- **NonCommercial** – *You may not use the material for commercial purposes.*
- **ShareAlike** – *If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original.*
- **No additional restrictions** – *You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.*

Suggested attribution

For content creators who wish to adapt the content in our textbook, please use the following attribution:

Graduate research methods in social work: A project based approach by Matt DeCarlo, Cory Cummings, and Kate Agnelli and distributed by Open Social Work under a CC-BY-NC-SA 4.0 license.

Reuse of openly licensed work

This textbook incorporates openly licensed content from other sources, and an index of attributions is provided in the back matter of the textbook.

The cover image was created using a photo by Dunamis Church on Unsplash and designed using Canva. Thanks for sharing, Dunamis!

Media Attributions

- cc-byncsa

Contributors

This textbook is only possible because of the manifold contributions of two communities: social work education and open education. The process of creating this textbook is documented in a teaching note by the lead author, which reviews many of the contributions made by the community of educators and specialists who gave their time and expertise to the creation of this resource.

Authors

Matt DeCarlo, PhD, MSW is an assistant professor in the Department of Social Work at La Salle University. He is the co-founder of Open Social Work (formerly Open Social Work Education), a collaborative project focusing on open education, open science, and open access in social work and higher education. His first open textbook, Scientific Inquiry in Social Work, was the first developed for social work education, and is now in use in over 60 campuses, mostly in the United States. He is a former OER Research Fellow with the OpenEd Group. Prior to his work in OER, Dr. DeCarlo received his PhD from Virginia Commonwealth University and has published on disability policy.

Cory Cummings, Ph.D., LCSW is an assistant professor in the Department of Social Work at Nazareth University. He has practice experience in community mental health, including clinical practice and administration. In addition, Dr. Cummings has volunteered at safety net mental health services agencies and provided support services for individuals and families affected by HIV. In his current position, Dr. Cummings teaches in the BSW program and MSW programs; specifically in the Clinical Practice with Children and Families concentration. Courses that he teaches include research, social work practice, and clinical field seminar. His scholarship focuses on promoting health equity for individuals experiencing symptoms of severe mental illness and improving opportunities to increase quality of life. Dr. Cummings received his PhD from Virginia Commonwealth University.

Kate Agnelli, MSW, is an adjunct professor at VCU's School of Social Work, teaching masters-level classes on research methods, public policy, and social justice. She also works as a senior legislative analyst with the Joint Legislative Audit and Review Commission (JLARC), a policy research organization reporting to the Virginia General Assembly. Before working for JLARC, Ms. Agnelli worked for several years in government and nonprofit research and program evaluation. In addition, she has several publications in peer-reviewed journals, has presented at national social work conferences, and has served as a reviewer for Social Work Education. She received her MSW from Virginia Commonwealth University.

Our generous funder

This project was financially and practically supported by the Virtual Library of Virginia (VIVA) as part of their Course Redesign Grant Program. The financial support ($23,725) offered by VIVA was essential to dedicating the time needed to complete this project. Moreover, the community of open education leaders that VIVA has sustained was an indispensable source of knowledge and guidance throughout this project. We would also like to acknowledge Dr. Stephanie Westcott, our grant officer, who helped us adapt this project to meet many challenges over the 1.5 years of its duration. Any Virginia faculty who would like a copy of our grant application materials or project management resources, please reach out to profmattdecarlo@gmail.com.

Editor

Dalia Khoury, PhD, is a Behavioral Health Researcher at a nonprofit contract research organization (RTI International) as well as an adjunct professor at Virginia Commonwealth University School of Social Work. She has experience teaching both online and in-person research and social justice courses at the BSW and MSW level. Dr. Khoury currently conducts rigorous research in the area of opioid addiction, with a focus on the use of existing data to combat and forecast the progression of the opioid epidemic and to understand its impact on underrepresented groups, including individuals with co-occurring disorders. Prior to her current position, Dr. Khoury completed a two-year NIH NRSA post-doctoral fellowship at Duke University Medical Center and has her PhD in Social Work from Virginia Commonwealth University.

Project management and administration

This project would not have been possible without the tireless work of Cindy Whitehead and Jim Quillen in the Radford University School of Social Work. Additionally, the institutional and administrative support of Dr. Diane Hodge and Dr. Ken Cox was invaluable in piloting, studying, and developing this resource in the Waldron College of Health and Human Services. Matt DeCarlo also served as project manager.

Key contributors

Instructional design and technology lead

Tom Woodward, the Associate Director of Innovation at VCU, is interested in the creative and out-of-the box ways technology enables one to think. His educational philosophy is influenced by Maria Montessori, Seymour Papert, and Bret Victor. Mr. Woodward has spent the last 18 years focused on blending constructivism and technology in K12 and higher education. His interests include multimedia creation, data visualization, history, APIs, poetry, WordPress, and photography. He continues to create novel and interesting approaches to learning that incorporate the salient characteristics of reality, while also taking advantage of technology to expand and extend learning opportunities digitally.

Visual design

Janine Gancy, an MSW student at Stockton University assisted with the visual design of the textbook, providing detailed feedback for revisions. Matt DeCarlo completed the visual design and editing process.

Copyright and open licensing coordinators

Hillary Miller is a SPARC Open Education Leadership Fellow at VCU. Ms. Miller has taken a leadership role at VCU Libraries, leading open education initiatives, including serving as an Open Textbook Network statewide system leader. In addition, Ms. Miller has worked to establish the Affordable Course Content Awards program for faculty who choose to write or adopt open educational resources.

Jessica Kirschner supports the VCU community in its efforts to decrease student costs and increase student success through the use of open and affordable educational materials. Working with partners from across the VCU community, she advocates, educates, and assists in the creation of new resources and is also responsible for the location, adoption and adaptation of existing course materials (e.g. library materials, open educational resources). Ms. Kirschner works with liaison and collections librarians on discipline-specific outreach and partners with other university units to provide support for faculty. In partnership with the ALT Lab, Center for Teaching and Learning Excellence, Academic Technologies, and Barnes & Noble at VCU, she also administers the affordable course content awards program.

Content creators

Mr. Gyourko created our exercise workbook and reviewed the resource as student advisor from beginning to end.

John Gyourko, MSW is a PhD student at the University of Pennsylvania School of Social Policy and Practice and graduate of the Virginia Commonwealth University School of Social Work. He was named the MSW student of the year by the National Association of Social Workers – Virginia chapter in Spring 2020. He was also recognized with the Elaine Rothenberg Social Work Award and the Service & Leadership Award at Virginia Commonwealth University.

Dr. Day created the quizzes for each chapter. They are available in the instructor course package. Email profmattdecarlo@gmail.com for access to instructor resources.

Monica Roth Day, MSW, LGSW, Ed.D., is an associate professor at Metropolitan State University in St. Paul, Minnesota. Over the past 25 years in the field of social work, she has worked as an organizer with Minnesota Public Interest Research Group, a volunteer coordinator/community educator at the Program to Aid Victims of Sexual Assault, and is assistant director at the Center for American Indian and Minority Health. Dr. Day continues to volunteer at community organizations in the Twin Cities area. Monica has taught in social work education for over 20 years. Currently, she teaches courses in social work practice, research, and comparative racial analysis.

Dr. Lee contributed to the conceptualization of the textbook, the early drafts of some chapters as well as the scaffolded homework assignments in the instructor course package. Email profmattdecarlo@gmail.com for access to instructor resources.

Nicole "Nicki" Lee, Ph.D. is an associate professor in the Virginia Commonwealth University School of Social Work. An experienced social work educator, Dr. Lee has spent over a decade teaching in the M.S.W. and B.S.W. programs at Virginia Commonwealth University. Her scholarly interests include social work teaching pedagogy, program evaluation, intimate partner violence in communities of color, and the impact of health on the psychosocial functioning of individuals and communities.

Advisors

Advisors provided formative feedback including project scoping, outlining, and drafting. Advisors also, to the greatest extent possible, provided summative feedback as part of the peer review process outlined in the Peer Review Statement in the back matter of this textbook.

Matthias Naleppa, Ph.D., MSW is an associate professor at the School of Social Work at Radford University and a recent Hartford Geriatric Social Work Faculty Scholar. Previously, he held positions

as professor of social work at the State University of Baden-Wuerttemberg in Stuttgart, Germany; the University of Applied Sciences in Bern, Switzerland; and Virginia Commonwealth University. His research focuses on geriatric social work, short-term treatment, and international social work. Dr. Naleppa regularly conducts workshops on task-centered practice and geriatric social work in the United States, Europe, and Asia. He holds an MSW from the Catholic School of Social Work in Munich and a PhD from the University at Albany.

Sarah Kye Price, PhD, MSW, MS, Mdiv, is a Professor and Associate Dean for Faculty Development in the School of Social Work at Virginia Commonwealth University. Her research focuses on bereavement and loss related to pregnancy and childbearing. Her research and publications are centered on mental health promotion for women from low-income communities who are disproportionately affected by fetal and infant mortality. Dr. Price's community-engaged research has been backed by the VCU Center for Clinical and Translational Research's KL2 Scholar program, which is a part of the National Institutes of Health's federal Clinical and Translational Science Awards infrastructure. She has also enjoyed the support of the Health Resources and Services Administration, the Administration on Children and Families, the Patient-Centered Outcomes Research Institute, and the Missouri Foundation for Health.

Patrick Dattalo, Ph.D. is a professor at Virginia Commonwealth University's School of Social Work. Dr. Dattalo began his university-level teaching career in 1982, and has taught extensively at the undergraduate, masters, and doctoral level across multiple disciplines, including social work, criminal justice, and public administration. He has taught macro practice, organizational and community theory, and research methods. Dr. Dattalo has published articles and books on research methods and statistical analysis. He is a reviewer for several journals and an editorial board member for the Journal of Social Service Research and Administration in Social Work. Currently, he teaches a doctoral course on multivariate analysis, as well as undergraduate courses in research methods and statistics. His educational background includes a B.S. in experimental psychology, a master's in social work, and a Ph.D. in public administration, with a specialization in quantitative analysis.

Emily Massengill, MSW

Courtney Crenshaw, MSW

We would also like to thank Anita Walz, Assistant Director of Open Education and Scholarly Communication Librarian, as well as Robert Browder and Peter Potter at VT Publishing, who provided essential guidance in the design and publication of this resource as well as donating ISBN and DOI numbers to our project.

Peer reviewers

The team was incredibly grateful and humbled by the number of faculty who volunteered their time and

expertise to reviewing chapters for this textbook. The Peer Review Statement in the back matter of the textbook provides a more complete description of team members' contributions to each chapter and how authors integrated that feedback into the textbook. Peer reviewers were recruited through the BPD listserv. Recruitment is detailed in this teaching note.

Debra Olson-Morrison, PhD, LCSW, RPT, Assistant Professor of Social Work, Park University. (Chapter 1)

Marcia Runnberg-Valadez, EdD, MSW, LICSW, Assistant Professor, College of St. Scholastica. (Chapters 1 & 2)

Andrea Reynolds, LCSW, Director of field education and Assistant Professor, Lincoln University. (Chapters 2, 9, & 16)

Michel Coconis, PhD, Assistant Professor, Union Institute and University. (Chapters 2, 3, 4 & 5)

Melody Loya, PhD, MSSW, LMSW-IPR, Department Head and Associate Professor of Social Work, Tarleton State University. (Chapters 3, 4, & 5)

Cipactli Ovalle, BSW, Graduate assistant, University of Houston. (Chapter 5)

Ted Alter, PhD, Assistant Professor, Stockton University. (Chapter 8)

Larry Morton II, PhD, Associate Professor, Arkansas State University. (Chapters 8 & 11)

Lorri McMeel, Assistant Professor, Lewis University. (Chapters 9, 14, & 16)

Sherece Shavel, PhD, LMSW, HS-BCP, Assistant Professor, University of Texas at Arlington. (Chapters 17 & 19)

Peggy Rapp, Associate Professor, Misericordia University. (Chapters 13 & 17)

Rachel Kirzner, Assistant Professor, Stockton University. (Chapters 13 & 18)

Kimberly Pendell, Social Work and Social Sciences Librarian, Portland State University. (Chapters 3 & 24)

Mary S. Sheridan, PhD, ACSW Professor Emeritus of Social Work, Hawaii Pacific University. (Chapters 10, 11, 12, & 18)

Mike Massey, PhD, Visiting Assistant Professor, Catholic University of America. (Chapters 7 & 19)

Elspeth Slayter, Professor, Salem State University. (Chapter 23)

Tamara LZ Faux, MSSW, PhD, Professor, Wartburg College. (Chapter 23)

Natalie Moore-Bembry, Ed.D, MSW, LSW, Assistant Director of Student Affairs and Camden Campus Coordinator, Rutgers University. (Chapter 11)

Madeline Pérez De Jesús, Ph.D., M.Phil., M.S.W., Associate Professor of Social Work and Equitable Community Practice, University of Saint Joseph. (Chapter 15)

Carol Hostetter, Ph.D., LCSW BSW, Program Director and Professor, Indiana University-Bloomington. (Chapter 15)

Wanja Ogongi, Ph.D., Assistant Professor, Millersville University. (Chapters 20 & 21)

Tuwana Wingfield, Ph.D., Assistant Professor, California State University- Northridge. (Chapter 22)

Daniel Dunleavy Ph.D., Center for Translational Behavioral Science (Chapter 24)

Student contributors

Student contributors created and shared open resources for their peers to assist with learning and applying research methods. Their work is contained in the Appendix under student-created resources.

Mx. Cipactli Ovalle is a MSW candidate at the University of Houston, a graduate assistant at the UH Graduate College of Social Work Office of Field Education and Clinical Intern at the Jewish Family Service of Houston. They completed a BSW at the University of Houston-Downtown.

Dedication

To my Dad, Tino DeCarlo, who inspired my work in publishing, and my mom, Mindy DeCarlo, who inspired my work in human services. In so many ways, this book would not have been possible without both of you and the love you give every day. -Matt

To my parents, Kim and Bob, who have always set a remarkable example of service to others and endless love and support of their family. – Cory

To my friends, far too many to name, who have supported me through this and every other part of my life. I wouldn't be here without you all.—Kate

Foreward

Thank you for reading!

Matt, Cory, and Kate (the authors) want to thank you for reading this open textbook. We created it for our classes, and we hope it is useful for as many students and faculty as possible. This section will share more about our vision for the resource and why we created it.

Commercial textbooks are too expensive

The commercial textbooks this resource replaced at the authors' schools cost approximately $200. In our opinion, this is simply too expensive for a textbook. Graduate students are very likely to be working part-time or full-time. Although textbook costs are not a major driver of social work student debt, their cost competes with essentials such as rent and groceries (DeCarlo & Vandergrift, 2019).[1] MSW students will often take on additional work hours or loans in order to pay for textbooks. Creating and sharing open textbooks makes learning more accessible, as students cannot learn from textbooks they cannot afford.

Overcoming research anxiety

Students often come to MSW research methods courses anticipating a mixture of boredom, stress, and fear. Authors write in an informal style, similar to how they would teach an in-person class session. By building this more personal and human approach into the core learning tool of the course (the textbook) the authors aimed to improve student engagement and attitudes. We aimed to get student buy-in and incorporate a student perspective to ensure that other students can develop the practices needed for continued engagement with research post-graduation.

Faculty and student collaboration

Team members aim for this resource to be adopted widely in social work academia, as research methods is a mandatory part of social work education. Each year, 63,000 students in 255 programs enroll in research methods courses. These professors are all trying to accomplish the same task, but without

collaborating with one another. Open education encourages faculty to publicly share their resources with others (as the authors did with this textbook) so their colleagues, who they have never met, can benefit from their work and teach from it, adapt it, or create new resources. Contributors and reviewers for this textbook spanned over 20 schools of social work. Our team included tenured, early-career, contingent, and adjunct faculty who are also research practitioners, and we are proud to have worked with amazing student reviewers and content creators. We hope to model (and discover) best practices in sustaining a peer-to-peer learning community around research methods education by featuring the work of faculty and student content creators who share their work using an open license. As a community, we can teach each other how to best learn and apply research methods for social change.

Customization

At each of the authors' institutions, graduate research methods is taught by creating a research proposal, and at some schools, carrying out that proposal and reporting the results. We found commercial textbooks did not provide enough information on how to propose and carry out *student* research projects, which are completed in a very short time frame with few resources. This text is tailored to the learning objectives at each school, though authors aimed to make the material useful to all MSW students. If you would like to customize this resource to your campus, please download the Pressbooks XML file in the front matter and follow the instructions to create your own version tailored to your learning objectives. For example, the Other Books in this Series section in the front matter lists two adapted open textbooks that were customized from the content in this open textbook for BSW research methods. Ingeniously, the adapters customized their research methods textbook to feature the research and scholarship of the faculty at the schools, helping students learn more about each faculty member's area of interest. For more information on creating, adapting, and adopting open resources, consult this teaching note.

Notes

1. DeCarlo, M. P., & Vandergrift, K. F. (2019, December 29). *Textbook cost burden and social work students*. https://doi.org/10.31235/osf.io/5q239

PART 1: INTRODUCTION TO RESEARCH

1. Science and social work

Chapter Outline

1. How do social workers know what to do? (12 minute read)
2. The scientific method (16 minute read)
3. Evidence-based practice (11 minute read)
4. Social work research (10 minute read)

Content warning: Examples in this chapter contain references to school discipline, child abuse, food insecurity, homelessness, poverty and anti-poverty stigma, anti-vaccination pseudoscience, autism, trauma and PTSD, mental health stigma, *susto* and culture-bound syndromes, gender-based discrimination at work, homelessness, psychiatric hospitalizations, substance use, and mandatory treatment.

1.1 How do social workers know what to do?

Learning Objectives

Learners will be able to...

- Reflect on how we, as social workers, make decisions
- Differentiate between micro-, meso-, and macro-level analysis
- Describe the concept of intuition, its purpose in social work, and its limitations
- Identify specific errors in thinking and reasoning

What would you do?

Case 1: Imagine you are a clinical social worker at a children's mental health agency. One day, you receive a referral from your town's middle school about a client who often skips school, gets into fights, and is disruptive in class. The school has suspended him and met with the parents on multiple occasions, who say they practice strict discipline at home. Yet the client's behavior has worsened. When you arrive at the school to meet with your client, who is also a gifted artist, you notice he seems to have bruises on

his legs, has difficulty maintaining eye contact, and appears distracted. Despite this, he spends the hour painting and drawing, during which time you are able to observe him.

- *Given your observations of your client's strengths and challenges, what intervention would you select, and how could you determine its effectiveness?*

Case 2: Imagine you are a social worker working in the midst of an urban food desert (a geographic area in which there is no grocery store that sells fresh food). As a result, many of your low-income clients either eat takeout, or rely on food from the dollar store or a convenience store. You are becoming concerned about your clients' health, as many of them are obese and say they are unable to buy fresh food. Your clients tell you that they have to rely on food pantries because convenience stores are expensive and often don't have the right kinds of food for their families. You have spent the past month building a coalition of community members to lobby your city council. The coalition includes individuals from non-profit agencies, religious groups, and healthcare workers.

- *How should this group address the impact of food deserts in your community? What intervention(s) do you suggest? How would you determine whether your intervention was effective?*

Case 3: You are a social worker working at a public policy center whose work focuses on the issue of homelessness. Your city is seeking a large federal grant to address this growing problem and has hired you as a consultant to work on the grant proposal. After interviewing individuals who are homeless and conducting a needs assessment in collaboration with local social service agencies, you meet with city council members to talk about potential opportunities for intervention. Local agencies want to spend the money to increase the capacity of existing shelters in the community. In addition, they want to create a transitional housing program at an unused apartment complex where people can reside upon leaving the shelter, and where they can gain independent living skills. On the other hand, homeless individuals you interview indicate that they would prefer to receive housing vouchers to rent an apartment in the community. They also fear the agencies running the shelter and transitional housing program would impose restrictions and unnecessary rules and regulations, thereby curbing their ability to freely live their lives. When you ask the agencies about these client concerns, they state that these clients need the structure and supervision provided by agency support workers.

- *Which kind of program should your city choose to implement? Which is most likely to be effective and why?*

Assuming you've taken a social work course before, you will notice that these case studies cover different levels of analysis in the social ecosystem—micro, meso, and macro. At the **micro-level**, social workers examine the smallest levels of interaction; in some cases, just "the self" alone (e.g. the child in case one).

When social workers investigate groups and communities, such as our food desert in case 2, their inquiry is at the **meso-level**.

At the **macro-level**, social workers examine social structures and institutions. Research at the macro-level examines large-scale patterns, including culture and government policy.

These three domains interact with one another, and it is common for a research project to address more than one level of analysis. For example, you may have a study about individuals at a case management agency (a micro-level study) that impacts the organization as a whole (meso-level) and incorporates policies and cultural issues (macro-level). Moreover, research that occurs on one level is likely to have multiple implications across domains.

How do social workers know what to do?

Welcome to social work research. This chapter begins with three problems that social workers might face in practice, and three questions about what a social worker should do next. If you haven't already, spend a minute or two thinking about the three aforementioned cases and jot down some notes. How might you respond to each of these cases?



We assume it is unlikely you are an expert in the areas of children's mental health, community responses to food deserts, and homelessness policy. Don't worry, we're not either. In fact, for many of you, this textbook will likely come at an early point in your graduate social work education, so it may seem unfair for us to ask you what the 'right' answers are. And to disappoint you further, this course will not teach you the 'right' answer to these questions. It will, however, teach you how to answer these questions for yourself, and to find the 'right' answer that works best in each unique situation.

Assuming you are not an experienced practitioner in the areas described above, you likely used **intuition** (Cheung, 2016).[1] when thinking about what you would do in each of these scenarios. Intuition is a "gut feeling" about what to think about and do, often based on personal experience. What we experience influences how we perceive the world. For example, if you've witnessed representations of trauma in your practice, personal life, or in movies or television, you may have perceived that the child in case one was being physically abused and that his behavior was a sign of trauma. As you think about problems such as those described above, you find that certain details stay with you and influence your thinking to a greater degree than others. Using past experiences, you apply seemingly relevant knowledge and make predictions about what might be true.

Over a social worker's career, intuition evolves into **practice wisdom**. Practice wisdom is the "learning by doing" that develops as a result of practice experience. For example, a clinical social worker may have a "feel" for why certain clients would be a good fit to join a particular therapy group. This idea may be informed by direct experience with similar situations, reflections on previous experiences, and any consultation they receive from colleagues and/or supervisors. This "feel" that social workers get for their practice is a useful and valid source of knowledge and decision-making—do not discount it.

On the other hand, intuitive thinking can be prone to a number of errors. We are all limited in terms of what we know and experience. One's economic, social, and cultural background will shape intuition, and acting on your intuition may not work in a different sociocultural context. Because you cannot learn everything there is to know before you start your career as a social worker, it is important to learn how to understand and use social science to help you make sense of the world and to help you make sound, reasoned, and well-thought out decisions.

Social workers must learn how to take their intuition and deepen or challenge it by engaging with scientific literature. Similarly, social work researchers engage in research to make certain their interventions are effective and efficient (see section 1.4 for more information). Both of these processes—consuming and producing research—inform the social justice mission of social work. That's why the Council on Social Work Education (CSWE), who accredits the MSW program you are in, requires that you engage in social science.

> Competency 4: Engage In Practice-informed Research and Research-informed Practice Social workers understand quantitative and qualitative research methods and their respective roles in advancing a science of social work and in evaluating their practice. Social workers know the principles of logic, scientific inquiry, and culturally informed and ethical approaches to building

knowledge. Social workers understand that evidence that informs practice derives from multi-disciplinary sources and multiple ways of knowing. They also understand the processes for translating research findings into effective practice. Social workers: • use practice experience and theory to inform scientific inquiry and research; • apply critical thinking to engage in analysis of quantitative and qualitative research methods and research findings; and • use and translate research evidence to inform and improve practice, policy, and service delivery (CSWE, 2015).[2]

Errors in thinking

We all rely on mental shortcuts to help us figure out what to do in a practice situation. All people, including you and me, must train our minds to be aware of predictable flaws in thinking, termed **cognitive biases**. Here is a link to the Wikipedia entry on cognitive biases, as well as an interactive list. As you can see, there are many types of biases that can result in irrational conclusions.

The most important error in thinking for social scientists to be aware of is **confirmation bias**. Confirmation bias involves observing and analyzing information in a way that confirms what you already believe to be true. We all arrive at each moment with a set of personal beliefs, experiences, and worldviews that have been developed and ingrained over time. These patterns of thought inform our intuitions, primarily in an unconscious manner. Confirmation bias occurs when our mind ignores or manipulates information to avoid challenging what we already believe to be true.

In our second case study, we are trying to figure out how to help people who receive SNAP (sometimes referred to as Food Stamps) who live in a food desert. Let's say we have arrived at a policy solution and are now lobbying the city council to implement it. There are many who have negative beliefs about people who are "on welfare." These people may believe individuals who receive social welfare benefits spend their money irresponsibly, are too lazy to get a job, and manipulate the system to maintain or increase their government payout.

Those espousing this belief may point to an example such as Louis Cuff, who bought steak and lobster with his SNAP benefits and resold them for a profit. However, they are falling prey to assuming that one person's bad behavior reflects upon an entire group of people. City council members who hold these beliefs may ignore the truth about the client population—that people experiencing poverty usually spend their money responsibly and that they genuinely need help accessing fresh and healthy food. In this way, confirmation bias often makes people less capable of empathizing with one another because they have difficulty accepting alternative perspectives.



Errors in reasoning

Because the human mind is prone to errors, when anyone makes a statement about what is true or what *should* be done in a given situation, errors in logic may emerge. Think back to the case studies at the beginning of this section. You most likely had some ideas about what to do in each case, but where did those ideas come from. Below are some of the most common logical fallacies and the ways in which they may negatively influence a social worker. Consider how some of these might apply to your thinking about the practice situations in this chapter.

1. *Making hasty generalization*: when a person draws conclusions before having enough information. A social worker may apply lessons from a handful of clients to an entire population of people (see Louis Cuff, above). It is important to examine the scientific literature in order to avoid this.
2. *Confusing correlation with causation*: when one concludes that because two things are correlated (as one changes, the other changes), they must be causally related. As an example, a social worker might observe both an increase in the minimum wage and higher unemployment in certain areas of the city. However, just because two things changed at the same time does not mean they are causally related. Social workers should explore other factors that might impact causality.
3. *Going down a slippery slope*: when a person concludes that we should not do something because

something far worse will happen if we do so. For example, a social worker may seek to increase a client's opportunity to choose their own activities, but face opposition from those who believe it will lead to clients making unreasonable demands. Clearly, this is nonsense. Changes that foster self-determination are unlikely to result in client revolt. Social workers should be skeptical of arguments opposing small changes because one argues that radical changes are inevitable.

4. *Appealing to authority*: when a person draws a conclusion by appealing to the authority of an expert or reputable individual, rather than through the strength of the claim. You have likely encountered individuals who believe they are correct because another in a position of authority told them so. Instead, we should work to build a reflective and critical approach to practice that questions authority.
5. *Hopping on the bandwagon*: when a person draws a conclusion consistent with popular belief. Just because something is popular does not mean it is correct. Fashionable ideas come and go. Social workers should engage with trendy ideas but must ground their work in scientific evidence rather than popular opinion.
6. *Using a straw man*: when a person does not represent their opponent's position fairly or with sufficient depth. For example, a social worker advocating for a new group home may depict homeowners that are opposed to clients living in their neighborhood as individuals concerned only with their property values. However, this may not be the case. Social workers should instead engage deeply with all sides of an issue and represent them accurately.

These are only a few examples of logical fallacies. You can find an interactive list of logical fallacies or read this chapter of an open textbook on logic to expand your knowledge.

Key Takeaways

- Social work research occurs at the micro-, meso-, and macro-level.
- Intuition is a powerful, though limited, source of information when making decisions.
- All human thought is subject to errors in thinking and reasoning.
- Scientific inquiry accounts for cognitive biases by applying an organized, logical way of observing and theorizing about the world.

Exercises

- Think about a social work topic you might want to study this semester as part of a research project. How do

individuals commit specific errors in logic or reasoning when discussing a specific topic (e.g. Louis Cuff)? How can using scientific evidence help you combat popular myths about your topic that are based on erroneous thinking?
- Reflect on the strengths and limitations of your personal experiences as a way to guide your work with diverse populations. Describe an instance when your intuition may have resulted in biased or misguided thinking or behavior in a social work practice situation.

1.2 The scientific method

Learning Objectives

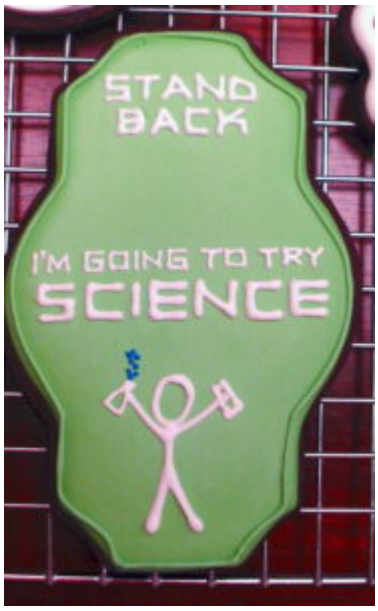
Learners will be able to...

- Define science and social science
- Describe the differences between objective truth and subjective truths
- Identify how qualitative and quantitative methods differ and how they can be used together
- Delineate the features of science that distinguish it from pseudoscience

If we asked you to draw a picture of science, what would you draw? Our guess is it would be something from a chemistry or biology classroom, like a microscope or a beaker. Maybe something from a science fiction movie. All social workers use scientific thinking in their practice. However, social workers have a unique understanding of what science means, one that is (not surprisingly) more open to the unexpected and human side of the social world.

Science and not-science

In social work, **science** is a way of 'knowing' that attempts to systematically collect and categorize facts or truths. A key word here is *systematically*—conducting science is a deliberate process. Scientists gather information about facts in a way that is organized and intentional, and usually follows a set of predetermined steps. Social work is not a science, but social work is informed by **social science**—the science of humanity, social interactions, and social structures. In other words, social work research uses organized and intentional procedures to uncover facts or truths about the social world. And social workers rely on social scientific research to promote change.



Science can also be thought of in terms of its impostor, pseudoscience. **Pseudoscience** refers to beliefs about the social world that are unsupported by scientific evidence. These claims are often presented as though they are based on science. But once researchers test them scientifically, they are demonstrated to be false. A scientifically uninformed social work practitioner using pseudoscience may recommend any number of ineffective, misguided, or harmful interventions. Pseudoscience often relies on information and scholarship that has not been reviewed by experts (i.e., **peer review**) or offers a selective and biased reading of reviewed literature.

An example of pseudoscience comes from anti-vaccination activists. Despite overwhelming scientific consensus that vaccines do not cause autism, a very vocal minority of people continue to believe that they do. Anti-vaccination advocates present their information as based in science, as seen here at Green Med Info. The author of this website shares real abstracts from scientific journal articles and studies but will only provide information on articles that show the potential dangers of vaccines, without showing any research that prevents the positive and safe side of vaccines. Green Med Info is an example of confirmation bias, as all data presented on the website supports what the pseudo-scientific researcher believes to be true. For more information on assessing causal relationships, consult Chapter 8, where we discuss causality in detail.

The values and practices associated with the scientific method work to overcome common errors in thinking (such as confirmation bias). First, the scientific method uses established techniques from the literature to determine the likelihood of something being true or false. The research process often cites these techniques, reasons for their use, and how researchers came to the decision to use said techniques. However, each technique comes with its own strengths and limitations. Rigorous science is about making the best choice, being open about your process, and allowing others to check your work. It is important to remember that there is no "perfect" study—all research has limitations because all scientific methods come with limitations.

Skepticism and debate

Unfortunately, the "perfect" researcher does not exist. Scientists are human, so they are subject to error and bias, such as gravitating toward fashionable ideas and thinking their work is more important than others' work. Theories and concepts fade in and out of use and may be tossed aside when new evidence challenges their truth. Part of the challenge in your research projects will be finding what you believe about an issue, rather than summarizing what others think about the topic. Good science, just like good social work practice, is authentic. When we see students present their research projects, those that are the strongest deliver both passionate and informed arguments about their topic area.

Good science is also open to ongoing questioning. Scientists are fundamentally skeptical. As such, they are likely to pursue alternative explanations. They might question the design of a study or replicate it to see if it works in another context. Scientists debate what is true until they arrive at a majority consensus. If you've ever heard that 97% of climate scientists agree that global warming is due to human activity[3] or that 99% of economists agree that tariffs make the economy worse,[4] you are seeing this sociology of science in action. This skepticism will help to catch situations in which scientists who make the oh-so-human mistakes in thinking and reasoning reviewed in Section 1.1.

Skepticism also helps to identify unethical scientists, as with Andrew Wakefield's study linking the MMR vaccination and autism. When other researchers looked at his data, they found that he had altered the data to match his own conclusions and sought to benefit financially from the ensuing panic about vaccination (Godlee, Smith, & Marcovitch, 2011).[5] This highlights another key value in science: openness.

Openness

Through the use of publications and presentations, scientists share the methods used to gather and analyze data. The trend towards open science has also prompted researchers to share data as well. This in turn enables other researchers to re-run, replicate, and validate analyses and results. A major barrier to openness in science is the paywall. When you've searched online for a journal article (we will review search techniques in Chapter 3), you have likely run into the $25-$50 price tag. Don't despair—your university should subscribe to these journals. However, the push towards openness in science means that more researchers are sharing their work in open access journals, which are free for people to access (like this textbook!). These open access journals do not require a university subscription to view.

Openness also means engaging the broader public about your study. Social work researchers conduct studies to help people, and part of scientific work is making sure your study has an impact. For example, it is likely that many of the authors publishing in scientific journals are on Twitter or other social media platforms, relaying the importance of study findings. They may create content for popular media, including newspapers, websites, blogs, or podcasts. It may lead to training for agency workers or public

administrators. Regrettably, academic researchers have a reputation for being aloof and disengaged from the public conversation. However, this reputation is slowly changing with the trend towards public scholarship and engagement. For example, see this recent section of the Journal of the Society of Social Work and Research on public impact scholarship.

Science supported by empirical data

Pseudoscience is often doctored up to look like science, but the surety with which its advocates speak is not backed up by empirical data. **Empirical data** refers to information about the social world gathered and analyzed through scientific observation or experimentation. Theory is also an important part of science, as we will discuss in Chapter 7. However, theories must be supported by empirical data—evidence that what we think is true really exists in the world.

There are two types of empirical data that social workers should become familiar with. **Quantitative data** refers to numbers and **qualitative data** usually refers to word data (like a transcript of an interview) but can also refer to pictures, performances, and other means of expressing oneself. Researchers use specific *methods* designed to analyze each type of data. Together, these are known as **research methods**, or the methods researchers use to examine empirical data.

Objective truth

In our vaccine example, scientists have conducted many studies tracking children who were vaccinated to look for future diagnoses of autism (see Taylor et al. 2014 for a review). This is an example of using quantitative data to determine whether there is a causal relationship between vaccination and autism. By examining the number of people who develop autism after vaccinations and controlling for all of the other possible causes, researchers can determine the likelihood of whether vaccinations cause changes in the brain that are eventually diagnosed as autism.

In this case, the use of quantitative data is a good fit for disproving myths about the dangers of vaccination. When researchers analyze quantitative data, they are trying to establish an objective truth. An **objective truth** is always true, regardless of context. Generally speaking, researchers seeking to establish objective truth tend to use quantitative data because they believe numbers don't lie. If repeated statistical analyses don't show a relationship between two variables, like vaccines and autism, that relationship almost certainly does not exist. By boiling everything down to numbers, we can minimize the biases and logical errors that human researchers bring to the scientific process. That said, the interpretation of those numbers is always up for debate.

This approach to finding truth probably sounds similar to something you heard in your middle school

science classes. When you learned about gravitational force or the mitochondria of a cell, you were learning about the theories and observations that make up our understanding of the physical world. We assume that gravity is real and that the mitochondria of a cell are real. Mitochondria are easy to spot with a powerful microscope, and we can observe and theorize about their function in a cell. The gravitational force is invisible but clearly apparent from observable facts, such as watching an apple fall. If we were unable to perceive mitochondria or gravity, they would still be there, doing their thing, because they exist independent of our observation of them.

Let's consider a social work example. Scientific research has established that children who are subjected to severely traumatic experiences are more likely to be diagnosed with a mental health disorder (e.g., Mahoney, Karatzias, & Hutton, 2019).[6] A diagnosis of post-traumatic stress disorder (PTSD) is considered objective, and may refer to a mental health issue that exists independent of the individual observing it and is highly similar in its presentation across clients. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5, 2017)[7] identifies a group of criteria which is based on unbiased, neutral client observations. These criteria are based in research, and render an objective diagnosis more likely to be valid and reliable. Through the clinician's observations and the client's description of their symptoms, an objective determination of a mental health diagnosis can be made.

Subjective truth(s)

For those of you are skeptical, you may ask yourself: does a diagnosis tell a client's whole story? No. It does not tell you what the client thinks and feels about their diagnosis, for example. Receiving a diagnosis of PTSD may be a relief for a client. The diagnosis may suggest the words to describe their experiences. In addition, this diagnosis may provide a direction for therapeutic work, as there are evidence-based interventions clinicians can use with each diagnosis. On the other hand, a client may feel shame and view the diagnosis as a label, defining them in a negative way and limiting their potential (Barsky, 2015).[8]

Imagine if we surveyed people with PTSD to see how they interpreted their diagnosis. Objectively, we could determine whether more people said the diagnosis was, overall, a positive or negative event for them. However, it is unlikely that the experience of receiving a diagnosis was either completely positive or completely negative. In social work, we know that a client's thoughts and emotions are rarely binary, either/or situations. Clients likely feel a mix of positive and negative thoughts and emotions during the diagnostic process. How they incorporate a diagnosis into their life story is unique. These messy bits are **subjective truths**, or the thoughts and feelings that arise as people interpret and make meaning of situations. Importantly, looking for subjective truths can help us see the contradictory and multi-faceted nature of people's thoughts, and qualitative data allows us to avoid oversimplifying them into negative and positive feelings that could be counted, as in quantitative data. It is the role of a researcher, just like a practitioner, to seek to understand things from the perspective of the client. Unlike with

objective truth, this will not lead to a general sense of what is true for everyone, but rather what is true in a particular time and place.

Subjective truths are best expressed through qualitative data, like conversations with a client or looking at their social media posts or journal entries. As a researcher, we might invite a client to tell us how they felt after they were first diagnosed, after they spoke with family, and over the course of the therapeutic process. While it may look different from what we normally think of as science (e.g. pharmaceutical studies), these stories are indeed a rich source of data for scientific analysis. However, it is impossible to analyze what this client said without also considering the sociocultural context in which they live. For example, the concept of PTSD is generated from Western thought and philosophy. How might people from other cultures understand trauma differently?

In the DSM-5 classification of mental health disorders, there is a list of culture-bound syndromes which appear only in certain cultures. For example, *susto* describes a unique cluster of symptoms experienced by Latin Americans after a traumatic event (Nogueira, Mari, & Razzouk, 2015).[9] *Susto* involves more physical symptoms than a traditional PTSD diagnosis. Indeed, many of these syndromes do not fit within a Western conceptualization of mental health because they differentiate less between the mind and body. To a Western scientist, *susto* may seem less real than PTSD. To someone from Latin America, their symptoms may not fit neatly into the PTSD framework developed in Western nations. Science has historically privileged knowledge from the United States and other nations in the West and Global North, marking them as objectively true. The objectivity of Western science as universally applicable to all cultures has been increasingly called into question as science has become less dominated by white males, and interaction between cultures and groups becomes broadly more democratic. Clearly, what is true depends in part on the context in which it is observed.

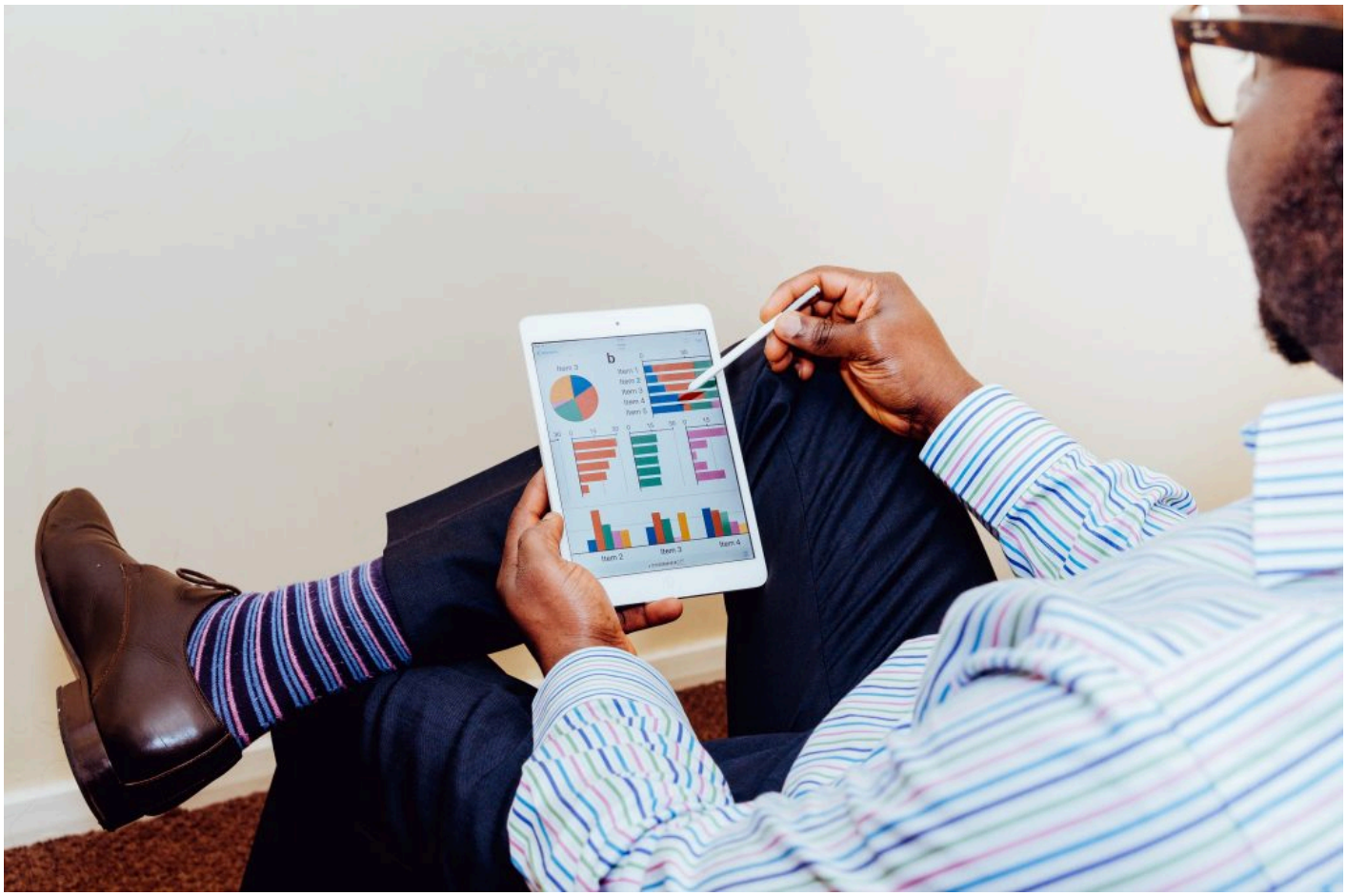
In this way, social scientists have a unique task. People are both objects and subjects. Objectively, you could quantify how tall a person is, what car they drive, how many adverse childhood experiences they had, or their score on a PTSD checklist. Subjectively, you could understand how a person made sense of a traumatic incident or how it contributed to certain patterns in thinking, negative feelings, or opportunities for growth, for example. It is this added dimension that renders social science unique to natural science (like biology or physics), which focuses almost exclusively on quantitative data and objective truth. For this reason, this book is divided between projects using qualitative methods and quantitative methods.

There is no "better" or "more true" way of approaching social science. Instead, the methods a researcher chooses should match the question they ask. If you want to answer, "do vaccines cause autism?" you should choose methods appropriate to answer that question. It seeks an objective truth—one that is true for everyone, regardless of context. Studies like these use quantitative data and statistical analyses to test mathematical relationships between variables. If, on the other hand, you wanted to know "what does a diagnosis of PTSD mean to clients?" you should collect qualitative data and seek subjective truths. You will gather stories and experiences from clients and interpret them in a way that best

represents their unique and shared truths. Where there is consensus, you will report that. Where there is contradiction, you will report that as well.

Mixed methods

In this textbook, we will treat quantitative and qualitative research methods separately. However, it is important to remember that a project can include both approaches. A **mixed methods** study, which we will discuss more in Chapter 8, requires thinking through a more complicated project that includes at least one quantitative component, one qualitative component, and a plan to incorporate both approaches together. As a result, mixed methods projects may require more time for conceptualization, data collection, and analysis.



Finding patterns

Regardless of whether you are seeking objective or subjective truths, research and scientific inquiry aim to find and explain patterns. Most of the time, a pattern will not explain every single person's experience, a fact about social science that is both fascinating and frustrating. Even individuals who do not know each other can create patterns that persist over time. Those new to social science may find these patterns frustrating because they may believe that the patterns describing their sex, age, or some other facet of their lives don't represent their experience. It's true. A pattern can exist among your cohort without your individual participation in it. There is diversity within diversity.

Let's consider some specific examples. You probably wouldn't be surprised to learn that a person's social class background has an impact on their educational attainment and achievement. You may be surprised to learn that people select romantic partners that have similar educational attainment, which in turn, impacts their children's educational attainment (Eika, Mogstad, & Zafar, 2019).[10] People who have graduated college pair off with other college graduates, as so forth. This, in turn, reinforces existing inequalities, stratifying society by those who have the opportunity to complete college and those who don't.

People who object to these findings tend to cite evidence from their own personal experience. However, the problem with this response is that objecting to a social pattern on the grounds that it doesn't match one's individual experience misses the point about patterns. Patterns don't perfectly predict what will happen to an individual person. Yet, they are a reasonable guide that, when systematically observed, can help guide social work thought and action. When we don't investigate these patterns scientifically, we are more likely to act on stereotypes, biases, and other harmful beliefs.

A final note on qualitative and quantitative methods

There is not one superior way to find patterns that help us understand the world. As we will learn about in Chapter 7, there are multiple philosophical, theoretical, and methodological ways to approach scientific truth. Qualitative methods aim to provide an in-depth understanding of a relatively small number of cases. They also provide a voice for the client. Quantitative methods offer less depth on each case but can say more about broad patterns because they typically focus on a much larger number of cases. A researcher should approach the process of scientific inquiry by formulating a clear research question and using the methodological tools best suited to that question.

Believe it or not, there are still significant methodological battles being waged in the academic literature on objective vs. subjective social science. Usually, quantitative methods are viewed as "more scientific" and qualitative methods are viewed as "less scientific." Part of this battle is historical. As the social sciences developed, they were compared with the natural sciences, especially physics, which rely on

mathematics and statistics to come to a truth. It is a hotly debated topic whether social science should adopt the philosophical assumptions of the natural sciences—with its emphasis on prediction, mathematics, and objectivity—or use a different set of tools—contextual understanding, language, and subjectivity—to find scientific truth.

You are fortunate to be in a profession that values multiple scientific ways of knowing. The qualitative/quantitative debate is fueled by researchers who may prefer one approach over another, either because their own research questions are better suited to one particular approach or because they happened to have been trained in one specific method. In this textbook, we'll operate from the perspective that qualitative and quantitative methods are complementary rather than competing. While these two methodological approaches certainly differ, the main point is that they simply have different goals, strengths, and weaknesses. A social work researcher should select the method(s) that best match(es) the question they are asking.

Key Takeaways

- Social work is informed by science.
- Social science is concerned with both objective and subjective knowledge.
- Social science research aims to understand patterns in the social world.
- Social scientists use both qualitative and quantitative methods, which, while different, are often complementary.

Exercises

- Examine a pseudoscientific claim you've heard on the news or in conversation with others. Why do you consider it to be pseudoscientific? What empirical data can you find from a quick internet search that would demonstrate it lacks truth?
- Consider a topic you might want to study this semester as part of a research project. Provide a few examples of objective and subjective truths about the topic, even if you aren't completely certain they are correct. Identify how objective and subjective truths differ.

1.3 Evidence-based practice

Learning Objectives

Learners will be able to...

- Explain how social workers produce and consume research as part of practice
- Review the process of evidence-based practice and how social workers apply research knowledge with clients and groups

"Why am I in this class?"

"When will I ever use this information?"

While students aren't always so direct, we would wager a guess that these questions are on the mind of almost every student in a research methods class. And they are valid and important questions to ask! While it may seem strange, the answer is that you will probably use these skills often. Social workers engage with research on a daily basis by consuming it through popular media, social work education, and advanced training. They also often contribute to research projects, adding new scientific information to what we know. As professors, we also sometimes hear from field supervisors who say that research competencies are unimportant in their setting. One might wonder how these organizations measure program outcomes, report the impact of their program to board members or funding agencies, or create new interventions grounded in social theory and empirical evidence.

Social workers as research consumers

Whether you know it or not, your life is impacted by research every day. Many of our laws, social policies, and court proceedings are grounded in some degree of empirical research and evidence (Jenkins & Kroll-Smith, 1996).[11] That's not to say that all laws and social policies are good or make sense. But you can't have an informed opinion about any of them without understanding where they come from, how they were formed, and what their evidence base is. In order to be effective practitioners across micro, meso, and macro domains, social workers need to understand the root causes and policy solutions to social problems their clients are experiencing.

A recent lawsuit against Walmart provides an example of social science research in action. A sociologist named Professor William Bielby was enlisted by plaintiffs to conduct an analysis of Walmart's personnel policies in order to support their claim that Walmart engages in gender discriminatory practices.

Bielby's analysis shows that Walmart's compensation and promotion decisions may indeed have been vulnerable to gender bias. In June 2011, the United States Supreme Court decided against allowing the case to proceed as a class-action lawsuit (*Wal-Mart Stores, Inc. v. Dukes*, 2011).[12] While a class-action suit was not pursued in this case, consider the impact that such a suit against one of our nation's largest employers could have had on companies, their employees, and even consumers around the country.[13]

A social worker might learn about this lawsuit through popular media, news media websites or television programs. Social science knowledge allows a social worker to apply a critical eye towards new information, regardless of the source. Unfortunately, popular media does not always report on scientific findings accurately. A social worker armed with scientific knowledge would be able to search for, read, and interpret the original study as well as other information that might challenge or support the study. Chapters 3, 4, and 5 of this textbook focus on **information literacy**, or how to understand what we already know about a topic and contribute to that body of knowledge.

When social workers consume research, they are usually doing so to inform their practice. Clinical social workers are required by a state licensing board to complete continuing education classes in order to remain informed on the latest information in their field. On the macro side, social workers at public policy think tanks consume information to inform advocacy and public awareness campaigns. Regardless of the role of the social worker, practice must be informed by research.

Evidence-based practice

Consuming research is the first component of **evidence-based practice** (EBP). Drisko and Grady (2015)[14] present EBP as a process composed of "four equally weighted parts: 1) client needs and current situation, (2) the best relevant research evidence, (3) client values and preferences, and (4) the clinician's expertise" (p. 275). It is not simply "doing what the literature says," but is rather a process by which practitioners examine the literature, client, self, and context to inform interventions with clients and systems (McNeese & Thyer, 2004).[15] It is a collaboration between social worker, client, and context. As we discussed in section 1.2, the patterns discovered by scientific research are not applicable to all situations. Instead, we rely on our critical thinking skills to apply scientific knowledge to real-world situations.

The bedrock of EBP is a proper assessment of the client or client system. Once we have a solid understanding of what the issue is, we can evaluate the literature to determine whether there are any interventions that have been shown to treat the issue, and if so, which have been shown to be the most effective. You will learn those skills in the next few chapters. Once we know what our options are, we should be upfront with clients about each option, what the interventions look like, and what the expected outcome will be. Once we have client feedback, we use our expertise and practice wisdom to make an informed decision about how to move forward.

If this sounds familiar, it's the same approach a doctor, physical therapist, or other health professional would use. This highlights a common critique of EBP: it is too focused on micro-level, clinical social work practice. Not every social worker is a clinical social worker. While there is a large body of literature on EBP for clinical practice, the same concepts apply to other social work roles as well. A social work manager should endeavor to be familiar with evidence-based management styles, and a social work policy advocate should argue for evidence-based policies.

In agency-based social work practice, EBP can take on a different role due to the complexities of the grant funding process. Funders naturally require agencies to demonstrate that their practice is effective. Agencies are almost always required to document that they are achieving the outcomes they intended. However, funders sometimes require agencies to choose from a limited list of interventions determined to be evidence-based practices. Funders want to direct their money to treatments that are proven to work, but by excluding funding for alternative approaches and limiting the degree to which clinicians can customize and localize interventions, financial incentives can bias the EBP process away from what is best for the client and community.

Not included in this model are clinical expertise, client values, or community context —key components of EBP and the therapeutic process. According to some funders, EBP is not a process conducted by a practitioner but instead consists of a list of interventions. Similar dynamics are at play in private clinical practice, in which insurance companies may specify the modality of therapy offered. For example, insurance companies may favor short-term, solution-focused therapy which minimizes cost. But what happens when someone has an idea for a new kind of intervention? How do new approaches get "on the list" of EBPs of grant funders?

Social workers as research producers

Innovation in social work is incredibly important. Social workers work on wicked problems for their careers. For those of you who have practice experience, you may have had an idea of how to better approach a practice situation. That is another reason you are here in a research methods class. You (really!) will have bright ideas about what to do in practice. Sam Tsemberis relates an "*Aha!*" moment from his practice in this Ted talk on homelessness. While a faculty member at the New York University School of Medicine, he noticed a problem with people cycling in and out of the local psychiatric hospital wards. Clients would arrive in psychiatric crisis, stabilize under medical supervision in the hospital, and end up back at the hospital in psychiatric crisis shortly after discharge.

When he asked the clients what their issues were, they said they were unable to participate in homelessness programs because they were not always compliant with medication for their mental health diagnosis and they continued to use drugs and alcohol. The housing supports offered by the city government required abstinence and medication compliance before one was deemed "ready" for housing. For these clients, the problem was a homelessness service system that was unable to meet

clients where they were—ready for housing, but not ready for abstinence and psychiatric medication. As a result, chronically homeless clients were cycling in and out of psychiatric crises, moving back and forth from the hospital to the street.

The solution that Sam Tsemberis implemented and popularized is called Housing First—an approach to homelessness prevention that starts by, you guessed it, providing people with housing first and foremost. Tsemberis's model addresses chronic homelessness in people with co-occurring disorders (those who have a diagnosis of a substance use and mental health disorder). The Housing First model states that housing is a human right: clients should not be denied their right to housing based on substance use or mental health diagnoses.

In Housing First programs, clients are provided housing as soon as possible. The Housing First agency provides wraparound treatment from an interdisciplinary team, including social workers, nurses, psychiatrists, and former clients who are in recovery. Over the past few decades, this program has gone from a single program in New York City to the program of choice for federal, state, and local governments seeking to address homelessness in their communities.

The main idea behind Housing First is that once clients have a residence of their own, they are better able to engage in mental health and substance use treatment. While this approach may seem logical to you, it is the opposite of the traditional homelessness treatment model. The traditional approach began with the client abstaining from drug and alcohol use and taking prescribed medication. Only after clients achieved these goals were they offered group housing. If the client remained sober and medication compliant, they could then graduate towards less restrictive individual housing.



Conducting and disseminating research allows practitioners to establish an evidence base for their innovation or intervention, and to argue that it is more effective than the alternatives, and should therefore be implemented more broadly. For example, by comparing clients who were served through Housing First with those receiving traditional services, Tsemberis could establish that Housing First was more effective at keeping people housed and at addressing mental health and substance use goals. Starting first with smaller studies and graduating to larger ones, Housing First built a reputation as an effective approach to addressing homelessness. When President Bush created the Collaborative Initiative to Help End Chronic Homelessness in 2003, Housing First was used in a majority of the interventions and its effectiveness was demonstrated on a national scale. In 2007, it was acknowledged as an evidence-based practice in the Substance Abuse and Mental Health Services Administration's (SAMHSA) EBP resource center.[16]

We suggest browsing around the SAMHSA EBP Resource Center and looking for interventions on topics that interest you. Other sources of evidence-based practices include the Cochrane Reviews digital library and Campbell Collaboration. In the next few chapters, we will talk more about how to search for and locate literature about clinical interventions. The use of **systematic reviews**, **meta-analyses**, and **randomized controlled trials** are particularly important in this regard, types of research we will describe more in Chapter 3 and Chapter 4.

So why share the story of Housing First? Well, we want you to think about what you hope to contribute to our knowledge of social work practice. What is your bright idea and how can it change the world? Practitioners innovate all the time, often incorporating those innovations into their agency's approach and mission. Using scientific research methods, agency-based social workers can demonstrate to policymakers and other social workers that their innovations should be more widely used. Without this wellspring of new ideas, social services would not be able to adapt to the changing needs of their communities. Social workers in agency-based practice may also participate in research projects taking place at their agency. Partnerships between schools of social work and agencies are a common way of testing and implementing innovations in social work. In such a case, all parties receive an advantage: clinicians receive specialized training, clients receive additional services, agencies gain prestige, and researchers can illustrate the effectiveness of an intervention.

Evidence-based practice highlights the unique perspective that social work brings to research. Social work both "holds" and critiques evidence. With regard to the former, "holding" evidence refers to the fact that the field of social work values scientific information. The Housing First example demonstrates how this interplay between valuing and critiquing science works—first by critiquing existing research and conducting research to establish a new approach to a problem. It also demonstrates the importance of listening to your target population and privileging their understanding and perception of the issue. While their understanding is not the result of scientific inquiry, it is deeply informed through years of direct experience with the issue and embedded within the relevant cultural and historical context. Although science often searches for the "one true answer," social work researchers must remain humble about the degree to which we can really know, and must begin to engage with other ways of knowing that may originate from clients and communities.

See the video on cultural humility in healthcare settings (CC-BY-NC-ND 3.0) embedded below for an example of how "one true answer" about a population can often oversimplify things and overstate how much we know about how to intervene in a given situation.



A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.rampages.us/msw-research/?p=278

Key Takeaways

While you may not become a scientist in the sense of wearing a lab coat and using a microscope, social workers must understand science in order to engage in ethical practice. In this section, we reviewed ways in which research is a part of social work practice, including:

- Determining the best intervention for a client or system
- Ensuring existing services are accomplishing their goals
- Satisfying requirements to receive funding from private agencies and government grants
- Testing a new idea and demonstrating that it should be more widely implemented

Exercises

- Using a social work practice situation that you have experienced, walk through the four steps of the evidence-based practice process and how they informed your decision-making. Reflect on some of the difficulties applying EBP in the real world.

- Talk with a social worker about how they produce and consume research as part of practice. Consider asking them about the articles, books, and other scholarship that changed their practice or helped them think about a problem in a new way. You might also ask them about how they stay current with the literature as a practitioner. Reflect on your personal career goals and how research will fit into your future practice.

1.4 Social work research

Learning Objectives

Learners will be able to...

- Differentiate between formal and informal research roles
- Describe common barriers to engaging with social work research
- Identify alternative ways of thinking about research methods

Formal and informal research roles

I've been teaching research methods for six years and have found that many students struggle to see the connection between research and social work practice. First of all, it's important to mention that social work researchers exist! The authors of this textbook are social work researchers across university, government, and non-profit institutions. Matt and Cory are researchers at universities, and our research addresses higher education, disability policy, wellness & mental health, and intimate partner violence. Kate is a researcher at the Joint Legislative Audit and Review Commission in Virginia, where she studies policies related to criminal justice. Dalia, our editor, is a behavioral health researcher at RTI International, a nonprofit research institute, where she studies the opioid epidemic. The career path for social workers in formal research roles is bright and diverse, as we each bring a unique perspective with our ethical and theoretical orientation.

Formal research results in written products like journal articles, government reports, or policy briefs. To get a sense of formal research roles in social work, consider asking a professor about their research. You can also browse around the top journals in social work: *Trauma, Violence & Abuse*, *Child Maltreatment*, *Child Abuse & Neglect*, *Social Service Review*, *Family Relations*, *Journal of Social Policy*, *Social Policy & Administration*, *Research on Social Work Practice*, *Health & Social Care in the Community*, *Health & Social*

Work, *British Journal of Social Work*, *Child & Family Social Work*, *International Journal of Social Welfare*, *Qualitative Social Work*, *Children & Youth Services Review*, *Social Work*, *Social Work in Health Care*, *Journal of Social Work Practice*, *International Social Work*, *Affilia Journal of Women and Social Work*, and *Clinical Social Work Journal*. Additionally, the websites to most government agencies, foundations, think tanks, and advocacy groups contain formal research often conducted by social workers.

But let's be clear, studies show that most social work students are not interested in becoming social work researchers who publish journal articles or research reports (DeCarlo et al., 2019; Earley, 2014).[17] Once you enter post-graduate practice, you will need to apply your formal research skills to the informal research conducted by practitioners and agencies every day. Every time you are asking who, what, when, where and why, you are conducting informal research. Informal research can be more involved. Social workers may be surprised when they are asked to engage in research projects such as needs assessments, community scans, program and policy evaluations, and single system designs, to name a few. Macro-oriented students may have to conduct research on programs and policies as part of advocacy or administration. We cannot tell you the number former students who have contacted us looking for research resources or wanting to "pick our brains" about research they are doing as part of their employment.

Research for *action*

Regardless of whether a social worker conducts formal research that results in journal articles or informal research that is used within an agency, all social work research is distinctive in that it is active (Engel & Schutt, 2016).[18] We want our results to be used to effect social change. Sometimes this means using findings to change how clients receive services. Sometimes it means using findings to show the benefits of programs or policies. Sometimes it means using findings to speak with those oppressed and marginalized persons who have been left out of the policy creation process. Additionally, it can mean using research as the mode with which to engage a constituency to address a social justice issue. All of these research activities differ; however, the one consistent ingredient is that these activities move us towards social and economic justice.

Student anxieties and beliefs about research

Unfortunately, students generally arrive in research methods classes with a mixture of dread, fear, and frustration. If you attend any given social work education conference, there is probably a presentation on how to better engage students in research. There is an entire body of academic research that verifies what any research professor knows to be true. Honestly, this is why the authors of this textbook started this project. We want to make research more enjoyable and engaging for students. Generally, we have

found some common perceptions get in the way of students (at least) minimally enjoying research. Let's see if any of these match with what you are thinking.

I'm never going to use this crap!

Students who tell us that research methods is not useful to them are saying something important. As a student scholar, your most valuable asset is your time. You give your time to the subjects you consider important to you and for your career. Because most social workers don't become researchers or practitioner-researchers, students may feel that a research methods class is a waste of time. As faculty members, we often hear from supervisors of students in field placements that research competencies "do not apply in this setting," which further reinforces the idea that research is an activity performed only by academic researchers.

Our discussion of evidence-based practice and the ways in which social workers use research in practice brought home the idea that social workers play an important role in creating and disseminating new knowledge about social services. Furthermore, in the coming chapters, we will explore the role of research as a human right that is closely associated with the protection and establishment of other human rights. A human rights perspective also highlights the structural barriers students and practitioners face in accessing and applying scholarly knowledge in the practice arena. We hope that reframing research as something ordinary and easy to do will help address this belief that research is a useless skill.

One thing we can guarantee is that this class will be immediately useful to you. In particular, the skills you develop in finding, evaluating, and using scholarly literature will serve you throughout your graduate program and throughout your lifelong learning. In this book, you will learn how to understand and apply the scientific method to whatever topic interests you.

Research is only for super-smart people

Research methods involves a lot of terminology that may be entirely new to social work students. Other domains of social work, such as practice, are easier to apply your intuition towards. You understand how to be an empathetic person, and your experiences in life can help guide you through a practice situation or even a theoretical or conceptual question. Research may seem like a totally new area in which you have no previous experience. In research methods there can be "wrong" answers. Depending on your research question, some approaches to data analysis or measurement, for example, may not help you find the correct answer.

The fear is entirely understandable. Research is not straightforward. As Figure 1.1 shows, it is a process

that is non-linear, involving multiple revisions, wrong turns, and dead ends before you figure out the best question and research approach. You may have to go back to chapters after having read them or even peek ahead at chapters your class hasn't covered yet.



Figure 1.1 Research as a non-linear process

Moreover, research is something you learn by doing...and stumbling a few times. It's an iterative process, or one that requires many tries to get right. There isn't a shortcut for learning research, but if you follow along with the exercises in this book, you can break down a student research project and accomplish it piece by piece. No one just *knows* research. It's something you pick up by doing it, reflecting on the

experiences and results, redoing your work, and revising it in consultation with your professor and peers. Research involves exploration, risk taking, and a willingness to say, "Let's see what we will find!"

Research is designed to suck the joy from my life

We've talked already about the arcane research terminology, so we won't go into it again here. But students sometimes perceive research methods as boring. Practice knowledge and even theory are fun to learn because they are easy to apply and provide insights into the world around you. Research just seems like its own weirdly shaped and ill-fitting puzzle piece.

We completely understand where this perspective comes from and hope there are a few things you will take away from this course that aren't boring to you. In the first section of this textbook, you will learn how to take any topic and learn what is known about it. It may seem trivial, but this is actually a superpower. Your social work education will teach you basic knowledge that can be applied to nearly all social work practice situations as well as some applied material applicable to specific social work practice situations. However, no education will provide you with everything you need to know. And certainly, no professor can tell you what will be discovered over the next few decades of your practice. Our work on literature reviews in the next few chapters will help you increase your skills and knowledge to become a strong social work student and practitioner. Following that, our exploration of research methods will help you understand how theories, practice models, and techniques you learn in other classes are created and tested scientifically. Eventually, you'll see how all of the pieces fit together.

Get out of your own way

Together, these misconceptions and myths can create a self-fulfilling prophecy for students. If you believe research is boring, you won't find it interesting. If you believe research is hard, you will struggle more with assignments. If you believe research is useless, you won't see its utility. If you're afraid that you will make mistakes, then you won't want to try. While we certainly acknowledge that students aren't going to love research as much as we do (we spent over a year writing this book, so we like it a lot!), we suggest reframing how you think about research using the following touchstones:

- All social workers rely on social science research to engage in competent practice.
- No one *already* knows research. It's something I'll learn through practice. And it's challenging for everyone, not just me.
- Research is relevant to me because it allows me to figure out what is known about any topic I want to study.
- If the topic I choose to study is important to me, I will be more interested in exploring research to

help me understand it further.

Students should be intentional about managing any anxiety coming from a research project. Here are some suggestions:

- Talk to your professor if you are feeling lost. We like students!
- Talk to a librarian if you are having trouble finding information about your topic.
- Seek support from your peers or mentors.

Another way to reframe your thinking is to look at Chapter 24, which discusses how to share your research project with the world. Consider the impact you want to make with your project, who you want to share it with, and what it will mean to have answered a question you want to know about the social world. Look at the variety of professional and academic conferences in which social work practitioners and researchers share their knowledge. Think about where you want to go so you know how to get started.

The structure of this textbook

The textbook is divided into five parts. In the first part (Chapters 1-5), we will review how to orient your research proposal to a specific question you want to answer and review the literature to see what we know about it. Student research projects come with special limitations, as you don't have many resources, so our chapters are designed to help you think through those limitations and think of a project that is doable. In the second part (Chapters 6-9), we will bring in theory, causality, ethics to help you conceptualize your research project and what you hope to achieve. By the end of the second part, you will create a quantitative and qualitative research question. Parts 3 and 4 will walk you through how to conduct quantitative and qualitative research, respectively. These parts run through how to recruit people to participate in your study, what to ask them, and how to interpret the results of what they say. Finally, the last part of the textbook reviews how to connect research and practice. For some, that will mean completing program evaluations as part of agency-based practice. For others, it will mean consuming research as part of continuing education as a practitioner. We hope you enjoy reading this book as much as we enjoyed writing it!

If you are still figuring out how to navigate the book using your internet browser, please go to the Downloads and Resources for Students page which contains a number of quick video tutorials. Also, the exercises in each chapter offer you an opportunity to apply what you wrote to your own research project, and the textbook is designed so that each exercise and each chapter build on one another, completing your proposal step-by-step. Of course, some exercises may be more relevant than others, but please consider completing these as you read.

Key Takeaways

- Social workers engage in formal and informal research production as part of practice.
- If you feel anxious, bored, or overwhelmed by research, you are not alone!
- Becoming more familiar with research methods will help you become a better scholar and social work practitioner.

Exercises

- With your peers, explore your feelings towards your research methods classes. Describe some themes that come up during your conversations. Identify which issues can be addressed by your professor and which can be addressed by students.
- Browse social work journals and identify an article of interest to you. Look up the author's biography or curriculum vitae on their personal website or the website of their university.

Media Attributions

- adult-back-view-data-1181345 © Christina Morillo is licensed under a CC0 (Creative Commons Zero) license
- mistake-1966448_1920 © Tumisu is licensed under a CC0 (Creative Commons Zero) license
- adeolu-eletu-unRkg2jH1j0-unsplash © Adeolu Eletu is licensed under a CC0 (Creative Commons Zero) license
- matt-collamer-8UG90AYPDW4-unsplash © Matt Collamer is licensed under a CC0 (Creative Commons Zero) license
- i-notlinear © Teaching & Learning, Ohio State University Libraries is licensed under a CC BY (Attribution) license

Notes

1. Cheung, J. C. S. (2016). Researching practice wisdom in social work. *Journal of Social Intervention: Theory and Practice*, 25(3), 24-38.

2. For more on the CSWE accreditation standards see https://www.cswe.org/CSWE/media/AccredidationPDFs/2015-epas-and-glossary_1.pdf and the EPAS index in this book.
3. See: https://climate.nasa.gov/faq/17/do-scientists-agree-on-climate-change/
4. See: http://www.igmchicago.org/surveys/import-duties
5. Godlee F., Smith J., & Marcovitch H. (2011) Wakefield's article linking MMR vaccine and autism was fraudulent. *British medical journal*, 342, 64-66.
6. Mahoney, A., Karatzias, T., & Hutton, P. (2019). A systematic review and meta-analysis of group treatments for adults with symptoms associated with complex post-traumatic stress disorder. *Journal of affective disorders*, 243, 305-321.
7. American Psychiatric Association. (2017). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Washington, DC
8. Barsky, A. (2015). DSM-5 and the ethics of diagnosis. *New social worker*. Retrieved from: https://www.socialworker.com/feature-articles/ethics-articles/dsm-5-and-ethics-of-diagnosis/
9. Nogueira, B. L., Mari, J. D. J., & Razzouk, D. (2015). Culture-bound syndromes in Spanish speaking Latin America: the case of Nervios, Susto and Ataques de Nervios. *Archives of Clinical Psychiatry (São Paulo)*, 42(6), 171-178.
10. Eika, L., Mogstad, M., & Zafar, B. (2019). Educational assortative mating and household income inequality. *Journal of Political Economy*, 127(6), 2795-2835.
11. Jenkins, P. J., & Kroll-Smith, S. (Eds.). (1996). *Witnessing for sociology: Sociologists in court*. Westport, CT: Praeger.
12. *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. (2011). The American Sociological Association (ASA) subsequently filed an amicus brief in support of what would be the class of individuals claiming gender discrimination. You can read the brief at http://asanet.org/images/press/docs/pdf/Amicus_Brief_Wal-Mart_vDukes_et_al.pdf. For other recent amicus briefs filed by the ASA, see http://asanet.org/about/amicus_briefs.cfm.
13. Want to know more about the suit against Walmart or about Bielby's analysis for the case? Check out the following source: Hart, M., & Secunda, P. M. (2009). A matter of context: Social framework evidence in employment discrimination class actions. *Fordham Law Review*, 78, 37-70. (2009). A matter of context: Social framework evidence in employment discrimination class action. *Fordham Law Review*, 78, 37–70. Retrieved from: http://www.fordhamlawreview.org/assets/pdfs/Vol_78/Hart_Secunda_October_2009.pdf
14. Drisko, J. W., & Grady, M. D. (2015). Evidence-based practice in social work: A contemporary perspective. *Clinical Social Work Journal*, 43(3), 274-282.
15. McNeece, C. A., & Thyer, B. A. (2004). Evidence-based practice and social work. *Journal of evidence-based social work*, 1(1), 7-25.
16. Substance Abuse and Mental Health Services Administration (2007). *Pathways' housing first program*. Retrieved from:https://www.samhsa.gov/homelessness-programs-resources/hpr-resources/housing-first-supports-recovery
17. DeCarlo, M. P., Schoppelrey, S., Crenshaw, C., Secret, M. C., & Stewart, M. (2020, January 1). Open educational resources and graduate social work students: Cost, outcomes, use, and perceptions. https://doi.org/10.31235/osf.io/k4ytd; Earley, M. A. (2014). A synthesis of the literature on research methods education. *Teaching in Higher Education*, 19(3), 242-253.
18. Engel, R. J. & Schutt, R. K. (2016) *The practice of research in social work (4th edition)*. Washington, DC: Sage Publications

2. Starting your research project

Chapter Outline

1. Choosing a research topic (10 minute read)
2. Your research proposal (14 minute read)
3. Practical and ethical considerations (14 minute read)
4. Raw data (10 minute read)
5. Critical considerations (5 minute read)

Content warning: Examples in this chapter discuss substance use disorders, mental health disorders and therapies, obesity, poverty, gun violence, gang violence, school discipline, racism and hate groups, domestic violence, trauma and triggers, incarceration, child neglect and abuse, bullying, self-harm and suicide, racial discrimination in housing, burnout in helping professions, and sex trafficking of indigenous women.

2.1 Choosing a research topic

Learning Objectives

Learners will be able to...

- Brainstorm topics you may want to investigate as part of a research project
- Explore your feelings and existing knowledge about the topic
- Develop a working question

Research methods is a unique class in that you get to decide what you want to learn about. Perhaps you came to your MSW program with a specific issue you were passionate about. In my MSW program, I wanted to learn about the best interventions to use with people who have substance use disorders. This was in line with my future career plans, which included working in a clinical setting with clients with co-occurring mental health and substance use issues. I suggest you start by thinking about your future practice goals and create a research project that addresses a topic that represents an area of social work you are passionate about.

For those of you without a specific direction, don't worry. Many people enter their MSW program without an exact topic in mind they want to study. Throughout the program, you will be exposed to

different populations, theories, practice interventions, and policies that will spark your interest. Think back to papers you enjoyed researching and writing in other classes. You may want to continue studying the same topic. Research methods will enable you to gain a deeper, more nuanced understanding of a topic or issue. If you haven't found an interesting topic yet, here are some other suggestions for seeking inspiration for a research project:

- If you already have practice experience in social work through employment, an internship, or volunteer work, think about practice issues you noticed in the placement. Do you have any idea of how to better address client needs? Do you need to learn more about existing interventions or the programs that fund your agency? Use this class as an opportunity to engage with your previous field experience in greater detail. Begin with "what" and "why" questions and then expand on those. For example, what are the most effective methods of treating severe depression among a specific population? Or why are people receiving food assistance more likely to be obese?
- You could also ask a professor at your school about possible topics. Read departmental information on faculty research interests, which may surprise you. Most departmental websites post the curriculum vitae (CV) of faculty, which lists their publications, credentials, and interests. For those of you interested in doctoral study, this process is particularly important. Students often pick schools based on professors they want to learn from or research initiatives they want to join.

Once you have a potential idea, start reading! A simple web search should bring you some basic information about your topic. News articles can reveal new or controversial information. You may also want to identify and browse academic journals related to your research interests. Faculty and librarians can help you identify relevant journals in your field and specific areas of interest. We'll also review more detailed strategies for searching the literature in Chapter 3. As you read, look for what's missing. These may be "gaps in the literature" that you might explore in your own study.

It's a good idea to keep it simple when you're starting your project. Choose a topic that can be easily defined and explored. Your study cannot focus on *everything* that is important about your topic. A study on gun violence might address only one system, for example schools, while only briefly mentioning other systems that impact gun violence. That doesn't mean it's a bad study! Every study presents only a small picture of a larger, more complex and multifaceted issue. The sooner you can arrive at something specific and clear that you want to study, the better off your project will be.



Writing a working question

There are lots of great research topics. Perhaps your topic is a client population–for example, youth who identify as LGBTQ+ or visitors to a local health clinic. In other cases, your topic may be a social problem, such as gang violence, or a social policy or program, such as zero-tolerance policies in schools. Alternately, maybe there are interventions such as dialectical behavioral therapy or applied behavior analysis that interest you.

Whatever your topic idea, begin to think about it in terms of a question. What do you really want to know about the topic? As a warm-up exercise, try dropping a possible topic idea into one of the blank spaces below. The questions may help bring your subject into sharper focus and bring you closer towards developing your topic.

1. What does ___ mean?
2. What are the causes of ___?
3. What are the consequences of ___?

4. What are the component parts of ___?
5. How does ___ impact ___?
6. What is it like to experience ___?
7. What is the relationship between _____ and the outcome of ____?
8. What case can be made for or against ___?
9. What are the risk/protective factors for ___?
10. How do people think about ___?

Take a minute right now and write down a question you want to answer. Even if it doesn't seem perfect, it is important to start somewhere. Make sure your research topic is relevant to social work. You'd be surprised how much of the world that encompasses. It's not just research on mental health treatment or child welfare services. Social workers can study things like the pollution of irrigation systems and entrepreneurship in women, among other topics. The only requirement is your research must inform action to fight social problems faced by target populations.

Because research is an **iterative process**, one that you will revise over and over, your question will continue to evolve. As you progress through this textbook, you'll learn how to refine your question and include the necessary components for proper qualitative and quantitative research questions. Your question will also likely change as you engage with the literature on your topic. You will learn new and important concepts that may shift your focus or clarify your original ideas. Trust that a strong question will emerge from this process. A good researcher must be comfortable with altering their question as a result of scientific inquiry.

Very often, our students will email us in the first few weeks of class and ask if they have a good research topic. We love student emails! But just to reassure you if you're about to send a panicked email to your professor, as long as you are interested in dedicating a semester or two learning about your topic, it will make a good research topic. That's why we would advise you to focus on how much you like this topic, so that three months from now you are still motivated to complete your project. Your project should have meaning to you.

How do you feel about your topic?

Now that you have an idea of what you might want to study, it's time to consider what you think and feel about that topic. Your motivation for choosing a topic does not have to be objective. Because social work is a value-based profession, scholars often find themselves motivated to conduct research that furthers social justice or fights oppression. Just because you think a policy is wrong or a group is being marginalized, for example, does not mean that your research will be biased. It means you must understand what you feel, why you feel that way, and what would cause you to feel differently about your topic.

Start by asking yourself how you feel about your topic. Sometimes the best topics to research are those about which you feel strongly. What better way to stay engaged with your research project than to study something you are passionate about? However, you must be able to accept that people may have a different perspective, and you must represent their viewpoints fairly in the research report you produce. If you feel prepared to accept all findings, even those that may be unflattering or distinct from your personal perspective, then perhaps you should begin your research project by intentionally studying a topic about which you have strong feelings.

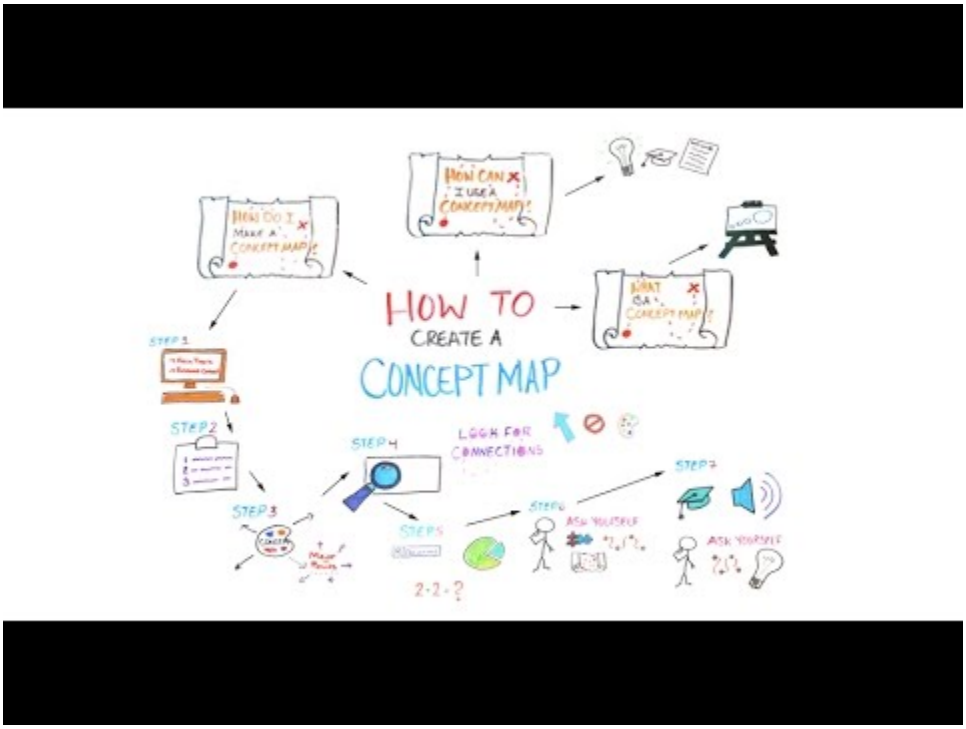
Kathleen Blee (2002)[1] has taken this route in her research. Blee studies groups whose racist ideologies may be different than her own. You can listen to her lecture Women in Organized Racism that details some of her findings. Her scientific research is so impactful because she was willing to report her findings and observations honestly, even those contrary to her beliefs and feelings. If you believe that you may have personal difficulty sharing findings with which you disagree, then you may want to study a different topic. Knowing your own hot-button issues is an important part of self-knowledge and reflection in social work, and there is nothing wrong with avoiding topics that are likely to cause you unnecessary stress.

Social workers often use personal experience as a starting point to identify topics of interest. As we've discussed here, personal experience can be a powerful motivator to learn more about a topic. However, social work researchers should be mindful of their own mental health during the research process. A social worker who has experienced a mental health crisis or traumatic event should approach researching related topics cautiously. There is no need to trigger yourself or jeopardize your mental health for a research project. For example, a student who has just experienced domestic violence may want to know about Eye Movement Desensitization and Reprocessing (EMDR) therapy. While the student might gain some knowledge about potential treatments for domestic violence, they will likely have to read through many stories and reports about domestic violence as part of the research process. Unless the student's trauma has been processed in therapy, conducting a research project on this topic may negatively impact the student's mental health.

What do you think about your topic?

Once you figure out what you *feel* about your topic, consider what you *think* about it. There are many ways we know what we know. Perhaps your mother told you something is so. Perhaps it came to you in a dream. Perhaps you took a class last semester and learned something about your topic there. Or you may have read something about your topic in your local newspaper. We discussed the strengths and weaknesses associated with some of these different sources of knowledge in Chapter 1, and we'll talk about other scientific sources of knowledge in Chapter 3 and Chapter 4. For now, take some time to think of everything you know about your topic. Thinking about what you already know will help you identify any biases you may have, and it will help as you begin to frame a question about your topic.

You might consider creating a concept map, just to get your thoughts and ideas on paper and beginning to organize them. Consider this video from the University of Guelph Library (CC-BY-NC-SA 4.0).



A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.rampages.us/msw-research/?p=280

Key Takeaways

- You should pick a topic for your research proposal that you are interested in, since you will be working with it for several months.
- Investigate your own feelings and thoughts about a topic, and make sure you can be objective and fair in your investigation.
- Research projects are guided by a working question that develops and changes as you learn more about your topic.

Exercises

Just as a reminder, exercises are designed to help you create your individual research proposal. We designed these activities to break down your proposal into small but manageable chunks. We suggest completing each exercise so you can apply what you are learning to your individual research project, as the exercises in each section and each chapter build on one another.

If you haven't done so already, you can create a document in a word processor on your computer or in a written notebook with your answers to each exercise.

- Brainstorm at least 4-5 topics of interest to you and pick the one you think is the most promising for a research project.
- For your chosen topic, outline what you currently know about the topic and your feelings towards the topic. Make sure you are able to be objective and fair in your research.
- Formulate at least one working question to guide your inquiry. It is common for topics to change and develop over the first few weeks of a project, but think of your working question as a place to start. Use the 10 examples we provided in this chapter if you need some help getting started.

2.2 Your research proposal

Learning Objectives

Learners will be able to...

- Describe the stages of a research project
- Define your target population and describe how your study will impact that population
- Identify the aim of your study
- Classify your project as descriptive, exploratory, explanatory, or evaluative

Most research methods courses are designed to help students propose a research project. But what is a research project? Figure 2.1 indicates the steps of the research project. Right now, we are in the top right corner, using your informal observations from your practice experience and lived experience to form a working draft of your research question. In the next three chapters, you'll learn how to find and evaluate scholarly literature on your topic. After thoroughly evaluating the literature, you'll conceptualize an empirical study based on a research question you create. In many courses, students will have to carry out these designs and make a contribution to the research literature in their topic area.

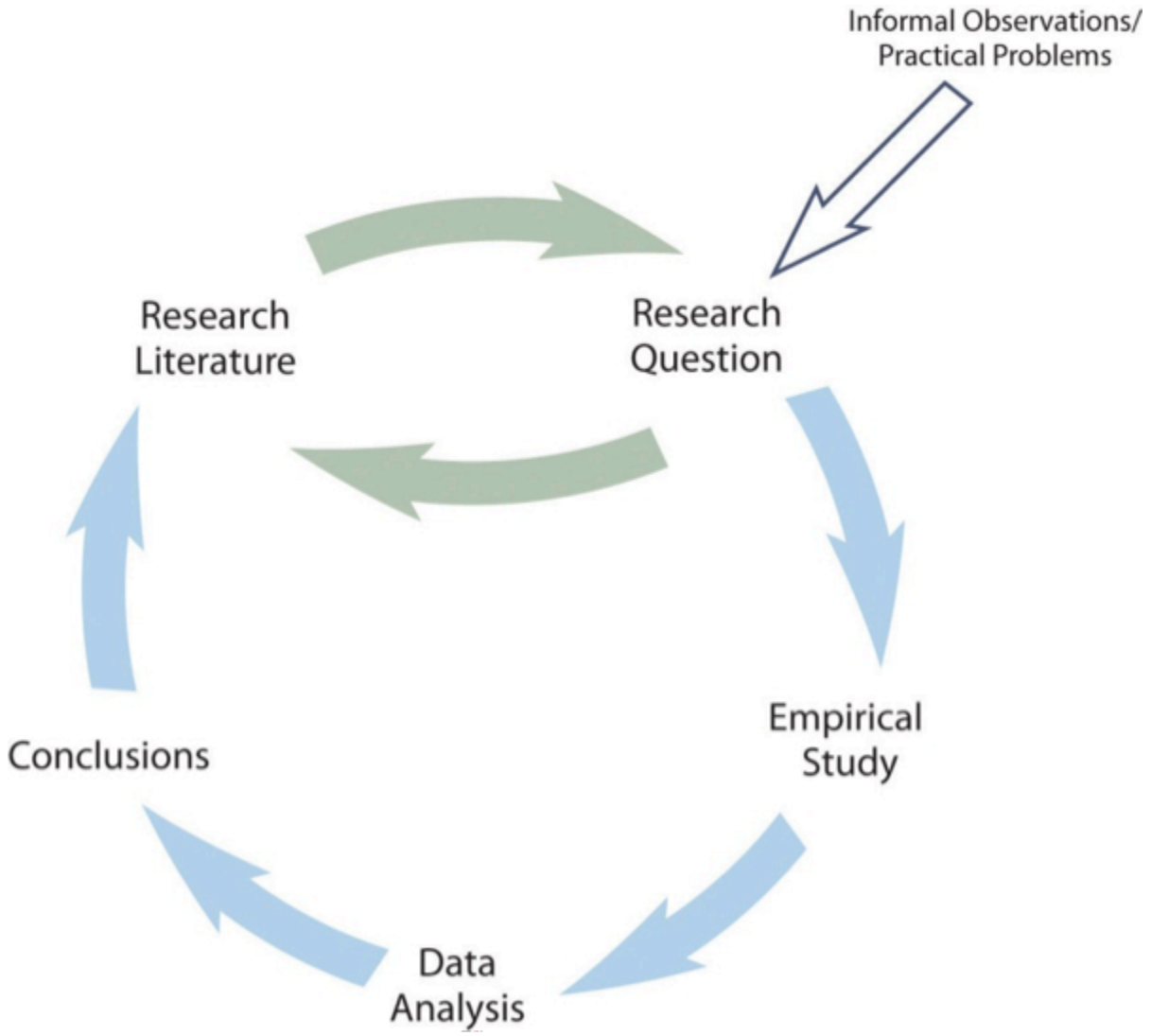


Figure 2.1 Steps in a research project

The subtitle of this book is "a project-based approach" because the authors' courses use this approach. In an introductory research methods course, students often have to create a research proposal followed by a more advanced research class in which they conduct quantitative and qualitative data analysis. The **research proposal**, is a document produced by researchers that reviews the literature relevant to their topic and describes the methods they will use to conduct their study. Part 1 of this textbook is designed to help you with your literature review. Parts 2-4 are designed to help you figure out which methods you will use in your study.

Parts 3 and 4 should also help you conduct the study you propose to do, analyze your data (though you will probably need additional resources for that), and share it as part of the body of social science literature on your topic. Check with your professor on whether you are required to carry out the project you propose to do in your research proposal. Some of you may only need to propose a hypothetical

project. But for those of you who need to actually carry out your project from start to finish, this book is designed to help you find a reasonable and practical project for you to complete, moving through all of the steps in Figure 2.1.

A research proposal is focused on a question. Right now, this is your working question from Section 2.1. If you haven't created one yet, this is a good time to pause and complete the exercises from section 2.1.[2] It is likely you will revise your working question many times as you read more literature about your topic. Consider yourself in the cycle between (re)creating your research question and reviewing the research literature for Part 1 of the textbook.

Student research proposals

Student research projects are a big undertaking, but they are well within your capability as a graduate student. Let's start with the research proposal. Think about the research proposal as a communication device. You are telling the reader (your professor, usually) everything they need to know in order to understand your topic and the research study you plan to do. You are also demonstrating to the reader that you are competent and informed enough to conduct the study.

You can think of a research proposal like creating a recipe. If you are a chef trying to cook a new dish from scratch, you would probably start by looking at other recipes. You might cook a few of them and come up with ideas about how to create your own version of the dish. Writing your recipe is a process of trial and error, and you will likely revise your proposal many times over the course of the semester. This textbook and its exercises designed to get you working on your project little by little, so that by the time you turn in your final research proposal, you'll be confident it represents the best way to answer your question. Of course, like with any time I cook, you never quite know how it will turn out. What matters for scientists in the end isn't whether your data proves your ideas right or wrong or whether your data collection doesn't work as planned or goes off perfectly. Instead, what matters is that you report your results (warts and all) as honestly and openly as possible to inform others engaged in scholarly inquiry.

Is writing a research proposal a useful skill for a social worker? On one hand, you probably won't be writing research proposals for a living. But the same structure of a research proposal (literature review + methods) is used in grant applications. Writing grant proposals is often a part of practice, particularly in agency-based and policy practice. Instead of finding a gap in the literature to study, practitioners write grant proposals describing a program they will use to address an issue in their community, as well as the research methods they will use to evaluate whether it worked (see Chapter 23 for more details). Similarly, a policy advocate or public administrator might sketch out a proposed program and its evaluation as part of a proposal. Proposal writing may differ somewhat in practice, but the general idea is the same.

Focusing your project

Based on your work in Section 2.1, you should have a working question—a place to start. Think about what you hope to accomplish with your study. This is the **aim** of your research project. Often, social work researchers begin with a target population in mind. As you will recall from section 1.4, social work research is research *for action*. Social workers engage in research to help people. Think about your working question. Why do you want to answer it? What impact would answering your question have?

In my MSW program, I began my research by looking at ways to intervene with people who have substance use disorders. My foundation year placement was in an inpatient drug treatment facility that used 12-step facilitation as its primary treatment modality. I observed that this approach differed significantly from others I had been exposed to, especially the idea of powerlessness over drugs and drug use. My working question started as "what are the alternatives to 12-step treatment for people with substance use issues and are they more effective?" The aim of my project was to determine whether different treatment approaches might be more effective, and I suspected that self-determination and powerlessness were important.

It's important to note that my working question contained a **target population**—people with substance use disorders. A target population is the group of people that will benefit the most. I envisioned I would help the field of social work to think through how to better meet clients where they were at, specific to the problem of substance use. I was studying to be a clinical social worker, so naturally, I formulated a micro-level question. Yet, the question also has implications for meso- and macro-level practice. If other treatment methods are more effective than 12-step facilitation, then we should direct more public money towards providing more effective therapies for people who use substances. We may also need to train the substance use professionals to use new treatment methodologies.

Exercises

Think about your working question.

- Is it more oriented towards micro-, meso-, or macro-level practice?
- What implications would answering your question have at each level of the ecosystem?

Asking yourself whether your project is more micro, meso, or macro is a good check to see if your project is well-focused. A project that seems like it could be all of those might have too many components or try to study too much. Consider identifying one ecosystemic level your project will focus on, and you can interpret and contextualize your findings at the other levels of analysis.

Exploration, description, and explanation

Social science is a big place. Looking at the various empirical studies in the literature, there is a lot of diversity—from focus groups with clients and families to multivariate statistical analysis of large population surveys conducted online. Ultimately, all of social science can be described as one of three basic types of research studies. As you develop your research question, consider which of the following types of research studies fits best with what you want to learn about your topic. In subsequent chapters, we will use these broad frameworks to help craft your study's final research question and choose quantitative and qualitative research methods to answer it.



Exploratory research

Researchers conducting **exploratory research** are typically at the early stages of examining their topics. Exploratory research projects are carried out to test the feasibility of conducting a more extensive study and to figure out the "lay of the land" with respect to the particular topic. Usually, very little

prior research has been conducted on this topic. For this reason, a researcher may wish to do some exploratory work to learn what method to use in collecting data, how best to approach research subjects, or even what sorts of questions are reasonable to ask.

Often, student projects begin as exploratory research. Because students don't know as much about the topic area yet, their working questions can be general and vague. That's a great place to start! An exploratory question is great for delving into the literature and learning more about your topic. For example, the question "what are common social work interventions for parents who neglect their children?" is a good place to start when looking at articles and textbooks to understand what interventions are commonly used with this population. However, it is important for a student research project to progress beyond exploration unless the topic truly has very little existing research.

In my classes, I often read papers where students say there is not a lot of literature on a topic, but a quick search of library databases shows a deep body of literature on the topic. The skills you develop in Chapter 3 and Chapter 4 should assist you with finding relevant research, and working with a librarian can definitely help with finding information for your research project. That said, there are a few students each year who pick a topic for which there is in fact little existing research. Perhaps, if you were looking at child neglect interventions for parents who identify as transgender or parents who are refugees from the Syrian civil war, less would be known about child neglect for those specific populations. In that case, an exploratory design would make sense as there is little, if any, literature about your specific topic.

Descriptive research

Another purpose of a research project is to describe or define a particular phenomenon. This is called **descriptive research**. For example, researchers at the *Princeton Review* conduct descriptive research each year when they set out to provide students and their parents with information about colleges and universities around the United States. They describe the social life at a school, the cost of admission, and student-to-faculty ratios (to name just a few of the categories reported). If our topic were child neglect, we might seek to know the number of people arrested for child neglect in our community and whether they are more likely to have other problems, such as poverty, mental health issues, or substance use.

Social workers often rely on descriptive research to tell them about their service area. Keeping track of the number of parents receiving child neglect interventions, their demographic makeup (e.g., race, sex, age), and length of time in care are excellent examples of descriptive research. On a more macro-level, the Centers for Disease Control provides a remarkable amount of descriptive research on mental and physical health conditions. In fact, descriptive research has many useful applications, and you probably rely on such findings without realizing you are reading descriptive research.

Explanatory research

Lastly, social work researchers often aim to explain *why* particular phenomena operate in the way that they do. Research that answers "why" questions is referred to as **explanatory research**. Asking "why" means the researcher is trying to identify cause-and-effect relationships in their topic. For example, explanatory research may try to identify risk and protective factors for parents who neglect their children. Explanatory research may attempt to understand how religious affiliation impacts views on immigration. All explanatory research tries to study cause-and-effect relationships between two or more **variables**. A specific offshoot of explanatory research that comes up often is **evaluation research**, which investigates the impact of an intervention, program, or policy on a group of people. Evaluation research is commonly practiced in agency-based social work settings, and Chapter 23 discusses some of the basics for conducting a program evaluation.

There are numerous examples of explanatory social scientific investigations. For example, Dominique Simons and Sandy Wurtele (2010)[3] sought to understand whether receiving corporal punishment from parents led children to turn to violence in solving their interpersonal conflicts with other children. In their study of 102 families with children between the ages of 3 and 7, the authors found that experiencing frequent spanking did in fact result in children being more likely to accept aggressive problem-solving techniques. Another example of explanatory research can be seen in Robert Faris and Diane Felmlee's (2011)[4] research study on the connections between popularity and bullying. From their study of 8th, 9th, and 10th graders in nineteen North Carolina schools, they found that aggression increased as adolescents' popularity increased.[5]

Exercises

- Think back to your working question from section 2.1. Which type of research—exploratory, descriptive, or explanatory—best describes your working question?
- Try writing a question about your topic that fits with each type of research.

Important things are more rewarding to do

Another consideration in starting a research project is whether the question is important enough to answer. For the researcher, answering the question should be important enough to put in the effort and time required to complete a research project. As we discussed in section 2.1, you should choose a topic that is important to you—one you wouldn't mind learning about for at least a few months, if not

a few years. Time is your most precious resource as a student. Make sure you dedicate it to topics and projects you consider genuinely important.

Your research question should also be contribute to the larger expanse of research in that area. For example, if your research question is "does cognitive behavioral therapy (CBT) effectively treat depression?" you are a few decades late to be asking that question. Hundreds of scientists have published articles demonstrating its effectiveness in treating depression. However, a student interested in learning more about CBT can still find new areas to research. Perhaps there is a new population—for example, older adults in a nursing home—or a new problem—like mobile phone addiction—for which there is little research on the impact of CBT.

Your research project should contribute something *new* to social science. It should address a gap in what we know and what is written in the literature. This can seem intimidating for students whose projects involve learning a totally new topic. How could I add something new when other researchers have studied this for decades? Trust us, by thoroughly reviewing the existing literature, you can find new and unresolved research questions to answer. Google Scholar's motto at the bottom of their search page is "stand on the shoulders of giants." Social science research rests on the work of previous scholars, and builds off of what they discovered to learn more about the social world. Ensure that your question will bring our scientific understanding of your topic to new heights.

Finally, your research question should be of import to the social world. Social workers conduct research on behalf of individuals, groups, and communities to promote change as part of their mission to advance human rights and further social and economic justice. Your research should matter to the people you are trying to help. Your research project should aim to improve the lives of people in your target population by helping the world understand their needs more holistically.

Research projects, obviously, do not need to address all aspects of a problem. As social workers, our goal in enacting social justice isn't to accomplish it all in one semester (or even one lifetime). Our goal is to move the world in the right direction and make small, incremental progress. We encourage all students to think about how they will make their work accessible and relevant to the broader public and use their results to promote change.

Key Takeaways

- Research exists in a cycle. Your research project will follow this cycle, beginning from reading literature (where you are now), to proposing a study, to completing a research project, and finally, to publishing the results.
- Social work researchers should identify a target population and understand how their project will impact them.
- Research projects can be exploratory, descriptive, evaluative, or a combination therein. While you are likely still exploring your topic, you may settle on another type of research, particularly if your topic has been previously addressed extensively in the literature.
- Your research project should be important to you, fill a gap or address a controversy in the scientific literature,

and make a difference for your target population and broader society.

Exercises

- State why your working question is an important one to answer, keeping in mind that your statement should address the scientific literature, target population, and the social world.

2.3 Practical and ethical considerations

Learning Objectives

Learners will be able to…

- Identify potential stakeholders and gatekeepers
- Differentiate between raw data and the results of scientific studies
- Evaluate whether you can feasibly complete your project

Are you interested in better understanding the day-to-day experiences of maximum security prisoners? This sounds fascinating, but unless you plan to commit a crime that lands you in a maximum security prison, gaining access to that particular population would be difficult for a graduate student project. While the *topics* about which social work questions can be asked may seem limitless, there are limits to which aspects of topics we can study or at least to the ways we can study them. This is particularly true for *student* research projects.

Feasibility refers to whether you can practically conduct the study you plan to do, given the resources and ethical obligations you have. In this section, we assume that you will have to actually conduct the research project that you write about in your research proposal. It's a good time to check with your professor about your program's expectations for student research projects. For students who do not have to carry out their projects, feasibility is less of a concern because, well, you don't actually have to carry out your project. Instead, you'll propose a project that could work in theory. However, for students who have to carry out the projects in their research proposals, feasibility is incredibly important. In this

section, we will review the important practical and ethical considerations student researchers should start thinking about from the beginning of a research project.

Access, consent, and ethical obligations

One of the most important feasibility issues is gaining **access** to your target population. For example, let's say you wanted to better understand middle-school students who engaged in self-harm behaviors. That is a topic of social importance, so why might it make for a difficult student project? Let's say you proposed to identify students from a local middle school and interview them about self-harm. Methodologically, that sounds great since you are getting data from those with the most knowledge about the topic, the students themselves. But practically, that sounds challenging. Think about the ethical obligations a social work practitioner has to adolescents who are engaging in self-harm (e.g., competence, respect). In research, we are similarly concerned mostly with the benefits and harms of what you propose to do as well as the openness and honesty with which you share your project publicly.



Gatekeepers

If you were the principal at your local middle school, would you allow an MSW student to interview kids in your schools about self-harm? What if the results of the study showed that self-harm was a big problem that your school was not addressing? What if the researcher's interviews themselves

caused an increase in self-harming behaviors among the children? The principal in this situation is a **gatekeeper**. Gatekeepers are the individuals or organizations who control access to the population you want to study. The school board would also likely need to give consent for the research to take place at their institution. Gatekeepers must weigh their ethical questions because they have a responsibility to protect the safety of the people at their organization, just as you have an ethical obligation to protect the people in your research study.

For student projects, it can be a challenge to get **consent** from gatekeepers to conduct your research project. As a result, students often conduct research projects at their place of employment or field work, as they have established trust with gatekeepers in those locations. I'm still doubtful an MSW student interning at the middle school would be able to get consent for this study, but they probably have a better chance than a researcher with no relationship to the school. In the case where the population (children who self-harm) are too vulnerable, student researchers may collect data from people who have secondary knowledge about the topic. For example, the principal may be more willing to let you talk to teachers or staff, rather than children. I commonly see student projects that focus on studying practitioners rather than clients for this reason.

Stakeholders

In some cases, researchers and gatekeepers partner on a research project. When this happens, the gatekeepers become **stakeholders**. Stakeholders are individuals or groups who have an interest in the outcome of the study you conduct. As you think about your project, consider whether there are formal advisory groups or boards (like a school board) or advocacy organizations who already serve or work with your target population. Approach them as experts an ask for their review of your study to see if there are any perspectives or details you missed that would make your project stronger.

There are many advantages to partnering with stakeholders to complete a research project together. Continuing with our example on self-harm in schools, in order to obtain access to interview children at a middle school, you will have to consider other stakeholders' goals. School administrators also want to help students struggling with self-harm, so they may want to use the results to form new programs. But they may also need to avoid scandal and panic if the results show high levels of self-harm. Most likely, they want to provide support to students without making the problem worse. By bringing in school administrators as stakeholders, you can better understand what the school is currently doing to address the issue and get an informed perspective on your project's questions. Negotiating the boundaries of a stakeholder relationship requires strong meso-level practice skills.

Of course, partnering with administrators probably sounds quite a bit easier than bringing on board the next group of stakeholders—parents. It's not ethical to ask children to participate in a study without their parents' consent. We will review the parameters of parental and child consent in Chapter 5. Parents may be understandably skeptical of a researcher who wants to talk to their child about self-

harm, and they may fear potential harms to the child and family from your study. Would you let a researcher you didn't know interview your children about a very sensitive issue?

Social work research must often satisfy multiple stakeholders. This is especially true if a researcher receives a grant to support the project, as the funder has goals it wants to accomplish by funding the research project. Your MSW program and university are also stakeholders in your project. When you conduct research, it reflects on your school. If you discover something of great importance, your school looks good. If you harm someone, they may be liable. Your university likely has opportunities for you to share your research with the campus community, and may have incentives or grant programs for student researchers. Your school also provides you with support through instruction and access to resources like the library and data analysis software.

Target population

So far, we've talked about access in terms of gatekeepers and stakeholders. Let's assume all of those people agree that your study should proceed. But what about the people in the target population? They are the most important stakeholder of all! Think about the children in our proposed study on self-harm. How open do you think they would be to talking to you about such a sensitive issue? Would they consent to talk to you at all?

Maybe you are thinking about simply asking clients on your caseload. As we talked about before, leveraging existing relationships created through field work can help with accessing your target population. However, they introduce other ethical issues for researchers. Asking clients on your caseload or at your agency to participate in your project creates a dual relationship between you and your client. What if you learn something in the research project that you want to share with your clinical team? More importantly, would your client feel uncomfortable if they do not consent to your study? Social workers have power over clients, and any dual relationship would require strict supervision in the rare case it was allowed.

Resources and scope

Let's assume everyone consented to your project and you have adequately addressed any ethical issues with gatekeepers, stakeholders, and your target population. That means everything is ready to go, right? Not quite yet. As a researcher, you will need to carry out the study you propose to do. Depending on how big or how small your proposed project is, you'll need a little or a lot of resources. Generally, student projects should err on the side of small and simple. We will discuss the limitations of this advice in section 2.5.

Raw data

One thing that all projects need is **raw data**. It's extremely important to note that raw data is not just the information you read in journal articles and books. Every year, I get at least one student research proposal that simply proposes to read articles. It's a very understandable mistake to make. Most graduate school assignments are simply to read about a topic and write a paper. A research project involves doing the same kind of research that the authors of journal articles do when they conduct quantitative or qualitative studies. Raw data can come in may forms. Very often in social science research, raw data includes the responses to a survey or transcripts of interviews and focus groups, but raw data can also include experimental results, diary entries, art, or other data points that social scientists use in analyzing the world.

As the above examples illustrate, some social work researchers do not collect raw data of their own, but instead use **secondary data analysis** to analyze raw data that has been shared by other researchers . One common source of raw data in student projects from their internship or employer. By looking at client charts or data from previous grant reports or program evaluations, you can use raw data already collected by your agency to answer your research question. You can also use data that was not gathered by a scientist but is publicly available. For example, you might analyze blog entries, movies, YouTube videos, songs, or other pieces of media. Whether a researcher should use secondary data or collect their own raw data is an important choice which we will discuss in greater detail in section 2.4. Nevertheless, without raw data there can be no research project. Reading the literature about your topic is only the first step in a research project.



Time

Time is a student's most precious resource. MSW students are overworked and underpaid, so it is important to be upfront with yourself about the time needed to answer your question. Every hour spent on your research project is not spent doing other things. Make sure that your proposal won't require you to spend years collecting and analyzing data. Think realistically about the timeline for this research project. If you propose to interview fifty mental health professionals in their offices in your community about your topic, make sure you can dedicate fifty hours to conduct those interviews, account for travel time, and think about how long it will take to transcribe and analyze those interviews.

- What is reasonable for you to do over this semester and potentially another semester of advanced research methods?
- How many hours each week can you dedicate to this project considering what you have to do for other MSW courses, your internship and job, as well as family or social responsibilities?

In many cases, focusing your working question on something simple, specific, and clear can help avoid time issues in research projects. Another thing that can delay a research project is receiving approval

from the **institutional review board** (IRB), the research ethics committee at your university. If your study may cause harm to people who participate in it, you may have to formally propose your study to the IRB and get their approval before gathering your data. A well-prepared study is likely to gain IRB approval with minimal revisions needed, but the process can take weeks to complete and must be done before data collection can begin. We will address the ethical obligations of researchers in greater detail in Chapter 5.

Money

Most research projects cost some amount of money, but for student projects, most of that money is already paid. You paid for access to a university library that provides you with all of the journals, books, and other sources you might need. You paid for a computer for homework and may use your car to drive to go to class or collect your data. You paid for this class. You are not expected to spend any additional money on your student research project.

However, it is always worth looking to see if there are grant opportunities to support student research in your school or program. Often, these will cover small expenses like travel or incentives for people who participate in the study. Alternately, you could use university grant funds to travel to academic conferences to present on your findings and network with other students, practitioners, and researchers. Chapter 24 reviews academic conferences relevant to social work practice and education with a focus on the United States.

Knowledge, competence, and skills

Another student resource is knowledge. By engaging with the literature on your topic and learning the content in your research methods class, you will learn how to study your topic using social scientific research methods. The core social work value of competence is key here. Here's an example from my work on one of my former university's research ethics board. A student from the design department wanted to study suicide by talking to college students in a suicide prevention campus group. While meeting with the student researcher, someone on the board asked what she would do if one of the students in her study disclosed that they were currently suicidal. The researcher responded that she never considered that possibility, and that she envisioned a more "fun" discussion. We hope this example set off alarm bells for you, as it did for the review board.

Clearly, researchers need to know enough about their target population in order to conduct ethical research. Because students usually have little experience in the research world, their projects should pose fewer potential risks to participants. That means posing few, if any, questions about sensitive issues, such as trauma. A common way around this challenge is by collecting data from less vulnerable

populations such as practitioners or administrators who have second-hand knowledge of target populations based on professional relationships.

Knowledge and the social work value of ethical competence go hand in hand. We see the issue of competence often in student projects if their question is about whether an intervention, for example dialectical behavioral therapy (DBT), is effective. A student would have to be certified in DBT in order to gather raw data by practicing it with clients and tracking their progress. That's well outside the scope of practice competency for an MSW student and better suited to a licensed practitioner. It would be more ethical and feasible for a student researcher to analyze secondary data from a practitioner certified to use DBT or analyze raw data from another researcher's study.

If your working question asks about which interventions are effective for a problem, don't panic. Often questions about effectiveness are good places to start, but the project will have to shift in order be workable for a student. Perhaps the student would like to learn more about the cost of getting trained in DBT, which aspects of it practitioners find the most useful, whether insurance companies will reimburse for it, or other topics that require fewer resources to answer. In the process of investigating a smaller project like this, you will learn about the effectiveness of DBT by reading the scholarly literature but the actual research project will be smaller and more feasible to conduct as a student.

Another idea to keep in mind is the level of data collection and analysis skills you will gain during your MSW program. Most MSW programs will seek to give you the basics of quantitative and qualitative research. However, there are limits to what your courses will cover just as there are limits to what we could include in this textbook. If you feel your project may require specific education on data collection or analysis techniques, it's important to reach out to your professor to see if it is feasible for you to gain that knowledge before conducting your study. For example, you may need to take an advanced statistics course or an independent study on community-engaged research in order to competently complete your project.

In summary, here are a few questions you should ask yourself about your project to make sure it's feasible. While we present them early on in the research process (we're only in Chapter 2), these are certainly questions you should ask yourself throughout the proposal writing process. We will revisit feasibility again in Chapter 9 when we work on finalizing your research question.

1. Do you have access to the data you need or can you collect the data you need?
2. Will you be able to get consent from stakeholders, gatekeepers, and your target population?
3. Does your project pose risk to individuals through direct harm, dual relationships, or breaches in confidentiality?
4. Are you competent enough to complete the study?
5. Do you have the resources and time needed to carry out the project?

Key Takeaways

- People will have to say "yes" to your research project. Evaluate whether your project might have gatekeepers or potential stakeholders. They may control access to data or potential participants.
- Researchers need raw data such as survey responses, interview transcripts, or client charts. Your research project must involve more than looking at the analyses conducted by other researchers, as the literature review is only the first step of a research project.
- Make sure you have enough resources (time, money, and knowledge) to complete your research project during your MSW program.

Exercises

Think about how you might answer your question by collecting your own data.

- Identify any gatekeepers and stakeholders you might need to contact.
- Do you think it is likely you will get access to the people or records you need for your study?

Describe any potential harm that could come to people who participate in your study.

- Would the benefits of your study outweigh the risks?

2.4 Raw data

Learning Objectives

Learners will be able to...

- Identify potential sources of available data
- Weigh the challenges and benefits of collecting your own data

In our previous section, we addressed some of the challenges researchers face in collecting and analyzing raw data. Just as a reminder, raw data are unprocessed, unanalyzed data that researchers analyze using social science research methods. It is not just the statistics or qualitative themes in journal

articles. It is the actual data from which those statistical outputs or themes are derived (e.g., interview transcripts or survey responses).

There are two approaches to getting raw data. First, students can analyze data that are publicly available or from agency records. Using secondary data like this can make projects more feasible, but you may not find existing data that are useful for answering your working question. For that reason, many students gather their own raw data. As we discussed in the previous section, potential harms that come from addressing sensitive topics mean that surveys and interviews of practitioners or other less-vulnerable populations may be the most feasible and ethical way to approach data collection.

Using secondary data

Within the agency setting, there are two main sources of raw data. One option is to examine client charts. For example, if you wanted to know if substance use was related to parental reunification for youth in foster care, you could look at client files and compare how long it took for families with differing levels of substance use to be reunified. You will have to negotiate with the agency the degree to which your analysis can be public. Agencies may be okay with you using client files for a class project but less comfortable with you presenting your findings at a city council meeting. When analyzing data from your agency, you will have to manage a stakeholder relationship.

Another great example from my class this year was a student who used existing program evaluations at their agency as raw data in her student research project. If you are practicing at a grant funded agency, administrators and clinicians are likely producing data for grant reporting. Your agency may consent to have you look at the raw data and run your own analysis. Larger agencies may also conduct internal research—for example, surveying employees or clients about new initiatives. These, too, can be good sources of available data. Generally, if your agency has already collected the data, you can ask to use them. Again, it is important to be clear on the boundaries and expectations of your agency. And don't be angry if they say no!

Some agencies, usually government agencies, publish their data in formal reports. You could take a look at some of the websites for county or state agencies to see if there are any publicly available data relevant to your research topic. As an example, perhaps there are annual reports from the state department of education that show how seclusion and restraint is disproportionately applied to Black children with disabilities, as students found in Virginia. In my class last year, one student matched public data from our city's map of criminal incidents with historically redlined neighborhoods. For this project, she is using publicly available data from Mapping Inequality, which digitized historical records of redlined housing communities and the Roanoke, VA crime mapping webpage. By matching historical data on housing redlining with current crime records, she is testing whether redlining still impacts crime to this day.

Not all public data are easily accessible, though. The student in the previous example was lucky that scholars had digitized the records of how Virginia cities were redlined by race. Sources of historical data are often located in physical archives, rather than digital archives. If your project uses historical data in an archive, it would require you to physically go to the archive in order to review the data. Unless you have a travel budget, you may be limited to the archival data in your local libraries and government offices. Similarly, government data may have to be requested from an agency, which can take time. If the data are particularly sensitive or if the department would have to dedicate a lot of time to your request, you may have to file a Freedom of Information Act request. This process can be time-consuming, and in some cases, it will add financial cost to your study.

Another source of secondary data is shared by researchers as part of the publication and review process. There is a growing trend in research to publicly share data so others can verify your results and attempt to replicate your study. In more recent articles, you may notice links to data provided by the researcher. Often, these have been de-identified by eliminating some information that could lead to violations of confidentiality. You can browse through the data repositories in Table 2.1 to find raw data to analyze. Make sure that you pick a data set with thorough and easy to understand documentation. You may also want to use Google's dataset search which indexes some of the websites below as well as others in a very intuitive and easy to use way.

Table 2.1 Sources of publicly available data

Organizational home	Focus/topic	Data	Web address
National Opinion Research Center	General Social Survey; demographic, behavioral, attitudinal, and special interest questions; national sample	Quantitative	https://gss.norc.org/
Carolina Population Center	Add Health; longitudinal social, economic, psychological, and physical well-being of cohort in grades 7–12 in 1994	Quantitative	http://www.cpc.unc.edu/projects/addhealth
Center for Demography of Health and Aging	Wisconsin Longitudinal Study; life course study of cohorts who graduated from high school in 1957	Quantitative	https://www.ssc.wisc.edu/wlsresearch/
Institute for Social & Economic Research	British Household Panel Survey; longitudinal study of British lives and well- being	Quantitative	https://www.iser.essex.ac.uk/bhps
International Social Survey Programme	International data similar to GSS	Quantitative	http://www.issp.org/
The Institute for Quantitative Social Science at Harvard University	Large archive of written data, audio, and video focused on many topics	Quantitative and qualitative	http://dvn.iq.harvard.edu/dvn/dv/mra
Institute for Research on Women and Gender	Global Feminisms Project; interview transcripts and oral histories on feminism and women's activism	Qualitative	https://globalfeminisms.umich.edu/
Oral History Office	Descriptions and links to numerous oral history archives	Qualitative	https://archives.lib.uconn.edu/islandora/object/20002%3A19840025
UNC Wilson Library	Digitized manuscript collection from the Southern Historical Collection	Qualitative	http://dc.lib.unc.edu/ead/archivalhome.php?CISOROOT=/ead
Qualitative Data Repository	A repository of qualitative data that can be downloaded and annotated collaboratively with other researchers	Qualitative	https://qdr.syr.edu/

Ultimately, you will have to weigh the strengths and limitations of using secondary data on your own. Engel and Schutt (2016, p. 327)[6] propose six questions to ask before using secondary data:

1. What were the agency's or researcher's goals in collecting the data?
2. What data were collected, and what were they intended to measure?
3. When was the information collected?
4. What methods were used for data collection? Who was responsible for data collection, and what were their qualifications? Are they available to answer questions about the data?
5. How is the information organized (by date, individual, family, event, etc.)? Are identifiers used to indicate different types of data available?
6. What is known about the success of the data collection effort? How are missing data indicated and treated? What kind of documentation is available? How consistent are the data with data available

from other sources?

In this section, we've talked about data as though it is always collected by scientists and professionals. But that's definitely not the case! Think more broadly about sources of data that are already out there in the world. Perhaps you want to examine the different topics mentioned in the past 10 State of the Union addresses by the President. One of my students this past semester is examining whether the websites and public information about local health and mental health agencies use gender-inclusive language. People share their experiences through blogs, social media posts, videos, performances, among countless other sources of data. When you think broadly about data, you'll be surprised how much you can answer with available data.

Collecting your own raw data

The primary benefit of collecting your own data is that it allows you to collect and analyze the specific data you are looking for, rather than relying on what other people have shared. You can make sure the right questions are asked to the right people. For a student project, data collection is going to look a little different than what you read in most journal articles. Established researchers probably have access to more resources than you do, and as a result, are able to conduct more complicated studies. Student projects tend to be smaller in scope. This isn't necessarily a limitation. Student projects are often the first step in a long research trajectory in which the same topic is studied in increasing detail and sophistication over time.

Students in my class often propose to survey or interview practitioners. The focus of these projects should be about the practice of social work and the study will uncover how practitioners understand what they do. Surveys of practitioners often test whether responses to questions are related to each other. For example, you could propose to examine whether someone's length of time in practice was related to the type of therapy they use or their level of burnout. Interviews or focus groups can also illuminate areas of practice. A student in my class proposed to conduct focus groups of individuals in different helping professions in order to understand how they viewed the process of leaving an abusive partner. She suspected that people from different disciplines would make unique assumptions about the survivor's choices.

It's worth remembering here that you need to have access to practitioners, as we discussed in the previous section. Resourceful students will look at publicly available databases of practitioners, draw from agency and personal contacts, or post in public forums like Facebook groups. Consent from gatekeepers is important, and as we described earlier, you and your agency may be interested in collaborating on a project. Bringing your agency on board as a stakeholder in your project may allow you access to company email lists or time at staff meetings as well as access to practitioners. One of our students last year partnered with her internship placement at a local hospital to measure the burnout of

that nurses experienced in their department. Her project helped the agency identify which departments may need additional support.

Another possible way you could collect data is by partnering with your agency on evaluating an existing program. Perhaps they want you to evaluate the early stage of a program to see if it's going as planned and if any changes need to be made. Maybe there is an aspect of the program they haven't measured but would like to, and you can fill that gap for them. Collaborating with agency partners in this way can be a challenge, as you must negotiate roles, get stakeholder buy-in, and manage the conflicting time schedules of field work and research work. At the same time, it allows you to make your work immediately relevant to your specific practice and client population.

In summary, many student projects fall into one of the following categories. These aren't your only options! But they may be helpful in thinking about what students projects can look like.

- Analyzing chart or program evaluations at an agency
- Analyzing existing data from an agency, government body, or other public source
- Analyzing popular media or cultural artifacts
- Surveying or interviewing practitioners, administrators, or other less-vulnerable groups
- Conducting a program evaluation in collaboration with an agency

Key Takeaways

- All research projects require analyzing raw data.
- Student projects often analyze available data from agencies, government, or public sources. Doing so allows students to avoid the process of recruiting people to participate in their study. This makes projects more feasible but limits what you can study to the data that are already available to you.
- Student projects should avoid potentially harmful or sensitive topics when surveying or interviewing clients and other vulnerable populations. Since many social work topics are sensitive, students often collect data from less-vulnerable populations such as practitioners and administrators.

Exercises

1. Describe the difference between raw data and the results of research articles.
2. Identify potential sources of secondary data that might help you answer your working question.
    - Consider browsing around the data repositories in Table 2.1.
3. Identify one of the common types of student projects (e.g., surveys of practitioners) and how conducting a similar project might help you answer your working question.

2.5 Critical considerations

Learning Objectives

Learners will be able to...

- Critique the traditional role of researchers and identify how action research addresses these issues

So far in this chapter, we have presented the steps of student research projects as follows:

1. Find a topic that is important to you and read about it.
2. Pose a question that is important to the literature and to your community.
3. Propose to use specific research methods to answer your question.
4. Carry out your project and report the results.

These were depicted in Figure 2.1 earlier in this chapter. There are important limitations to this approach. This section examines those problems and how to address them.

Whose knowledge is privileged?

First, let's critically examine your role as the researcher. Following along with the steps in a research project, you start studying the literature your topic, find a place where you can add to scientific knowledge, and conduct your study. But why are you the person who gets to decide what is important? Just as clients are the experts on their lives, members of your target population are the experts on their lives. What does it mean for a group of people to be researched on, rather than researched with? How can we better respect the knowledge and self-determination of community members?



A different way of approaching your research project is to start by talking with members of the target population and those who are knowledgeable about that community. Perhaps there is a community-led organization you can partner with on a research project. The researcher's role in this case would be more similar to a consultant, someone with specialized knowledge about research who can help communities study problems they consider to be important. The social worker is a co-investigator, and community members are equal partners in the research project. Each has a type of knowledge—scientific expertise vs. lived experience—that should inform the research process.

The community focus highlights something important about student projects: they are localized. Student projects can dedicate themselves to issues at a single agency or within a service area. With a local scope, student researchers can bring about change in their community. This is the purpose behind action research.

Action research

Action research is research that is conducted for the purpose of creating social change. When engaging in action research, scholars collaborate with community stakeholders to conduct research that will be relevant to the community. Social workers who engage in action research don't just go it alone; instead, they collaborate with the people who are affected by the research at each stage in the process. Stakeholders, particularly those with the least power, should be consulted on the purpose of the research project, research questions, design, and reporting of results.

Action research also distinguishes itself from other research in that its purpose is to create change on an individual and community level. Kristin Esterberg puts it quite eloquently when she says, "At heart, all action researchers are concerned that research not simply contribute to knowledge but also lead to positive changes in people's lives" (2002, p. 137).[7] Action research has multiple origins across the globe, including Kurt Lewin's psychological experiments in the US and Paulo Friere's literacy and education programs (Adelman, 1993; Reason, 1994).[8] Over the years, action research has become increasingly popular among scholars who wish for their work to have tangible outcomes that benefit the groups they study.

A traditional scientist might look at the literature or use their practice wisdom to formulate a question for quantitative or qualitative research, as we suggested earlier in this chapter. An action researcher, on the other hand, would consult with people in target population and community to see what they believe the most pressing issues are and what their proposed solutions may be. In this way, action research flips traditional research on its head. Scientists are not the experts on the research topic. Instead, they are more like consultants who provide the tools and resources necessary for a target population to achieve their goals and to address social problems using social science research.

According to Healy (2001),[9] the assumptions of participatory-action research are that (a) oppression is caused by macro-level structures such as patriarchy and capitalism; (b) research should expose and confront the powerful; (c) researcher and participant relationships should be equal, with equitable distribution of research tasks and roles; and (d) research should result in consciousness-raising and collective action. Consistent with social work values, action research supports the self-determination of oppressed groups and privileges their voice and understanding through the conceptualization, design, data collection, data analysis, and dissemination processes of research. We will return to similar ideas in Part 4 of the textbook when we discuss qualitative research methods, though action research can certainly be used with quantitative research methods, as well.

> See https://www.actionresearchtutorials.org/ for free self-guided tutorials on conducting action research.

Student projects can make a difference!

One last thing. We've told you all to think small and simple with your projects. The adage that "a good project is a done project" is true. At the same time, this advice might unnecessarily limit an ambitious and diligent student who wanted to investigate something more complex. For example, here is a Vice News article about MSW student Christine Stark's work on sex trafficking of indigenous women. Student projects have the potential to address sensitive and politically charged topics. With support from faculty and community partners, student projects can become more comprehensive. The results of your project should accomplish something. Social work research is about creating change, and you

will find the work of completing a research project more rewarding and engaging if you can envision the change your project will create.

In addition to broader community and agency impacts, student research projects can have an impact on a university or academic program. Consider this resource on how to research your institution by Rine Vieth. As a student, you are one of the groups on campus with the least power (others include custodial staff, administrative staff, contingent and adjunct faculty). It is often necessary that you organize within your cohort of MSW students for change within the program. Not only is it an excellent learning opportunity to practice your advocacy skills, you can use raw data that is publicly available (such as those linked in the guide) or create your own raw data to inform change. The collaborative and transformative focus of student research projects like these can be impactful learning experiences, and students should consider projects that will lead to some small change in both themselves and their communities.

Key Takeaways

- Traditionally, researchers did not consult target populations and communities prior to formulating a research question. Action research proposes a more community-engaged model in which researchers are consultants that help communities research topics of import to them.
- Just because we've advised you to keep your project simple and small doesn't mean you must do so! There are excellent examples of student research projects that have created real change in the world.

Exercises

- Apply the key concepts of action research to your project. How might you incorporate the perspectives and expertise of community members in your project.

Media Attributions

- A-Simple-Model-of-Scientific-Research-in-Psychology © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, & Dana C. Leighton is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- andrew-neel-z55CR_d0ayg-unsplash © Andrew Neel is licensed under a CC0 (Creative Commons Zero) license
- meric-dagli-kq6undvTxWE-unsplash © Meric Dagli is licensed under a CC0 (Creative Commons

Zero) license

- jeshoots-com-2vD8lIhdnw-unsplash © JESHOOTS.com is licensed under a CC0 (Creative Commons Zero) license
- my-life-through-a-lens-bq31L0jQAjU-unsplash © My Life Through A Lens

Notes

1. Blee, K. (2002). *Inside organized racism: Women and men of the hate movement*. Berkeley, CA: University of California Press; Blee, K. (1991). *Women of the Klan: Racism and gender in the 1920s*. Berkeley, CA: University of California Press.
2. The exercises we created for this textbook are designed to break down the research proposal into bite-sized chunks. Completing the exercises as you read the textbook helps you apply the knowledge you've gained right away and remember what you thought about concepts you read about a few weeks ago.
3. Simons, D. A., & Wurtele, S. K. (2010). Relationships between parents' use of corporal punishment and their children's endorsement of spanking and hitting other children. *Child Abuse & Neglect*, 34, 639–646.
4. Faris, R., & Felmlee, D. (2011). Status struggles: Network centrality and gender segregation in same- and cross-gender aggression. *American Sociological Review*, 76, 48–73. The study has also been covered by several media outlets: Pappas, S. (2011). Popularity increases aggression in kids, study finds. Retrieved from: http://www.livescience.com/11737-popularity-increases-aggression-kids-study-finds.html
5. This pattern was found until adolescents reached the top 2% in the popularity ranks. After that, aggression declined.
6. Engel, R. J. & Schutt, R. K. (2016). *The practice of research in social work (4th ed.)*. Washington, DC: SAGE Publishing.
7. Esterberg, K. G. (2002). *Qualitative methods in social research*. Boston, MA: McGraw-Hill.
8. Adelman, C. (1993). Kurt Lewin and the origins of action research. *Educational Action Research*, 1, 7-24.; Reason, P. (1994). *Participation in human inquiry*. London, UK: Sage.
9. Healy, K. (2001). Participatory action research and social work: A critical appraisal. *International Social Work*, 44, 93-105.

3. Searching the literature

Chapter Outline

1. The scholarly literature (26 minute read)
2. Searching basics (23 minute read)

Content warning: examples in this chapter contain references to school discipline, mental health, gender-based discrimination, police shootings, ableism, autism and anti-vaccination conspiracy theories, children's mental health, child abuse, poverty, substance use disorders and parenting/pregnancy, and tobacco use.

3.1 The scholarly literature

Learning Objectives

Learners will be able to...

- Define what we mean by "the literature"
- Differentiate between primary and secondary sources and summarize why researchers use primary sources
- Distinguish between different types of resources and how they may be useful for a research project
- Identify different types of journal articles

In the last chapter, we discussed how looking at the literature on your topic is the first thing you will need to do as part of a student research project. A literature review makes up the first half of a research proposal. But what do we mean by "the literature?" **The literature** consists of the published works that document a scholarly conversation on a specific topic within and between disciplines. You will find in "the literature" documents that track the progression of the research and background of your topic. You will also find controversies and unresolved questions that can inspire your own project. By this point in your social work academic career, you've probably heard that you need to get "peer-reviewed journal articles." But what are those exactly? How do they differ from news articles or encyclopedias? That is the focus of this section of the text—different types of literature.

Disciplines

Information does not exist in the environment like some kind of raw material. It is produced by individuals working within a particular field of knowledge who use specific methods for generating new information, or a **discipline**. Disciplines consume, produce, and share knowledge. Looking through a university's course catalog gives clues to disciplinary structure. Fields such as political science, biology, history, and mathematics are unique disciplines, as is social work. We have things we study often, like social welfare policy or mental health interventions, and a particular theoretical and ethical framework through which we view the world.

Social work researchers must take an interdisciplinary perspective, engaging with not just social work literature but literature from many disciplines to gain a comprehensive and accurate understanding of a topic. Consider how nursing and social work would differ in studying sports in schools. A nursing researcher might study how sports affect individuals' health and well-being, how to assess and treat sports injuries, or the physical conditioning required for athletics. A social work researcher might study how schools privilege or punish student athletes, how athletics impact social relationships and hierarchies, or the differences in participation in organized sports between children of different genders. People in some disciplines are much more likely to publish on sports in schools than those in others, like political science or religious studies. I'm sure you can find a bit of scholarship on sports in schools in most disciplines, though you will want to target disciplines that are likely to address the topic often as part of the core purpose of the profession (like sports medicine or sports social work). Sometimes disciplines overlap in their focus, as clinical social work and counseling psychology or urban planning and public administration.

You will need to become comfortable with identifying the disciplines that might contribute information to any literature search. When you do this, you will also learn how to decode the way people talk about a topic within a discipline. This will be useful to you when you begin a review of the literature in your area of study.

Exercises

Think about your research topic and working question that you created in Chapter 2. What disciplines are likely to publish about your topic?

For each discipline, consider:

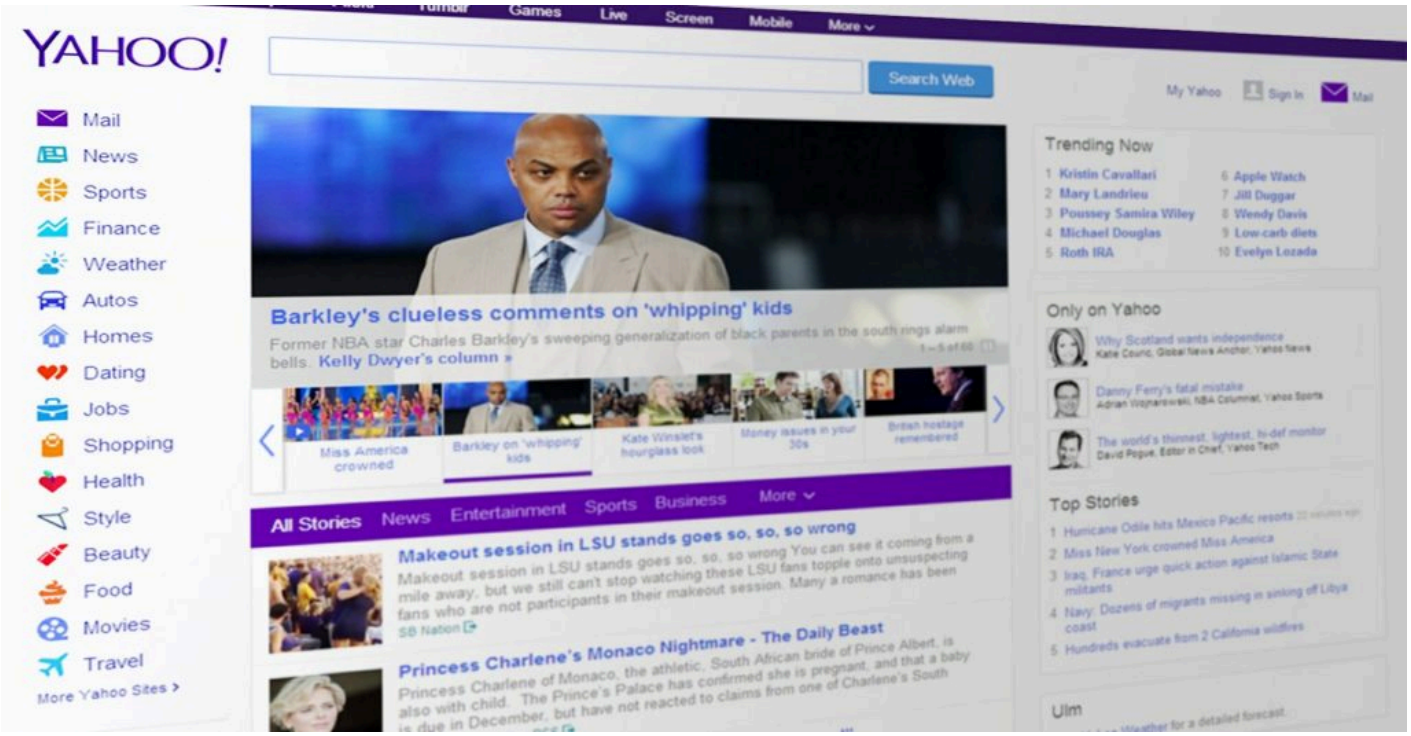
- What is important about the topic to scholars in that discipline?
- What is most likely to be the focus of their study about the topic?
- What perspective are they most likely to have on the topic?

Periodicals

First, let's discuss periodicals. **Periodicals** include trade publications, magazines, and newspapers. While they may appear similar, particularly those that are found online, each of these periodicals has unique features designed for a specific purpose. Magazine and newspaper articles are usually written by journalists, are intended to be short and understandable for the average adult, contain color images and advertisements, and are designed as commodities to be sold to an audience. An example of a useful magazine for social workers is the *New Social Worker.*

Primary sources

Periodicals may contain primary or secondary literature depending on the article in question. An article that is a **primary source** gathers information as an event happens (e.g. an interview with a victim of a local fire), or it may relay original research reported on by the journalists (e.g. the Guardian newspaper's *The Counted* webpage which tracked how many people were killed by police officers in the United States from 2015-2016).[1] Primary sources are based on raw data, which we discussed in Chapter 2.



Is it okay to use a magazine or newspaper as a source in your research methods class? If you were in my

class, the answer is "probably not." There are some exceptions, such as the *Guardian* page mentioned above (which is a great example of data journalism) or breaking news about a policy or community, but most of what newspapers and magazines publish is secondary information. Researchers should look for primary sources—the original source of information—whenever possible.

Secondary sources

Secondary sources interpret, discuss, and summarize primary sources. Examples of secondary sources include literature reviews written by researchers, book reviews, as well as news articles or videos about recently published research. Your job in this course is to *read the original source of the information*, the primary source. When you read a secondary source, you are relying on another's interpretation of the primary source. That person might be wrong in how they interpret the primary source, or they may simply focus on a small part of what the primary source says.

Most often, I see the distinction between primary and secondary sources in the references pages students submit for the first few assignments in my research class. Students are used to citing the summaries of scientific findings from periodicals like the New York Times or Washington Post. Instead, students should read the journal article written by the researchers, as it is the primary source. Journalists are not scientists. If you have seen articles about how chocolate cures cancer or how drinking whiskey can extend your life, you should understand how journalists can exaggerate or misinterpret scientific results. See this cartoon from Saturday Morning Breakfast Cereal for a hilarious illustration of sensationalizing findings from scientific research in journalism. Even when news outlets do a very good job of interpreting scientific findings, and that is certainly what most journalistic outlets strive for, you are still likely to only get a short summary of the key results.

When you are getting started with research, newspaper and magazine articles are excellent places to commence your journey into the literature, as they do not require specialized knowledge and may inspire deeper inquiry. Just make sure you are reading news, not opinion pieces, which may exclude facts that contradict the author's viewpoint. As we will talk about in the next chapter, the one secondary source that is highly valuable for student researchers are review articles published in academic journals, as they summarize much of the relevant literature on a topic.

Trade publications

Unlike magazines and newspapers, trade publications may take some specialized knowledge to understand. **Trade publications** or trade journals are periodicals directed to members of a specific profession. They often include information about industry trends and practical information for people

working in the field. Because of this, trade publications are somewhat more reputable than newspapers or magazines, as the authors are specialists in their field.

NASW *News,* published by the National Association of Social Workers (NASW), is a good example of a trade publication in social work. Its intended audience is social work practitioners who want to learn about important practice issues. They report news and trends in a particular field but not scholarly research. They may also provide product or service reviews, job listings, and advertisements.

So, can you use trade publications in a formal research proposal? Again, if you're in my class, the answer would be "probably not." A main shortcoming of trade publications is the lack of peer review. **Peer review** refers to a formal process in which other esteemed researchers and experts ensure your work meets the standards and expectations of the professional field. Peer review is part of the cycle of publication for journal articles and provides a gatekeeper service, so to speak, which (in theory) ensures that only top-quality articles are published.

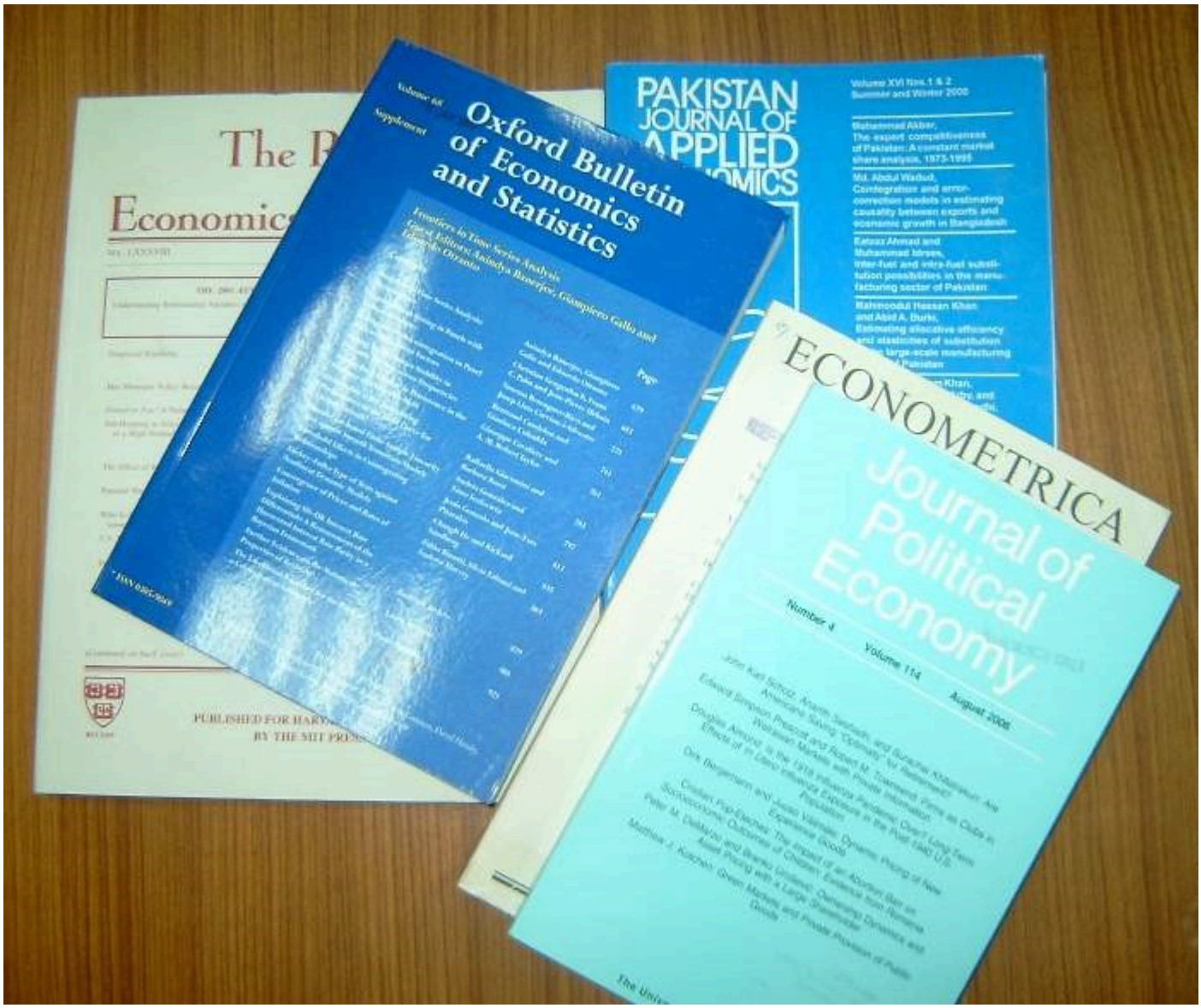
In reality, there are a number of problems with our present system of peer review. Briefly, critiques of the current peer review system include unreliable feedback across reviewers; inconsistent error and fraud detection; prolonged evaluation periods; and biases against non-dominant identities, perspectives, and methods. It can take years for a manuscript to complete peer review, likely with one or more rounds of revisions between the author and the reviewers or editors at the journal. See Kelly and colleagues (2014)[2] for an overview of the strengths and limitations of peer review.

A trade publication isn't as reputable as a journal article because it does not include expert peer review. While trade publications do contain a staff of editors, the level of review is not as stringent as with academic journals. On the other hand, if you are completing a study about practitioners, then trade publications may be highly relevant sources of information for your proposal.

In summary, newspapers and other popular press publications are useful for getting general topic ideas. Trade publications are useful for practical application in a profession and may also be a good source of keywords for future searching.

Journal articles

As you've probably heard by now, academic journal articles are considered to be the most reputable sources of information, particularly in research methods courses. Journal articles are written by scholars with the intended audience of other scholars (like you!). The articles are often long and contain extensive references that support the author's arguments. The journals themselves are often dedicated to a single topic, like violence or child welfare, and include articles that seek to advance the body of knowledge about a particular topic. We included a list of the 25 most popular social work journals in Chapter 1.



Peer review

Most journals are peer-reviewed (also known as refereed), which means a panel of scholars reviews the articles to provide a recommendation on whether they should be accepted into that specific journal. Scholarly journals make available articles of interest to experts or researchers. An editorial board of respected scholars (i.e., peers) reviews all articles submitted to a journal. Editors and volunteer reviewers decide if the article provides a noteworthy contribution to the field and should be published. For this reason, journal articles are the main source of information for researchers as well as for literature reviews. Usually, peer review is done confidentially, with the reviewer's name hidden from the author and vice versa. This confidentiality is mediated by the editorial staff at an academic journal and

is termed *blinded review*, though this ableist language should be revised to confidential review (Ades, 2020).[3]

You can usually tell whether a journal is peer reviewed by going to its website. Under the "About Us" or "Author Submission" sections, the website should list the procedures for peer review. If a journal does not provide such information, you may have found a "predatory journal." You may want to check with your professor or a librarian, as the websites for some reputable journals are not straightforward. It is important not to use articles from predatory journals. These journals will publish any article—no matter how bad it is—as long as the author pays them. If a journal appears suspicious and may be a predatory publication, search for it in the COPE member list. Another predatory publishing resource, Beall's List, has been critiqued as discriminatory towards some open access publishing models and non-Western publishers so we do not recommend its use (Berger & Cirasella, 2015).[4]

Even reputable, non-predatory journals publish articles that are later shown to be incorrect, unethically manipulated, or otherwise faulty. In Chapter 1, we talked about Andrew Wakefield's fabricated data linking autism and vaccines. His study was published in T*he Lancet*, one of the most reputable journals in medicine, who formally retracted the article years later. Retraction Watch is a scholarly project dedicated to highlighting when scientific papers are withdrawn and why. It is important to note that peer review is not a perfect process, and that it is subject to error. There is a growing movement to make the peer review process faster and more transparent. For example, 17 life science journals moved to a model of publishing the unreviewed draft, the reviewer's comments, and how they informed the final draft (Brainard, 2019).[5]

Seminal articles

Peers don't just review work prior to publication. The whole point of publishing a journal article is to ensure that your peers will read it and use it in their work. A **seminal article** is "a classic work of research literature that is more than 5 years old and is marked by its uniqueness and contribution to professional knowledge" (Houser, 2018, p. 112).[6] Basically, it is a really important article. This article by Hodge, Lacasse, and Benson (2012)[7] reviews the most cited social work publications from the previous decade. These would all be considered seminal articles.

There are far more than just these 100 seminal articles in the literature. How do you know if you are looking at a seminal article? Seminal articles are cited a lot in the literature. You can see how many authors have cited an article using Google Scholar's citation count feature when you search for the article, as depicted in Figure 3.1. Generally speaking, articles that have been cited more often are considered more reputable. There is nothing wrong with citing an article with a low citation count, but it is an indicator that not many other scholars have found the source to be useful or important, at least not yet.

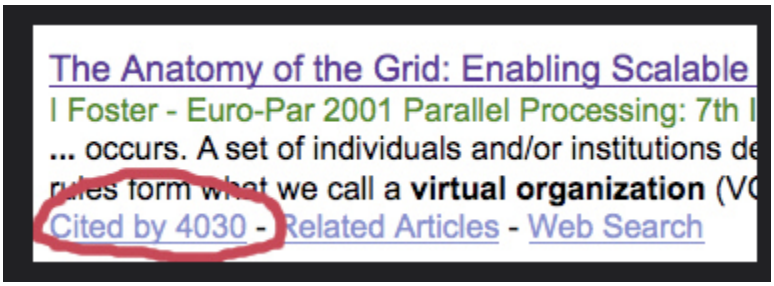


Figure 3.1 Citation count in Google Scholar

Figure 3.1 shows a citation count for an article that is obviously seminal, with over 4,000 citations. There is no exact number of citations at which an article is considered seminal. A low citation count for an article published last year is not a reliable indicator of the importance of this article to the literature, as it takes time for people to read articles and incorporate them into their scholarship. For example, if you are looking at an article from five years ago with 20 citations, that's still a good quality resource to use. The purpose here is to recognize when articles are *clearly* influential in the literature, and are therefore more likely to be important to your review of the literature in that topic area.

Empirical articles

Journal articles can fall into one of several categories. **Empirical articles** report the results of a quantitative or qualitative analysis of **raw data** conducted by the author. Empirical articles also integrate theory and previous research. However, just because an article includes quantitative or qualitative results does not necessarily mean it is an empirical journal article. Since most articles contain a literature review with findings from empirical studies, you need to make sure the findings reported in the study stem from the author's analysis of raw data.

Fortunately, empirical articles follow a similar structure, and include the following sections: introduction, methods, results, and discussion—in that order. While the exact wording in the headings may differ slightly from publication to publication and other sections may be added, this general structure applies to nearly all empirical journal articles. If you see this general structure, you are reading an empirical journal article. You can see this structure in a recent article from the open access social work journal, *Advances in Social Work*. Bonnano & Vesalak (2019)[8] conducted interviews of parents of children who are diagnosed with mental health issues, uncovering that trust was central to which sources parents used to inform themselves about their child's diagnosis. While there is no "Introduction" heading, the article begins on page 397 with the abstract and introduction. The "Methods" heading appears on page 400, after the introduction ends. The "Results" section begins on page 402. Because this is a qualitative empirical article, the results section is full of themes and quotes based on what

participants said in their interviews with researchers. If it were a quantitative empirical article, like this one from Kelly, Kubart, and Freed (2020)[9] evaluating the impact of a social work intervention on depression in teenagers, the results section would be full of statistical data, tables, and figures that indicated mathematical relationships between the key variables in the research question. The "Discussion" for the Bonnano & Vesalak begins on page 407, and it contextualizes the findings in their "Results" section within the scholarly literature.

While this article uses the traditional headings, you may see other journal articles that use headings like "Background" instead of "Introduction" or "Findings" instead of "Results". You may also find headings like "Conclusions", "Implications", "Limitations", and so forth in other journal articles. Regardless of the specific wording, empirical journal articles follow the structure of introduction, methods, results, and discussion. If it has a methods and results section, it's almost certainly an empirical journal article. However, if the article does not have these specific sections, it's likely you've found a non-empirical article because the author did not analyze any raw data.

Review articles

Along with empirical articles, review articles are the most important type of article you will read as part of conducting your review of the literature. We will discuss their importance more in Chapter 4, but briefly, **review articles** are journal articles that summarize the findings other researchers and establish the state of the literature in a given topic area. They are so helpful because they synthesize a wide body of research information in a (relatively) short journal article. Review articles include literature reviews, like this one from Reynolds & Bacon (2018)[10] which summarizes the literature on integrating refugee children in schools. You may find literature reviews with a special focus like a critical review of the literature, which may apply a perspective like critical theory or feminist theory while surveying the scholarly literature on a given topic.

Review articles also include **systematic reviews**, which are like literature reviews but more clearly specify the criteria by which the authors search for and include scholarly literature in the review (Uman, 2011).[11] For example, this recent systematic review by Leonard, Hafford-Letchfield, and Couchman (2018)[12] discusses how to use strategies from arts education to inform social work education. As you can see in Figure 1 of this article, systematic reviews are very specific about which articles they include in their analysis. Because systematic reviews try to address all scholarly literature published on a given topic, researchers specify how the literature search was conducted, how many articles were included or excluded, and the reasoning for their decisions. This way, researchers make sure there is no relevant source excluded from their analysis.

The two final kinds of review articles, **meta-analysis** and **meta-synthesis** go even further than systematic reviews in that they analyze the **raw data** from all of the articles published in a given topic area, not just the published results. A meta-analysis is a study that combines raw data from

multiple sources and analyzes the pooled data using statistics. Meta-analyses are particularly helpful for intervention studies, as it will pool together the raw data from multiple samples and studies to create a super-study of thousands of people, which has greater explanatory power. For example, this recent meta-analysis by Kennedy and colleagues (2016)[13] analyzes pooled data from six separate studies on parent-child interaction therapy to see if it is effective.

A meta-synthesis is similar to a meta-analysis but it pools qualitative results from multiple studies for analysis. For example, this meta-synthesis by Hodge and Horvath (2011)[14] pooled data from 11 qualitative studies that addressed spiritual needs in healthcare settings. While meta-analyses and meta-syntheses are the most methodologically robust type of review article, any recently published review article that is highly relevant to your topic area is a good place to start reading literature. Because review articles synthesize the results of multiple studies, they can give you a broad sense of the overall literature on your topic. We'll review a few kinds of non-empirical articles next.

Theoretical articles

Theoretical articles discuss a theory, conceptual model, or framework for understanding a problem. They may delve into philosophical or ethical analysis as well. For example, this theoretical article by Carrillo & Grady (2018)[15] discusses structural social work theory and anti-oppressive practice approaches. While most students know they need to have statistics to back up what they think is true, it's also important to use theory to inform what you think about your topic. Theoretical articles can help you understand how to think about a topic and may help you make sense of the results of empirical studies.

Practical articles

Practical articles describe "how things are done" from the perspective of on-the-ground practitioners. They are usually shorter than other types of articles and are intended to inform practitioners of a discipline on current issues. They may also reflect on a "hot topic" in the practice domain, a complex client situation, or an issue that may affect the profession as a whole. This practical article by Curry-Stevens and colleagues (2019)[16] was written by social work faculty for other social work faculty. It helps faculty learn how to increase the number of graduate social work students concentrating in macro practice, based on what faculty in one program did.

Table 3.1 Identifying and using different types of journal articles

Type of journal article	How do you know if you're looking at one?	Why is this type of article useful?
Peer-reviewed	Go to the journal's website, and look for information that describes peer review. This may be in the instructions for authors or about the journal sections.	To ensure other respected scholars have reviewed, provided feedback, and approved this article as containing honest and important scientific scholarship.
Article in a predatory journal	Use the SIFT method. Search for the publisher and journal on Wikipedia and in a search engine. Check the COPE member list to see if your journal appears there.	They are not useful. Articles in predatory journals are published for a fee and have not undergone serious review. They should not be cited.
Not an journal article	Does not provide the name of the journal it is published in. You may want to google the name of the article or report and its author to see if you can find a published version.	Journal articles aren't everything, but if your instructor asks for one, make sure you haven't mistakenly use dissertations, theses, and government reports.
Empirical article	Most likely, if it has a methods and results section, it is an empirical article.	Once you have a more specific idea in mind for your study, you can adapt the measures, design, and sampling approach of empirical articles (quantitative or qualitative). The introduction and results section can also provide important information for your literature review. Make sure not to rely too heavily on a single empirical study, though, and try to build connections across studies you read.
Quantitative article	The methods section contains numerical measures and instruments, and the results section provides outcomes of statistical analyses.	
Qualitative article	The methods section describes interviews, focus groups, or other qualitative techniques. The results section has a lot of quotes from study participants.	
Review article	The title or abstract includes terms like literature review, systematic review, meta-analysis, or meta-synthesis.	Getting a comprehensive but generalized understanding of the topic and identifying common and controversial findings across studies.
Theoretical article	The articles does not have a methods or results section. It talks about theory a lot.	Developing your theoretical understanding of your topic.
Practical articles	Usually in a section at the front or back of the journal, separate from full articles. It addresses hot topics in the profession from the standpoint of a practitioner.	Identifying how practitioners in the real world think about your topic.
Book reviews, notes, and commentary	Much shorter, usually only a page or two. Should state clearly what kind of note or review they are in the title, abstract, or keywords.	Can point towards sources that provide more substance on the topic you are studying or point out emerging or controversial aspects of your topic.

What kind of articles should you read?

No one type of article is better than the other, as each serves a different purpose. Seminal articles relevant to your topic area are important to read because the ideas in them are deeply influential in the literature. Theoretical articles will help you understand the social theory behind your topic. Empirical articles should test those theories quantitatively or create those theories qualitatively, a process we will discuss in greater detail in Chapter 8. Review articles help you get a broad survey of the literature

by summarizing the results of multiple studies, which is particularly important at the beginning of a literature search. And finally, practical articles will help you understand a practitioner's on-the-ground experience. Pick the kind of article that gives you the kind of information you need.

Other sources of information

As I mentioned previously, newspaper and magazine articles are good places to start your search (though they should not be the end of your search!). Another source students go to almost immediately is Wikipedia. Wikipedia is a marvel of human knowledge. It is a digital encyclopedia to which anyone can contribute. The entries for each Wikipedia article are overseen by skilled and specialized editors who volunteer their time and knowledge to making sure their articles are correct and up to date. That said, Wikipedia has been criticized for gender and racial bias as well as inequities in the treatment of the Global South (Montgomery et al., 2021).[17]

Encyclopedias

Wikipedia is an example of a tertiary source. We reviewed primary and secondary sources in the previous section. **Tertiary sources** review primary and secondary sources. Examples of tertiary sources include encyclopedias, directories, dictionaries, and textbooks like this one. Tertiary sources are an excellent place to start (but are not a good place to end) your search. A student might consult Wikipedia, the Open Education Sociology Dictionary, or the Encyclopedia of Social Work to get a general idea of a social work topic. Encyclopedias can also be excellent resources for their citations, and often the citations will be to seminal articles or important primary sources.

The difference between secondary and tertiary sources is not exact, and as we've discussed, using one or both at the beginning of a project is a good idea. As your study of the topic progresses, you will naturally have to transition away from secondary and tertiary sources and towards primary sources. We've already talked about one particular kind of primary source—empirical journal articles. We will spend more time on this primary source than any other in this textbook. However, it is important to understand how other types of sources can be used as well.

Books

Books contain important scholarly information. They are particularly helpful for theoretical, philosophical, and historical inquiry. For example, in my research on self-determination for individuals

with intellectual and developmental disabilities, I needed to define and explore the concept of self-determination. I learned how to define it from the philosophical literature on self-determination and the advocacy literature contained in books. You can use books to learn key concepts, theories, and keywords you can use to find more up-to-date sources. They may also help you understand the scope and foundations of a topic and how it has changed over time.

Some books contain chapters that look like academic journal articles. These are called *edited volumes*. They contain chapters similar to journal articles, but the content is reviewed by an editor rather than peer reviewers. Edited volumes are considered somewhat less reputable than journal articles, as confidential peer review is still considered to be more objective than editorial review. However, articles in social science journals will often include references to books and edited volumes.

Conference proceedings and presentations

Conferences provide a great source of information. At conferences such as the Council on Social Work Education's (CSWE) Annual Program Meeting (APM) or your state's NASW conference, researchers present papers on their most recent research. The papers presented at conferences are sometimes published in a volume called a conference proceeding, though these are not common in social work. Conference proceedings highlight the current discourse in a discipline and can lead you to scholars who are interested in specific research areas. For a list of social work conferences, with a focus on the United States, see Chapter 24.

A word about conference papers: several factors may render these documents difficult to find. It is not unusual that papers delivered at professional conferences are not published in print or electronic form, although an abstract may be available. In these cases, the full paper may only be available from the author or authors. The most important thing to remember is that if you have any difficulty finding a conference proceeding or paper, ask a librarian for assistance.

Gray literature

Another source of information is the **gray literature**, which consist of research reports released by non-commercial publishers, such as government agencies, policy organizations, and think tanks. If you have already taken a policy class, perhaps you've come across the Center on Budget and Policy Priorities (CBPP). The CBPP is a think tank—a group of scholars that conducts research and advocates for political, economic, and social change. Similarly, students often find the Centers for Disease Control website helpful for understanding the prevalence of social problems like mental illness and child abuse. If you find fact sheets, news items, blog posts, or other content from organizations like think tanks or advocacy organizations in your topic area, look at the references cited to find the primary source, rather

than citing the secondary source (the fact sheet). While you might be persuaded by their arguments, you want to make sure to account for the author's potential bias.

Think tanks and policy organizations often have a specific viewpoint they support. For example, there are conservative, liberal, and libertarian think tanks. Policy organizations may be funded by donors to push a given message to the public. Government agencies are generally more objective, though they may be less critical of government programs than other sources might be. Similarly, agencies may be less critical in the reports they share with the public. The main shortcoming of gray literature is the lack of peer review that is found in academic journal articles. Government reports are often cited in research proposals, along with some reports from policy organizations.

Dissertations and theses

Dissertations and theses can be rich sources of information and include extensive reference lists you can use to scan for resources. However, dissertations and theses are considered gray literature because they are not peer reviewed. The accuracy and validity of the document itself may depend on the school that awarded the doctoral or master's degree to the author. Having completed a dissertation, I can attest to the length of time they take to write as well as read. If you come across a relevant dissertation, it is a good idea to read the literature review and note the sources the author used so you can incorporate them into your literature review. However, the data analysis found in these sources is considered less reputable as it has not passed through peer review yet. Dissertations are approved by committees of scholars, so they are considered more reputable than sources that lack review by experts prior to publication. Consider searching for journal articles by the dissertation's author to see if any of the results have been peer reviewed and published. You will also be thankful because journal articles are much shorter than dissertations and theses!

Webpages

The final source of information we are going to talk about is webpages. My graduate research focused on substance abuse and drugs, and I was fond of reading Drug War Rant, a blog about drug policy. It provided me with breaking news about drug policy and editorial opinion about the drug war. I still do the same thing with Twitter, as I follow policy organizations and noted scholars to learn about developments in my interest areas. Podcasts (like the Social Work Podcast or Doin' the Work) are also great sources of news, interviews, and long-form journalism. I would almost never cite a tweet or podcast in a research proposal, but they are excellent places to find primary sources I can read and cite.

Webpages will also help you locate professional organizations and human service agencies that address your problem. Looking at their social media feeds, reports, publications, or "news" sections on an

organization's webpage can clue you into important topics to study. Because anyone can develop their own webpage, they are usually not considered scholarly sources to use in formal writing, but may be useful as you are first learning about a topic. Additionally, many advocacy webpages will provide references for the facts they site, providing you with the primary source. Keep in mind too that webpages can be tricky to quote and cite, as they can be updated or moved at any time. While some reputable sources will include editing notes, others may not. Webpages can be updated without notice.

Use quality sources

We will discuss more specific criteria for evaluating the quality of the sources you choose in section 4.1. For now, as you access and read each source you encounter, remember:

> All information sources are not created equal. Sources can vary greatly in terms of how carefully they are researched, written, edited, and reviewed for accuracy. Common sense will help you identify obviously questionable sources, such as tabloids that feature tales of alien abductions, or personal websites with glaring typos. Sometimes, however, a source's reliability—or lack of it—is not so obvious. You should consider criteria such as the type of source, its intended purpose and audience, the author's (or authors') qualifications, the publication's reputation, any indications of bias or hidden agendas, how current the source is, and the overall quality of the writing, thinking, and design. (Writing for Success, 2015, p. 448).[18]

While each of these sources provides an important facet of our learning process, your research should focus on finding academic journal articles about your topic. These are the primary sources of the research world. While it may be acceptable and necessary to use other primary sources—like books, government reports, or an investigative article by a newspaper or magazine—academic journal articles are preferred. Finding these journal articles is the topic of the next section.

Key Takeaways

- News articles, Wikipedia, and webpages are a good place to start learning about a new topic, but you should rely on more reputable and peer-reviewed sources when reviewing "the literature" on your topic.
- Researchers should read and cite primary sources, tracing a fact or idea to its original source. If you read a news article or webpage that talks about a study or report (i.e., a secondary source), read the primary source to get all the facts.
- Empirical articles report quantitative or qualitative analysis completed by the author on raw data.
- You must critically assess the quality and bias of any source you read. Just because it's published doesn't mean it's true.

Exercises

Conduct a general Google search on your topic.

- Identify whether the first 10 sources that come up are primary or secondary sources.
- Optionally, ask a friend to conduct the same Google search and compare your results. Google's search engine customizes the results you see based on your browsing history and other data the company has collected about you. This is called a filter bubble, and you can learn more about it in this Ted Talk about filter bubbles.

Find a secondary or tertiary source about your topic.

- Trace one to the original, primary source.

Find a review article in your topic area.

- Identify which kind it is (literature review, systematic review, meta-analysis, etc.)

Find a think tank, advocacy organization, or website that addresses your topic.

- Using their information, identify primary sources that might be of use to you. Consider adding them to your social media feed or joining an email newsletter.

3.2 Searching basics

Learning Objectives

Learners will be able to…

- Brainstorm potential keywords and search queries for your topic
- Apply basic Boolean search operators to your search queries
- Identify relevant databases in which to search for journal articles
- Target your search queries in databases to the most relevant results

One of the drawbacks (or joys, depending on your perspective) of being a researcher in the 21st century is that we can do much of our work without ever leaving the comfort of our recliners. This is certainly true of familiarizing yourself with the literature. Most libraries offer incredible online search options and access to all of the literature you'll ever need on your topic.

Unfortunately, even though many college classes require students to find and use academic journal articles, there is little training for students on how to do so. The purpose of this section and the rest

of part 1 of the textbook is to build information literacy skills, which are the basic building blocks of any research project. While we describe the process here as linear, with one step following neatly after another, in reality, **you will likely go back to Step 1 often as your topic gets more specific and your working question becomes clearer**. Recall our diagram in the last chapter, Figure 2.1. You are cycling between reformulating your working question then searching for and reading the literature on your topic.

The process of searching databases and revising your working question can be time-consuming, so it is a good idea to write notes to yourself. Remembering why you included certain search terms, searched different databases, or other decisions in the literature search process can help you keep track of what you've done. You can then recreate searches to download articles you may have missed or remember reflections you had weeks ago when you last conducted a literature search. When I search the literature, I create a "working document" in a word processor where I write notes and reflections.

Step 1: Build search queries using keywords

What do you type when you are searching for something on in a search engine like Google or Bing? Are you a question-asker? Do you type in full sentences or just a few keywords? What you type into a database or search engine is called a **query**. Well-constructed queries get you to the information you need more quickly, while unclear queries will force you to sift through dozens of irrelevant articles before you find the ones you want. The danger in being a question-asker or typing like you talk is that including too many extraneous words will confuse the search engine. In this section, you will learn to use keywords rather than natural language to find scholarly information.



Keywords are the words or phrases you use in your search query, and they inform the relevance and quantity of results you get. Unfortunately, different studies often use different terms to mean the same thing. A study may describe its topic as substance abuse, rather than addiction (for example). Think about what keywords are important to answering your working question. Are there other ways of expressing the same idea?

Often in social work research, there is a bit of jargon to become familiar with when crafting your search queries. If you wanted to learn more about individuals of low SES who do not have access to a bank account, you may need to learn the term "unbanked," which refers to people without bank accounts, and thereby include the word "unbanked" in your search query. If you wanted to learn about children who take on parental roles in families, you may need to include the word "parentification" as part of your search query.

As graduate researchers, you are not expected to know these terms ahead of time. Instead, start with the keywords you already know. As you read more about your topic and become familiar with some of these words, begin including these keywords into your search results, as they may return more relevant hits.

Exercises

- List all of the keywords you can think of that are relevant to your working question.
- Add new keywords to this list as you are searching and learn more about your topic.
- Start a document in which you can put your keywords as well as your notes and reflections on the search process.

Boolean searching: Learn to talk like a robot

Google is a "natural language" search engine, which means it tries to use its knowledge of how people talk to better understand your query. Google's academic database, Google Scholar, utilizes that same approach. However, other databases that are important for social work research—such as Academic Search Complete, PsycINFO, and PubMed—will not return useful results if you ask a question or type a sentence or phrase as your search query. Instead, these databases are best used by typing in keywords. Instead of typing "the effects of cocaine addiction on the quality of parenting," you might type in "cocaine AND parenting" or "addiction AND child development." [Note: you would not actually use the quotation marks in your search query for the examples in this subsection].

These operators (AND, OR, NOT) are part of what is called Boolean searching. Boolean searching works like a simple computer program. Your search query is made up of words connected by operators. Searching for "cocaine AND parenting" returns articles that mention both cocaine and parenting. There are lots of articles on cocaine and lots of articles on parenting, but fewer articles on that address both of those topics. In this way, the AND operator reduces the number of results you will get from your search query because both terms must be present.

The NOT operator also reduces the number of results you get from your query. For example, perhaps you wanted to exclude issues related to pregnancy. Searching for "cocaine AND parenting NOT pregnancy" would exclude articles that mentioned pregnancy from your results. Conversely, the OR operator would increase the number of results you get from your query. For example, searching for "cocaine OR parenting" would return not only articles that mentioned both words but also those that mentioned only one of your two search terms. This relationship is visualized in Figure 3.2 below.

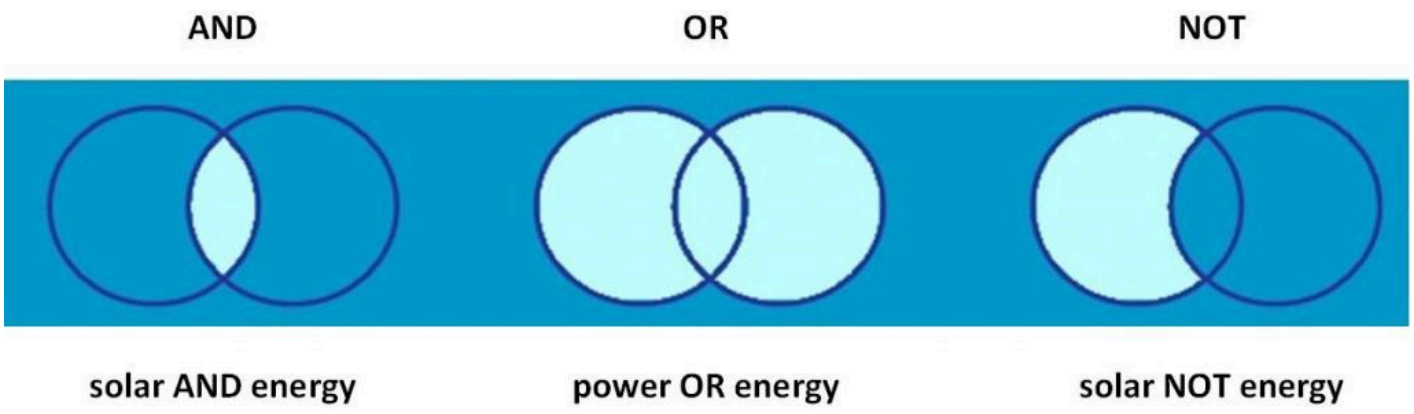


Figure 3.2 Boolean search operators

Exercises

- Build a simple Boolean search query, appropriately using AND, OR, and NOT.
- Experiment with different Boolean search queries by swapping in different keywords.
- Write down which Boolean queries you create in your notes.

Step 2: Find the right databases

Queries are entered into a **database** or a searchable collection of information. In research methods, we are usually looking for databases that contain academic journal articles. Each database has a unique focus and presents distinct advantages or disadvantages. It is important to try out multiple databases, and experiment with different keywords and Boolean operators to find the most relevant results for your working question.

Google Scholar

The most commonly used public database of scholarly literature is Google Scholar, and there are many benefits to using it. Most importantly, Google Scholar is free and is the only database to which you will have access after you graduate. Building competence at using it now will help you as you engage in the evidence-based practice process post-graduation. Because Google Scholar is a natural language search engine, it can seem less intimidating. However, Google Scholar also understands Boolean search terms and contains some advanced searching features like searching within one specific author's body of work,

one journal, or searching for keywords in the title of the journal. We have previously mentioned the 'Cited By' field which counts the number of other publications that cite the article and a link to explore and search within those citing articles. This can be helpful when you need to find more recent articles about the same topic.

I recommend linking your personal Google account and your university login which provides one-click access to journal articles available at your institution. I also often use their citation generator, though I have to fix a few things on most entries before using them in my references. You can also set email alerts for a specific search query, which can help you stay current on the literature over time, and organize journal articles into folders. If these advanced features sound useful to you, consult Google Scholar Search Tips for a walkthrough.

While these features are great, there are some limitations to Google Scholar. The sources in Google Scholar are not curated by a professional body like the American Psychological Association (who curates PsycINFO). Instead, Google crawls the internet for what it thinks are scholarly works and indexes them in their database. When you search in Google Scholar, the sources will be not only journal articles, but books, government and foundation reports, gray literature, graduate theses, and articles that have not undergone peer review. There is no way to select for a specific type of source, and you need to look clearly and identify what kind of source you are reading. Not every source on Google Scholar is reputable or will match what you need for an assignment.

With that broad focus, Google Scholar ranks the results from your query by the number of times each source was cited by other scholars and the number of times your keywords are mentioned in the source. This biases the search results towards older, more seminal articles. So, you should consider limiting your results to only those published the last few years. Unfortunately, Google Scholar also lacks advanced searching features of other databases, like searching by subject area or within the abstract of an article.

Exercises

- Type your queries into Google Scholar. See which queries provide you with the most relevant results.
- Look for new keywords in the results you find, particularly any jargon used in that topic area you may not have known before.
- Write down notes on which queries and keywords work best. Reflect on what you read in the abstracts and titles of the search results in Google Scholar.

Databases accessed via an institution

Although learning Google Scholar is important, you should take advantage of the databases to which your institution purchases access. The first place to look for social work scholarship are two databases: Social Service Abstracts and Social Work Abstracts, as these databases are indexed specifically for the discipline of social work. As you are aware, social work is interdisciplinary by nature, and it is a good idea not to limit yourself solely to the social work literature on your topic. If your study requires information from the disciplines of psychology, education, or medicine, you will likely find the databases PsycINFO, ERIC, and PubMed (respectively) to be helpful in your search.

There are also less specialized databases that contain articles from across social work and other disciplines. Academic Search Complete is similar to Google Scholar in its breadth, as it contains a number of smaller databases from a variety of social science disciplines. Within Academic Search Complete, click Choose Databases to select databases that apply to different disciplines or topic areas.

It is worth mentioning that many university libraries have a meta-search engine which searches some of the databases to which they have access, including both disciplinary and interdisciplinary databases. Meta-search engines are fantastic, but you must be careful to narrow your results down to the type of resource you are looking for, as they will include all types of media (e.g., books, movies, games). Unfortunately, not every database is included in these meta-search engines, so you will want to try other databases, as well.

You can find the databases we mentioned here and others on the Databases page of your university library (at my institution, the page is titled A-Z Databases). A university login is required to for you to access these databases because you pay for access as part of the tuition and fees at your university. This means that sometime after graduation, you will lose access to these databases and would need to physically travel to a university library to access them. Make the most of your database access during your graduate degree program. We will review in Chapter 4 how to get around **paywalls** after you graduate.

The databases we described here can be a bit more intimidating, as they have limited natural language support and rely mostly on Boolean searching. However, they contain more advanced search features which can help you narrow down your search to only the most relevant sources, our next step in the research process.

Exercises

- Explore different databases you can access via your university's library website and searching using your keywords.
- Write notes on which databases and keywords provide you with the most relevant results and the disciplines you are likely to find in each database.
- Look for any new keywords in your results that will help you target your search, and experiment with new search queries.

Step 3: Reduce irrelevant search results

At this point, you should have worked on a few different search queries, swapped in and out different keywords, and explored a few different databases of academic journal articles relevant to your topic. Next, you have to deal with the most common frustration for students: narrowing down your search and reducing the number of results you have to look at. I'm sure at some point you've typed a query into Google Scholar or your library's search engine and seen hundreds of thousands or millions of sources in your search results. Don't worry! You don't have to read all those articles to know enough about your topic area to produce a good research project.

While reading millions of articles is clearly ridiculous, there is no magic number of search results to reach. A good search will return results which are highly relevant. In my experience, student search queries tend to be too general (and have too many irrelevant results), rather than too specific (and have too few relevant results). Don't worry! You will not need to read all of the articles you find, but reducing the number of results will save you time by eliminating irrelevant articles.

You should have two goals in reducing the number of results:

1. Reduce the number of sources until you could reasonably skim through the title and abstract of each source. Generally, you want a hundred or a thousand results, rather than a hundred thousand results.
2. Reduce the number of irrelevant sources in your search results until you are much more likely to encounter relevant, rather than irrelevant articles. If only one of every ten results in your search is relevant to your topic for example, you are wasting time. You would be better served by using the tips below to better target your search query.

Here are some tips for reducing the number of irrelevant sources when you search in databases.

1. Use quotation marks to indicate exact phrases, like "mental health" or "substance abuse."

2. Search for your keywords in the ABSTRACT. A lot of your results may be from articles about irrelevant topics that mention your search term only once. If your topic isn't in the abstract, chances are the article isn't relevant. You can be even more restrictive and search for your keywords in the TITLE, but that may be too restrictive, and exclude relevant articles with titles that use slightly different phrasing. Academic databases provide these options in their advanced search tools.
3. Use SUBJECT headings to find relevant articles. These tags are added by the organization that provides the database, like the American Psychological Association who curates PyscINFO, to help classify and categorize information for easier browsing.
4. Narrow down the years of publication. Unless you are gathering historical information about a topic, you are unlikely to find articles older than 10-15 years to be useful. They no longer tell you the current knowledge on a topic. All databases have options to narrow your results down by year. Check with your professor to see if they have specific guidelines for when an article is "too old."
5. Talk to a librarian. They are professional knowledge-gatherers, and there is often a librarian assigned to your department. Their job is to help you find what you need to know, and they are extensively trained in how to help you!
6. Talk to your stakeholders or someone knowledgeable about your target population. They have lived experience with your topic which can help you understand the literature through a different lens. Moreover, the words they use to describe their experiences can also be useful sources of keywords, theories, studies, or jargon.

Exercises

- Using the techniques described in this subsection, reduce the number of irrelevant results in the database queries you have performed so far. Pay particular attention to searching within the abstract, using quotation marks to indicate keyword phrases, and exploring subject headings relevant to your topic.
- Reduce your database query results down to a number (a) where you could reasonably skim through the titles and abstracts to identify relevant articles and (b) where you are much more likely to encounter relevant, rather than irrelevant articles. Repeat this process for your search of each database relevant to your project.
- Write down your queries or save them, so you can recreate them later if you need to return to them. Also, write down any reflections you have on the search process.
- Look for any new keywords in your results that will help you target your search better, and experiment with new search queries.

Step 4: Conduct targeted searches

Another way to save time when searching for literature is to look for articles that synthesize the results of other articles: review articles. Systematic reviews provide a summary of the existing literature on a

topic. If you find one on your topic, you will be able to read one person's summary of the literature and go deeper by reviewing and reading articles they cited in their references. Other types of reviews such as critical reviews may offer a viewpoint along with a birds-eye view of the literature.

Similarly, meta-analyses and meta-syntheses have long reference lists that are useful for finding additional sources on a topic. They use data from each article to run their own quantitative or qualitative data analysis. In this way, meta-analyses and meta-syntheses provide a more comprehensive overview of a topic. To find these kinds of articles, include the term "meta-analysis," "meta-synthesis," or "systematic review" as keywords in your search queries.

My advice is to read a review article first, before any type of article. The purpose of review articles is to summarize an entire body of literature is as short an article as possible. This is exactly what students who are learning a new area need. Time is a precious resource for graduate students, and review articles provide the most knowledge in the shortest time. Even if they are a few years old, they should help you understand what else you need to find in your literature search.

As you look through abstracts of articles in your search results, you should begin to notice that certain authors keep appearing. If you find an author that has written multiple articles on your topic, consider searching the AUTHOR field for that particular author. You can also search the web for that author's Curriculum Vitae or CV (an academic resume) that will list their publications. Many authors maintain personal websites or host their CV on their university department's webpage. Just type in their name and "CV" into a search engine. For example, you may find Michael Sherraden's name often if your search query is about assets and poverty. You can find Michael Sherraden's CV on the Washington University of St. Louis website.

A similar process can be used for journal names. As you are going through search results, you may also notice that many of the articles you've skimmed come from the same journals. Searching with that journal name in the JOURNAL field will allow you to narrow down your results to just that journal. For example, if you are searching for articles related to values and ethics in social work, you might want to search for articles in the Journal of Social Work Values and Ethics. You can do so within any database that indexes the journal, like Google Scholar, or through the search feature journal's webpage. Browse the abstracts and download the full-text PDF of any article you think is relevant.

Step 5: Explore references and citations

The last thing you'll need to do in order to make sure you didn't miss anything is to look at the references in each article you cite. If there are articles that seem relevant to you, you may want to download them. Unfortunately, references may contain out-of-date material and cannot be updated after publication. As a result, a reference section for an article published in 2014 will only include references from pre-2014.

To find research published after 2014 on the same topic, you can use Google Scholar's 'Cited By' feature

to do a future-looking search. Look up your article on Google Scholar and click the 'Cited By' link. The results are a list of all the sources that cite the article you just read. Google Scholar also allows you to search within these articles—check the box below the search bar to do so—and it will search within the 'Cited By' articles for your keywords.

Exercises

- Examine the search results from various databases and look for authors and journals that publish often on your topic. Conduct targeted searches of these authors and journals to make sure you are not missing any relevant sources.
- Identify at least one relevant article, preferably a review article. Look in the references for any other sources relevant to your working question. Search for the article in Google Scholar and use the the 'Cited By' feature to look for additional sources relevant to your working question.
- Search for review articles that will help you get a broad sense of the literature. Depending on your topic, you may also want to look for other types of articles as well.
- Look for any new keywords in your results that will help you target your search, and experiment with new search queries.
- Write notes on your targeted searches, so you can recreate them later and remember your reflections on the search process.

Getting the right results

I read a lot of literature review drafts of that say "this topic has not been studied in detail." Before you come to that conclusion, **make an appointment with a librarian**. It is their job to help you find material that is relevant to your academic interests. My first project as a graduate research assistant involved writing a literature review for a professor, and the time I spent working with a librarian on that project brought home how important and impactful they can be. But there is a lot you can do on your own!

Let's walk through an example. Imagine a local university wherein smoking was recently banned, much to the chagrin of a group of student smokers. Students were so upset by the idea that they would no longer be allowed to smoke on university grounds that they staged several smoke-outs during which they gathered in populated areas around campus and enjoyed a puff or two. Their activism was surprising. They were advocating for the freedoms of people committing a deviant act—smoking—that is highly disapproved of. Were the protesters otherwise politically active? How much effort and coordination had it taken to organize the smoke-outs?



The student researcher began their research by attempting to familiarize themselves with the literature. They started by looking to see if there were any other student smoke-outs using a simple Google search. When they turned to the scholarly literature, their search in Google Scholar for "college student activist smoke-outs," yielded no results. Concluding there was no prior research on their topic, they informed the professor that they would not be able to write the required literature review since there was no literature for them to review. What went wrong here?

The student had been too narrow in their search for articles in their first attempt. They went back to Google Scholar and searched again using queries with different combinations of keywords. Rather than searching for "college student activist smoke-outs" they tried, "college student activism," "smoke-out," "protest," and other keywords. This time their search yielded many articles. Of course, they were not all focused on pro-smoking activist efforts, but the results addressed their population of interest, college students, and on their broad topic of interest, activism. Experimenting with different keywords across different databases helped them get a comprehensive and multi-disciplinary view of the topic.

Reading articles on college student activism might give them some idea about what other researchers have found in terms of what motivates college students to become involved in activist efforts. They could also play around with their search terms and look for research on activism centered on other sorts of activities that are perceived by some to be deviant, such as marijuana use or veganism. In other words, they needed to broaden their search about college student activism to include more than just smoke-outs and understand the theory and empirical evidence around student activism.

Once they searched for literature about student activism, they could link it to their specific research focus: smoke-outs organized by college student activists. What is true about activism broadly is not necessarily true of smoke-outs, as advocacy for smokers is unique from advocacy on other topics like environmental conservation. Engaging with the sociological literature about their target population, college students who smoke cigarettes, for example, helped to link the broader literature on advocacy to their specific topic area.

For a more thorough review of conducting a literature search, we suggest Introduction to College Research, an open textbook by some excellent librarians.

Revise your working question often

Throughout the process of creating and refining search queries, it is important to revisit your working question. In this example, trying to understand how and why the smoke-out took place is a good start to a working question, but it will likely need to be developed further to be more specific and concrete. Perhaps the researcher wants to understand how the protest was organized using social media and how social media impacts how students perceived the protests when they happened. This is a more specific question than "how and why did the smoke-out take place?" though you can see how the researcher started with a broad question and made it more specific by identifying one aspect of the topic to investigate in detail. You should find your working question shifting as you learn more about your topic and read more of the literature. This is an important sign that you are critically engaging with the literature and making progress. Though it can often feel like you are going in circles, there is no shortcut to figuring out what you need to know to study what you want to study.

Key Takeaways

- The quality of your search query determines the quality of your search results. If you don't work on your queries, you'll get a million results, only a small percentage of which are relevant to your project.
- Keywords and queries should be updated as you learn more about your topic.
- Your two goals in targeting your database searches should be reducing the number of results for each search query to a number you can feasibly skim and making those results more relevant to your project.
- Techniques to increase the number of relevant results in a search include using Boolean operators, quotation marks, searching in the abstract or title, and using subject headings.
- Use the databases that are most relevant to your topic. For general searches, Google Scholar has some strengths (ease of use, Cited By) and limitations (cannot search in abstract, includes resources other than journal articles). You can access other databases through your university's library.
- Don't be afraid to reach out to a librarian or your professor for help with searching. It is their job to help you.

Exercises

- Reflect on your working question. Consider changes that would make it clearer and more specific based on the literature you have skimmed during your search.
- Describe how your search queries (across different databases) address your working question and provide a comprehensive view of the topic.

Media Attributions

- yahoo-446971_1920 © Simon Steinberger
- journals © M. Imran is licensed under a CC0 (Creative Commons Zero) license
- 19 © Palreeparit, I. is licensed under a CC BY-NC (Attribution NonCommercial) license
- magnifying-glass-76520_1920 © Simon Steinberger
- TUlib-Search-operators-Boolean-1024×290 © TU Delft Libraries is licensed under a CC BY (Attribution) license
- no-smoking-98849_1280 © Open Icons is licensed under a CC0 (Creative Commons Zero) license

Notes

1. The Guardian (n.d.). *The counted: People killed by police in the US*. Retrieved from: https://www.theguardian.com/us-news/ng-interactive/2015/jun/01/the-counted-police-killings-us-database ↵
2. Kelly, J., Sadeghieh, T., & Adeli, K. (2014). Peer review in scientific publications: Benefits, critiques, & a survival guide. *EJIFCC*, 25(3), 227–243.
3. Ades, R. (2020, February 20). An end to "blind review." *Blog of the* APA. https://blog.apaonline.org/2020/02/20/an-end-to-blind-review/
4. Berger, M., & Cirasella, J. (2015). Beyond Beall's list: Better understanding predatory publishers. *College & research libraries news*, 76(3), 132-135.
5. Brainard, J. (2019, October 10). In bid to boost transparency, bioRxiv begins posting peer reviews next to preprints. *Science magazine*. Retrieved from: https://www.sciencemag.org/news/2019/10/bid-boost-transparency-biorxiv-begins-posting-peer-reviews-next-preprints
6. Houser, J., (2018). *Nursing research reading, using, and creating evidence* (4th ed.). Burlington, MA: Jones & Bartlett.
7. Hodge, D. R., Lacasse, J. R., & Benson, O. (2012). Influential publications in social work discourse: The 100 most highly cited articles in disciplinary journals: 2000–09. *British Journal of Social Work*, 42(4), 765-782.
8. Bonanno, R., & Veselak, K. (2019). A matter of trust: Parents attitudes towards child mental health information sources. *Advances in Social Work*, 19(2), 397-415.
9. Kelly, M. S., Kubert, P., & Freed, H. (2020). Teen depression, stories of hope and health: A promising universal

school climate intervention for middle school youth. *International Journal of School Social Work*, 5(1), 3.

10. Reynolds, A. D., & Bacon, R. (2018). Interventions supporting the social integration of refugee children and youth in school communities: A review of the literature. *Advances in social work*, 18(3), 745-766.
11. Uman, L. S. (2011). Systematic reviews and meta-analyses. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 20(1), 57-59
12. Leonard, K., Hafford-Letchfield, T., & Couchman, W. (2018). The impact of the arts in social work education: A systematic review. *Qualitative Social Work*, 17(2), 286-304.
13. Kennedy, S. C., Kim, J. S., Tripodi, S. J., Brown, S. M., & Gowdy, G. (2016). Does parent–child interaction therapy reduce future physical abuse? A meta-analysis. *Research on Social Work Practice*, 26(2), 147-156.
14. Hodge, D. R., & Horvath, V. E. (2011). Spiritual needs in health care settings: A qualitative meta-synthesis of clients' perspectives. *Social work*, 56(4), 306-316.
15. Carrillo, A., & O'Grady, C. L. (2018). Using structural social work theory to drive anti-oppressive practice with Latino immigrants. *Advances in Social Work*, 18(3), 704-726.
16. Curry-Stevens, A., Hawash, L., & Bradley, S. (2019). Lessons learned: Growing social workers' preparation for upstream practice. *Advances in social work*, 19, 62-85.
17. Montgomery, L., Hartley, J., Nevlon, C., Gillies, M., Gray, E., Herrmann-Pillath, C., Huana, C., Leach, J., Potts, J., Ren, X., Skinner, K., Sugimoto, C., & Wilson, K. (2021). Change. In *Open knowledge institutions: Reinventing universities*. MIT Press. https://doi.org/10.7551/mitpress/13614.001.0001
18. Writing for Success (2015). *Strategies for gathering reliable information.* http://open.lib.umn.edu/writingforsuccess/chapter/11-4-strategies-for-gathering-reliable-information/

4. Critical information literacy

Chapter Outline

1. Evaluating sources (18 minute read)
2. Annotating sources (15 minute read)
3. Critical information literacy (14 minute read)

Content warning: examples in this chapter contain references to school discipline, mental health, gender-based discrimination, police shootings, ableism, autism and anti-vaccination conspiracy theories, children's mental health, child abuse, poverty, substance use disorders and parenting/pregnancy, tobacco use, neocolonialism and Western hegemony, and COVID-19.

4.1 Evaluating sources

Learning Objectives

Learners will be able to...

- Use skimming to identify which articles are most relevant to your topic
- Overcome paywalls that block access to scholarly information
- Assess the reputability of resources by looking for bias and rigor
- Apply the SIFT method to evaluate sources of information
- Identify why review articles are helpful to read at the beginning of a project
- Revise their working question and overall project based on knowledge they learn from the scholarly literature

In the previous section, we discussed how to formulate search queries to get the most relevant results. At this point, you should not be staring at a Google Scholar window with 1,000,000 search results. If you haven't played around in multiple databases and refined your queries using the suggestions in section 3.2, pause here and spend some time working on your search queries. Hopefully, you can find at least a few different queries that provide relevant resources to help you answer your working question or introduce new ideas that might revise or update your working question. Remember that your working question should be revised and updated as you learn more about your topic by searching in the literature.

Skim abstracts

All databases will give you access to an article's abstract. The **abstract** is a summary of the main points of an article. It will provide the purpose of the article and summarize the author's conclusions. Once you have a few good search queries, start skimming through abstracts and find the articles that are most relevant to your working question. Soon enough, you will find articles that are so relevant that you may decide to read the full text.

It is a good idea to cast a wide net at this point, since your project is just beginning. If you like the article, make sure to download the full text PDF to your computer so you can read it later. Save it in a new folder using a descriptive title. I like to include the first author's last name, year, and the first few words of the title since the file names assigned by journals are often unclear.

What do you do with all of those PDFs? I usually keep mine in folders on my cloud storage drive, arranged by topic. For those who are more ambitious, you may want to use a reference manager like Mendeley or Zotero, which can help keep your sources and notes organized. Both them can also help you build a proper bibliography and organize your notes on each article. At the very least, write some notes on paper or in a word processor reflecting on the articles you skim and how they might be of use in your study.

Getting through paywalls to the article

When students try to download the full text of an article, they will often hit an obstacle: the **paywall**. A paywall is when a publisher charges you to access a publication. Academic journal articles are expensive, but good news! Part of the tuition and fees your university charges you goes toward paying major publishers of academic journals for the privilege of accessing their articles. You should be able to access the full text for most of the journal articles you need using your library's website. **Do not limit your literature search to the free articles or random PDFs you find on the internet**!

Because journal publishers charge a lot of money for access to journals, your school likely does not pay for all the journals in the world. If your university does not already pay for access to the article, you still do not have to pay for it! You will need to use the interlibrary loan feature on your library's website. It is often listed under Services. Just enter the information for your article (e.g. author, publication year, title, DOI), and a librarian will get you the PDF of the article that you need from a school that does pay for access to that article.



After you no longer have a university library login, getting a PDF of a journal article becomes more challenging. You can subscribe to journals yourself, and many practitioners do that. However, you can always ask an author for a copy of their article. They will usually send it to you. Some journal articles are available completely for free. If you followed the links in section 3.1 to examples of different types of articles, all of these pointed to articles that were free to access, as the authors of this text cannot be sure that all readers of this textbook will have access to paywalled articles. **Open access** journal articles do not have a paywall so are open to the public, but less than 13% of journal articles are open access (Chimmer, Geschuhn, & Vogler, 2015).[1]

Another alternative way to access journal articles is if they are available in for-profit repositories like Social Science Research Network, Academia.edu, and ResearchGate. You will likely encounter results from these websites if you search for articles in a search engine like Google or Bing, as well as on Google Scholar. Sometimes, these websites require users to create an account in order to view content, and students should consider using a throwaway email to do so. ResearchGate has been sued by scholarly publishers for illegally hosting copyrighted and paywalled content (Mackenzie, 2018).[2] By contrast, non-profit and community-owned repositories like SocArXiv and university repositories (like Virginia Commonwealth University's Scholars Compass) allow authors to legally share a final draft of their work either prior to publication or after publication within the boundaries set out by publishers. This practice is called self-archiving or green open access—as contrasted with gold open access, in which the publisher's version of the journal article is freely available rather than just the author's draft. Self-archived papers look a lot like the papers you turn in for class. They are formatted according to the style guide predominant in the discipline and intended to be reviewed by experts as part of peer review.

We will address the social equity implications of paywalls and open access at the end of this chapter when we talk about information privilege. For now, we will pass along this advice adapted from the brilliant librarians at Virginia Tech on getting through paywalls. While you are in school, your library will likely pay for access to some of the articles you want. Search your library's collection, and if it does

not have access to it right away, request it via inter-library loan, and a copy will come within a few days thanks to some dedicated librarians at your school. If you need the article right away or are not affiliated with a university library, the steps below might be helpful in finding your article.

1. Check Google Scholar for alternative versions of the article you are trying to access. On the bottom right of each source in Google Scholar results is a link that says "all # versions." If the author has uploaded an open access version of their work, you may need to click this link to get to a free copy rather than the paywalled copy at the journal.
2. Conduct a search for the article in a normal Google search (possibly adding ".pdf" to the query) to see if you can find a copy of the article without a paywall. Often times, you will find links to a paywalled journal article on a for-profit repository like Social Science Research Network, Acacdemia.edu, or ResearchGate. These are okay to download from, but make sure to keep a keen eye on suspicious websites that promise access to journal articles but actually try to infect your computer with malware. If your browser gives you a warning when you go to a page or when you try to download a PDF, don't risk it. Find another way to get the article.
3. Go to unpaywall.org and install the Unpaywall extension for Firefox and Chrome. Once installed, a green icon of an open lock will appear on any scholarly resource for which there is a publicly accessible version without a paywall.
4. Go to openaccessbutton.org and either install the Chrome extension or use the web portal to request that the author of an article send you a free copy. The purpose of this project is to make seeking free copies of scholarship as easy as possible, though it still relies on the author to send their article when you request it using this service.
5. Go to oahelper.org and install their desktop or mobile app to search for unpaywalled and open access versions of publications.

Everyone can access the abstracts of research articles for free, as long as they have an internet connection. Abstracts are a great place to start, but **you need to access the full text of articles for your student projects**. I've often seen student papers where they do a simple Google Scholar search and only read articles for which there is free access, with the PDF link in the search results. This is a mistake because few journal articles are free to access (Chimmer, Geschuhn, & Vogler, 2015).[3] Use your library to gain access to the full text of each journal article you need for your search. While you are studying at your university, your login is the key to unlock the paywall and grant you access to the information you need.

Which articles do I download?

Keeping your working question in mind, you should look at your potential sources and evaluate whether they are relevant to your inquiry. To assess the relevance of a source, ask yourself if the source will help you answer or think more deeply about your working question. Does the information help you

answer this question, challenge your assumptions, or connect your question with another topic? Does the information present an opposing point of view, so you can show that you have addressed all sides of the argument in your paper? Does the article just provide a broad overview of your topic or does it have a specific focus on what you want to study? If the article isn't helpful to you, it's okay not to read it. No matter how good your searching skills, some articles won't be relevant. You don't need to read and include everything you find!

You may also want to check the relevance of the source with your professor or course syllabus. In my class, I have specific questions I will ask students to address in their literature reviews. You may want to find sources that help you answer the questions in your professor's prompt for a literature review. For example, my prompt asks "how many people experience this problem or issue?" My students then seek out a source that helps them understand the prevalence or incidence of an issue.

In addition to relevance, you should ask yourself about the quality of the source you've found. Is the information outdated? Is the source more than 5-10 years old? If so, it will not provide what we currently know about the topic–just what we used to know. Older sources are helpful for historical information, such as how our understanding of a topic has changed over time or how the prevalence of an issue has increase or decreased. However, unless historical analysis is the focus of your literature review, try to limit your sources to those that are current. Doing so will also narrow down your list of results considerably in a database. Also, you may want to consult with your professor to see if they have additional guidelines on which articles are "too old" to include in a literature review.

Older sources may be of some importance, however, if they are seminal articles. As we learned in section 3.1, seminal articles are cited often in the literature. They are clearly important to a lot of scholars in the field. While not all articles are seminal, you can get a quick sense of how important an article is to the broader literature on a topic by looking at how many other sources cited it. If you search for the article on Google Scholar (see Figure 3.1 for an example of a search result from Google Scholar), you can see how many other sources cited this information. Generally, the higher the number of citations, the more important the article. Of course, articles that were recently published will likely have fewer citations than older articles, and the citation count is only one indicator of an article's importance.

What evidence is in each type of article?

Literature searching is about finding evidence to inform your ideas, supporting or refuting what you think about a topic. Each type of article (we reviewed some of them in section 3.1) provides different kinds of evidence. As we talked about in section 3.2, a good place to start your literature search is with review articles–**meta-analyses**, meta-syntheses, and **systematic reviews**. These types of articles give you a birds-eye view of the literature in a topic area, and with meta-analyses and meta-syntheses, conduct empirical analyses on enormous datasets comprised of the raw data from multiple studies.

As a result, their conclusions represent what is broadly true about the topic area. They also have comprehensive reference lists that you can browse for sources relevant to your topic.

In my experience, students are often tempted to read short articles because they can complete assignments more quickly that way. This is a trap for students starting a literature review. Short articles take less time to read, sure. But this isn't about reading a certain number of articles, but finding the information you need to write your literature review as efficiently as possible. You'll save time by reading more relevant articles with lengthier and more comprehensive literature reviews—in particular, review articles.

Review articles are the best place to start for any literature search, but you should also look for specific types of articles based on your working question. If your working question asks about an intervention, like a therapeutic technique or program, **randomized controlled trials** (RCTs) provide the strongest evidence if a meta-analysis or systematic review of relevant RCTs is unavailable. **Quasi-experimental designs** are considered inferior because researchers have less control over the research process. You will want to avoid relying heavily on articles that use non-experimental designs and include words like "pilot study," "convenience sample," or "exploratory study" in their methods section. These are preliminary studies that are done prior to a more rigorous experiment like an RCT, and their conclusions are tentative and collected for the purpose of informing future inquiry, not establishing what is true for broader populations. We will discuss experimental design in Chapter 13, but for now, it's important to know that the purpose is often to establish the efficacy of an intervention and the truth value of the evidence contained in them varies based on the design of the experiment, with RCTs being the gold standard.

Experiments are one of two quantitative designs explored in this book. The other design is survey research. Looking at **survey research** is a good idea in any project, as it provides evidence about broader populations by generalizing from a smaller sample of people. For example, surveys can tell you about the risk and protective factors for a social problem by querying the people who are likely to experience that problem over time. **Longitudinal surveys** are often the most helpful in understanding causality because you have a record of how things have changed over time. **Cross-sectional surveys** are more limited in establishing causal relationships, as they only query people at one point in time. We discuss the differences between these types of surveys in Chapter 12. Both cross-sectional and longitudinal surveys are very commonly cited types of sources in social work literature reviews because their results are often applicable across broad populations. However, they are limited in the degree to which they can establish causality, as they lack the controlled environment of an experiment. As with experiments, students should be very cautious about using survey results that are "exploratory" or a "pilot study," as the purpose of those studies is to inform future research rather than understand what is true about broader populations.

The previous few paragraphs can be summarized in this hierarchy of evidence, as described by McNeese & Thyer (2004).[4] The higher a type of article on this list, the better they can reliably and directly inform evidence-based practice in social work.

1. Systematic reviews and meta-analyses
2. Randomized controlled trials
3. Quasi-experimental studies
4. Case-control and cohort studies
5. Pre-experimental (or non-experimental) group studies
6. Surveys
7. Qualitative studies

The hierarchy of evidence is a useful heuristic, and it is based on sound reasoning. A systematic review or meta-analysis will provide you with a better picture of what is generally true for most people about a given topic than a qualitative study. However, generalizable **objective truth** is not the only thing researchers want to know. For example, if you wanted to research the impact of gentrification on a community, systematic reviews would not provide you the depth you need to understand the stories of people impacted, displaced, and discriminated against in housing policy. That's not what systematic reviews are designed to do.

To find evidence like that, the most relevant evidence is in qualitative studies, at the bottom of the hierarchy. For this reason, it is better to think of the hierarchy of evidence within the broader context of your working question and the knowledge you need to investigate it. Different types of sources are useful depending on what your question is. Table 4.1 contains a suggested starting point for evaluating what types of literature will provide the most relevant evidence for your project.

Table 4.1 Matching your question and the most relevant types of scholarly sources

What you want know about:	**The most relevant evidence will be found in a:**
General knowledge about a topic	Systematic review, meta-analysis literature review, textbook, encyclopedia
Intervention (therapy, policy, program)	Randomized controlled trial (RCT), meta-analysis, systematic review, cohort study, case-control study, case series, clinical practice guidelines
Lived experience & sociocultural context	Qualitative study, participatory and action research, humanities and cultural studies
Theory and practice models	Theoretical and non-empirical article, textbook, manual for an evidence-based treatment, book or edited volume
Prevalence of a diagnosis or social problem	Survey research, government and nonprofit reports
How practitioners think about a topic	Practice note, survey or qualitative study of practitioners, reports from professional organizations

Qualitative studies are not designed to provide information about a broader population. As a result, you should treat their results as related to the specific time and place in which they occurred. If a study's context is similar to the one you plan to research, then you might expect similar results to emerge

in your research project. Qualitative studies provide the lived experience and personal reflections of people knowledgeable about your topic. These subjective truths provide evidence that is just as important as other studies in the hierarchy of evidence.

Sources other than journal articles

We've focused mostly on evaluating academic journal articles thus far. While you can be assured that articles in reputable journals have passed peer review, that does not always mean they contain accurate information. Articles are often debated on social media or in journalistic outlets. For example, here is a news story debunking a journal article which erroneously found Safe Consumption Sites for people who use drugs were moderately associated with crime increases. After multiple scholars evaluated the article's data, they realized there were flaws in the design and the conclusions were not supported, which led the journal to retract the article. You can find these controversies in the literature by using a Google Scholar feature we've talked about before—'Cited By'. Click the 'Cited By' link to see which articles cited the article you are evaluating. If you see critical commentary on the article by other scholars, it is likely an area of active scientific debate. You should investigate the controversy further prior to using the source in your literature review.

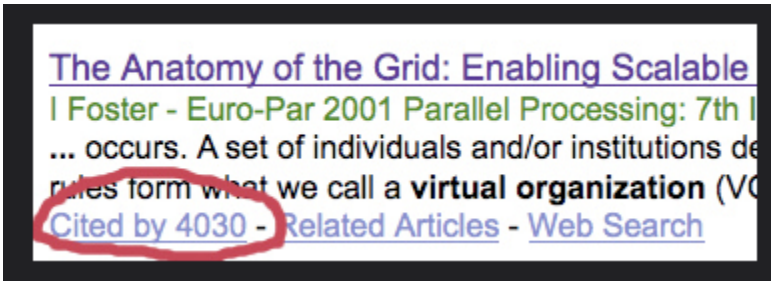


Figure 3.1 Citation count in Google Scholar (repeated)

If your literature search contains sources other than academic journal articles (and almost all of them do), you'll need to do a bit more work to assess whether the source is reputable enough to include in your review. Let's say you find a report from a Google Scholar search or a Bing search. Without peer review or a journal's approval, how do you know the information you are reading is any good?

The SIFT method

Mike Caulfield, Washington State University digital literacy expert, has helpfully condensed key fact-

checking strategies into a short list of four moves, or things to do to quickly make a decision about whether or not a source is worthy of your attention. It is referred to as the "SIFT" method, and it stands for Stop, Investigate the source, Find better coverage, and Trace claims claims, quotes, and media to the original context.



Stop

When you initially encounter a source of information and start to read it—stop. Ask yourself whether you know and trust the author, publisher, publication, or website. If you don't, use the other fact-checking moves that follow, to get a better sense of what you're looking at. In other words, don't read, share, or use the source in your research until you know what it is, and you can verify it is reliable.

This is a particularly important step, considering what we know about the attention economy—social media, news organizations, and other digital platforms purposely promote sensational, divisive, and outrage-inducing content that emotionally hijacks our attention in order to keep us "engaged" with their sites (clicking, liking, commenting, sharing). Stop and check your emotions before engaging! What about this website is driving your engagement?

Investigate the sources

You don't have to do a three-hour investigation into a source to determine its truth. But if you're reading a piece on economics, and the author is a Nobel prize-winning economist, that would be useful information. Likewise, if you're watching a video on the many benefits of milk consumption, you would want to be aware if the video was produced by the dairy industry. This doesn't mean the Nobel economist will always be right and that the dairy industry can't ever be trusted. But knowing the expertise and agenda of the person who created the source is crucial to your interpretation of the information provided.

When investigating a source, fact-checkers read "laterally" across many websites, rather than digging deep (reading "vertically") into the one source they are evaluating. That is, they don't spend much time on the source itself, but instead they quickly get off the page and see what others have said about the source. Indeed, one study cited in the video below found that academic historians are actually less able to tell the difference between reputable and bogus internet sources because they do not read laterally but instead check references and credentials. Those are certainly a good idea to check when reading a source in detail, but fact checkers instead ask what other sources on the web say about it rather than what the source says about itself. They open up many tabs in their browser, piecing together different bits of information from across the web to get a better picture of the source they're investigating. Not only is this faster, but it harnesses the collected knowledge of the web to more accurately determine whether a source is reputable or not.

We recommend watching this short video [2:44] for a demonstration of how to investigate online sources. Pay particular attention to how Wikipedia can be used to quickly get useful information about publications, organizations, and authors. Note: Turn on closed captions with the "CC" button or use the text transcript if you prefer to read.

Find better coverage

What if the source you find is low-quality, or you can't determine if it is reliable or not? Perhaps you don't really care about the source—you care about the claim that source is making. You want to know if it is true or false. You want to know if it represents a consensus viewpoint, or if it is the subject of much disagreement. A common example of this is a meme you might encounter on social media. The random person or group who posted the meme may be less important than the quote or claim the meme makes.

Your best strategy in this case might actually be to find a better source altogether, to look for other coverage that includes trusted reporting or analysis on that same claim. Rather than relying on the source that you initially found, you can trade up for a higher quality source. The point is that you're not wedded to using that initial source. We have the internet! You can go out and find a better source, and invest your time there.

We recommend watching this short video [4:10] that demonstrates how to find better coverage and notes how fact-checkers build a library of trusted sources they can rely on to provide better coverage. Note: Turn on closed captions with the "CC" button or use the text transcript if you prefer to read.

Trace claims, quotes, and media to the original context

Much of what we find on the internet has been stripped of context. Maybe there's a video of a fight between two people with Person A as the aggressor. But what happened before that? What was clipped out of the video and what stayed in? Maybe there's a picture that seems real but the caption could be misleading. Maybe a claim is made about a new medical treatment based on a research finding—but you're not certain if the cited research paper actually said that. The people who re-report these stories either get things wrong by mistake, or, in some cases, they are intentionally misleading us.

In these cases you will want to trace the claim, quote, or media back to the source, so you can see it in its original context and get a sense of whether the version you saw was accurately presented. We talked about this in Chapter 3 when we distinguished between **primary sources** and **secondary sources**. Secondary and tertiary sources are great for getting started with a topic, but researchers want to rely on the most highly informed source to give us information about a topic. If you see a news article about a research study, look for the journal article written by the researchers who performed the study as citations for your paper rather than a journalist who is unaffiliated with the project.

We recommend watching this short video [1:33] that discusses re-reporting vs. original reporting and demonstrates a quick tip: going "upstream" to find the original reporting source. Researchers must follow the thread of information from where they first read it to where it originated in order to understand its truth and value. Social workers who fail to check their sources can spread misinformation within our practice context or come to ill-informed conclusions that hurt clients or communities.

> For a more thorough look at how misinformation shapes the stories of today, check out The Media Manipulation Casebook. In the casebook examples, researchers trace viral stories chronologically, examining the social networks and organizations that plan, spread, and fight against misinformation. They present a comprehensive perspective of the misinformation ecosystem and highlight the amplifying or mitigating impact of establishment institutional actors like politicians, journalists, and advocates. It is worth familiarizing yourself with the strategies used by media manipulators identified in the casebook to better inform your searches.

Once you have limited your search to trustworthy sources, ask yourself the following questions when evaluating which of these sources to download:

1. Does this source help me answer my working question?
2. Does this source help me revise and focus my working question?
3. Does this source help me address what my professor expects in a literature review?
4. Is this the best source I can find? Is this a primary or secondary source?
5. What is the original context of this information?
6. Is there controversy surrounding this source?
7. Are the publisher and author reputable and unbiased?

Reflect and plan for the future

As you look through abstracts and search the literature, you will learn more about your topic area. You will learn new concepts that become new keywords in new queries. You will continue to come up with search queries and download articles throughout the research process. While we present this material at the beginning of the textbook, that is a bit misleading. You will return to search the literature often during the research process. As such, it is important to keep notes about what you did at each stage. I usually keep a "working notes" document in the same folder as the PDFs of articles I download. I can write down which categories different articles fall into (e.g., theoretical articles, empirical articles), reflect on how my question may need to change, or highlight important unresolved questions or gaps revealed in my search.

Creating and refining your working question will help you identify the key concepts you study will address. Once you identify those concepts, you'll need to decide how to define them and how to measure them when it comes time to collect your data. As you are reading articles, note how other researchers who study your topic define concepts theoretically in the introduction and measure them in their methods section. Tuck these notes away for the future, when you will have to define and measure these concepts.

You also need to think about who your research participants will be and what larger group(s) they may represent. You need to be able to speak intelligently about the target population you want to study, so finding literature about their strengths, challenges, and how they have been impacted by historical and cultural oppression is a good idea. Last, but certainly not least, you should consider any potential ethical concerns that could arise during the course of carrying out your research project. These concerns might come up during your data collection, but they may also arise when you get to the point of analyzing data or disseminating results.

Decisions about the various research components do not necessarily occur in sequential order. For example, you may have to think about potential ethical concerns before changing your working

question. In summary, the following list shows some of the major components you'll need to consider as you design your research project. Make sure you have information that will inform how you think about each component.

- Research question
- Literature review
- Theories and causal relationships
- **Unit of analysis** and **unit of observation**
- Key concepts (**conceptual definitions** and **operational definitions**)
- Method of data collection
- Research participants (sample and population)
- Ethical concerns

Carve some time out each week during the beginning of the research process to revisit your working question. As you write notes on the articles you find, reflect on how that knowledge would impact your working question and the purpose of your research. You still have some time to figure it out. We'll work on turning your working question into a full-fledged research question in Chapter 9.

Key Takeaways

- Once you have a reasonable number of search results, you can start skimming abstracts. If an article is relevant to your project, download the full text PDF to a folder on your computer.
- Download strategically, based on what your professor expects in your literature review and what information you need to understand, revise, and answer your working question.
- Paywalls do not apply to students at a university. You have access to a lot of articles through your university's library or through interlibrary loan. Do not limit yourself to PDFs floating around on the internet.
- Write notes to yourself, so you can track how your project has developed over time.

Exercises

- Using your search queries from section 3.2, skim abstracts and download articles that are likely to be relevant to your research project. Create a folder on your hard drive to store the PDFs.
- Look at your professor's prompt for a literature review and sketch out how you might answer those questions using your present level of knowledge. Search for sources that support or challenge what you think is true about your topic.
- Pull out five important points related to your topic that you have taken away from your search thus far and discuss them with a peer. This will begin to acclimate you to synthesizing and discussing the literature in your area.

4.2 Annotating sources

Learning Objectives

Learners will be able to...

- Define annotation and describe how to use it to identify, extract, and reflect on the information you need from an article

After working through the exercises Chapter 3, you should have a folder full of articles. For me, searching the literature is the fun part of a literature review. I have grand ideas about reading this article and that article and every article! Once I'm satisfied I have enough literature to speak intelligently on my topic, a creeping sense of dread kicks in. How will I ever find the time to read 60 journal articles?! This chapter is all about how to pick the most relevant articles, write notes about them, and incorporate the information relevant to your working question in your literature review.

Read literature reviews

At the beginning of a research project, you don't know a lot about your research topic. You don't even know what you don't know! That's why it's a good idea to get a broad, birds-eye view of the literature by looking at other literature reviews. Someone has gone through the trouble of reading a few dozen sources and telling you what's important about them. Get a broad sense of the literature and follow up on subtopics that interest you. As we discussed in Chapter 3, **review articles** are useful because they synthesize all the information on a given topic. By reading what another researcher thinks about the literature, you can get a more wide-ranging sense of it than reading the results of only one study.

As we discussed in the last chapter, review articles will often have "literature review," "systematic review," or other similar terms in the title. These articles are 100% literature review. The author's primary goal is to present a comprehensive and authoritative view of the important research in a particular topic area. Think of these as a way to engage with dozens of articles at the same time, and you can find a lot of relevant references from reading the article. For the same reason, meta-analyses and meta-syntheses are also excellent sources as you are starting a literature review.

Unfortunately, review articles do not exist for every topic. If you are unable to find a review article, try to find an empirical article that has a lengthy literature review. You are mostly reading to see what the author says about the literature on your topic in the introduction and discussion sections. In this way, you can use the author's literature search to inform your own. You will likely find new ideas and

get a sense of the broader scientific literature just by reading what other researchers think about the literature.



Annotation

Annotation refers to the process of writing notes on an article. There are many ways to do this. The most basic technique is to print out the article and build a binder related to your topic. Raul Pacheco-Vega's excellent blog has a post on his approach to taking physical notes. Honestly, while you are there, browse around that website. It is full of amazing tips for students conducting a literature review and graduate research projects. I see a lot of benefits to the paper, pen, and highlighter approach to annotating articles. Personally though, I prefer to use a computer to write notes on an article because my handwriting is terrible and typing notes allows me search for keywords. For other students, electronic notes work best because they cannot afford to print every article that they will use in their paper. No matter what you use, the point is that you need to write notes when you're reading. Reading is research!

There are a number of free software tools you can use to help you annotate a journal article. Most PDF readers like Adobe Acrobat have a commenting and highlighting feature, though the PDF readers included with internet browsers like Google Chrome, Microsoft Edge, and Safari do not have this

feature. The best approach may be to use a citation manager like Mendeley or its open-source alternative, Zotero. Again, Raul Pacheco-Vega's guide to using Mendeley is stellar. Using citation managers, you can build a library of articles, save your annotations, and link annotations across PDFs using keywords. They also provide integration with word processing programs to help with citations in a reference list.

Of course, I don't follow this advice because I have a system that works well for me. I have a PDF open in one computer window and a Word document open in a window next to it. I type notes and copy quotes, listing the page number for each note I take. It's a bit low-tech, but it does make my notes searchable. This way, when I am looking for a concept or quote, I can simply search my notes using the Find feature in Word and get to the information I need.

Annotation and reviewing literature does not have to be a solo project. If are working in a group, you can use the Hypothes.is web browser extension to annotate articles collaboratively. You can also use Google Docs to collaboratively annotate a PDF using the commenting feature and write collaborative notes in a shared document. By sharing your highlights and comments, you can split the work of getting the most out of each article you read and build off one another's ideas.

Common annotations

In this section, we present common annotations people make when reading journal articles. These annotations are adapted from Craig Whippo and Raul Pacheco-Vega. If you are annotating on paper, I suggest using different color highlighters for each type of annotation listed below. If you are annotating electronically, you can use the names below as tags to easily find information later. For example, if you are searching for definitions of key concepts, you can either click on the tag for [definitions] in your PDF reader or thumb through a printed copy of article for whatever color or tag you used to indicate definitions of key terms. Most of all, you want to avoid reading through all of your sources *again* just to find that one thing you know you read *somewhere*. Time is a graduate student's most valuable resource, so our goal here is to help you spend your time reading the literature wisely.

Personal reflections

Personal reflections are all about you. What do you think? Are there any areas you are confused about? Any new ideas or reflections come to mind while you're reading? Treat these annotations as a means of capturing your first reflections about an article. Write down any questions or thoughts that come to mind as you read. If you think the author says something inaccurate or unsubstantiated, write that down. If you don't understand something, make a note about it and ask your professor. Don't feel bad! Journal articles are hard to understand sometimes, even for professors. Your goal is to critically read the

literature, so write down what you think while reading! Table 4.2 contains some questions that might stimulate your thoughts.

Table 4.2 Questions worth asking while reading research reports

Report section	Questions worth asking
Abstract	What are the key findings? How were those findings reached? How does the author frame their study?
Acknowledgments	Who are this study's major stakeholders? Who provided feedback? Who provided support in the form of funding or other resources?
Problem statement (introduction)	How does the author frame the research focus? What other possible ways of framing the problem exist? Why might the author have chosen this particular way of framing the problem?
Literature review (introduction)	What are the major themes the author identifies in the literature? Are there any gaps in the literature? Does the author address challenges or limitations to the studies they cite? Is there enough literature to frame the rest of the article or do you have unanswered questions? Does the author provide conceptual definitions for important ideas or use a theoretical perspective to inform their analysis?
Sample (methods)	Where was the data collected? Did the researchers provide enough information about the sample and sampling process for you to assess its quality? Did the researchers collect their own data or use someone else's data? What population is the study trying to make claims about, and does the sample represent that population well? What are the sample's major strengths and major weaknesses?
Data collection (methods)	How were the data collected? What do you know about the relative strengths and weaknesses of the methods employed? What other methods of data collection might have been employed, and why was this particular method employed? What do you know about the data collection strategy and instruments (e.g., questions asked, locations observed)? What *don't* you know about the data collection strategy and instruments? Look for appendixes and supplementary documents that provide details on measures.
Data analysis (methods)	How were the data analyzed? Is there enough information provided for you to feel confident that the proper analytic procedures were employed accurately? How open are the data? Can you access the data in an open repository? Did the researchers register their hypotheses and methods prior to data collection? Is there a data disclosure statement available?
Results	What are the study's major findings? Are findings linked back to previously described research questions, objectives, hypotheses, and literature? Are sufficient amounts of data (e.g., quotes and observations in qualitative work, statistics in quantitative work) provided to support conclusions? Are tables readable?
Discussion/ conclusion	Does the author generalize to some population beyond the sample? How are these claims presented? Are claims supported by data provided in the results section (e.g., supporting quotes, statistical significance)? Have limitations of the study been fully disclosed and adequately addressed? Are implications sufficiently explored?

Definitions

Note definitions of key terms for your topic. At minimum, you should include a scholarly definition for the concepts represented in your working question. If your working question asks about the process

of leaving a relationship with domestic violence, your research proposal will have to explain how you define domestic violence, as well as how you define "leaving" an abusive relationship. While *you* may already know what you mean by domestic violence, the person reading your research proposal does not.

Annotating definitions also helps you engage with the scholarly debate around your topic. Definitions are often contested among scholars. Some definitions of domestic violence will be more comprehensive, including things such economic abuse or forcing the victim to problematically use substances. Other definitions will be less comprehensive, covering only physical, verbal, and sexual abuse. Often, how someone defines something conceptually is highly related to how they measure it in their study. Since you will have to do both of these things, find a definition that feels right to you or create your own, noting the ways in which it is similar or different from those in the literature.

Definitions are also an important way of dealing with jargon. Becoming familiar with a new content area involves learning the jargon experts use. For example, in the last paragraph I used the term economic abuse, but that's probably not a term you've heard before. If you were conducting a literature review on domestic violence, you would want to search for keywords like economic abuse if they are relevant to your working question. You will also want to know what they mean so you can use them appropriately in designing your study and writing your literature review.

Theoretical perspective

Noting the theoretical perspective of the article can help you interpret the data in the same manner as the author. For example, articles on supervised injection facilities for people who use intravenous drugs most likely come from a harm reduction perspective, and understanding the theory behind harm reduction is important to make sense of empirical results. Articles should be grounded in a theoretical perspective that helps the author conceptualize and understand the data. As we discussed in Chapter 3, some journal articles are entirely theoretical and help you understand the theories or conceptual models related to your topic. We will help you determine a theoretical perspective for your project in Chapter 7. For now, it's a good idea to note what theories authors mention when talking about your topic area. Some articles are better about this than others, and many authors make it a bit challenging to find theory (if mentioned at all). In other articles, it may help to note which social work theories are *missing* from the literature. For example, a study's findings might address issues of oppression and discrimination, but the authors may not use critical theory to make sense of what happened.

Background knowledge

It's a good idea to note any relevant information the author relies on for background. When an author cites facts or opinions from others, you are subsequently able to get information from multiple articles

simultaneously. For example, if we were looking at this meta-analysis about domestic violence, in the introduction section, the authors provide facts from many other sources. These facts will likely be relevant to your inquiry on domestic violence, as well.

As you are looking at background information, you should also note any subtopics or concepts about which there is controversy or consensus. The author may present one viewpoint and then an opposing viewpoint, something you may do in your literature review as well. Similarly, they may present facts that scholars in the field have come to consensus on and describe the ways in which different sources support these conclusions.

Sources of interest

Note any relevant sources the author cites. If there is any background information you plan to use, note the original source of that information. *When you write your literature review, cite the original source of a piece of information you are using, which may not be where you initially read it.* Remember that you should read and refer to the **primary source**. If you are reading Article A and the author cites a fact from Article B, you should note Article B in your annotations and use Article B when you cite the fact in your paper. You should also make sure Article A interpreted Article B correctly and scan Article B for any other useful facts.

Research question/Purpose

Authors should be clear about the purpose of their article. Charitable authors will give you a sentence that starts with something like this:

- "The purpose of this research project was…"
- "Our research question was…"
- "The research project was designed to test the following hypothesis…"

Unfortunately, not all authors are so clear, and you may to hunt around for the research question or hypothesis. Generally, in an empirical article, the research question or hypothesis is at the end of the introduction. In non-empirical articles, the author will likely discuss the purpose of the article in the abstract or introduction.

Results

We will discuss in greater detail how to read the results of empirical articles in Chapter 5. For now, just know that you should highlight any of the key findings of an article. They will be described very briefly in the abstract, and in much more detail in the article itself. In an empirical article, you should look at both the 'Results' and 'Discussion' sections. For a non-empirical article, the key findings will likely be in the conclusion. You can also find them in the topic or concluding sentences in a paragraph within the body of the article.

Measures

How do researchers know something when they see it? Found in the 'Methods' section of empirical articles, the measures section is where researchers spell out the tools, or measures, they used to gather data. For quantitative studies, you will want to get familiar with the questions researchers typically use to measure key variables. For example, to measure domestic violence, researchers often use the Conflict Tactics Scale. The more frequently used and cited a measure is, the more we know about how well it works (or not). Qualitative studies will often provide at least some of the interview or focus group questions they used with research participants. They will also include information about how their inquiry and hypotheses may have evolved over time. Keep in mind however, sometimes important information is cut out of an article during editing. If you need more information, consider reaching out to the author directly. Before you do so, check if the author provided an appendix with the information you need or if the article links to a their data and measures as part open data sharing practices.

Sample

Who exactly were the study participants and how were they recruited? In quantitative studies, you will want to pay attention to the sample size. Generally, the larger the sample, the greater the study's explanatory power. Additionally, randomly drawn samples are desirable because they leave any variation up to chance. Samples that are conducted out of convenience can be biased and non-representative of the larger population. In qualitative studies, non-random sampling is appropriate but consider this: how well does what we find for this group of people transfer to the people who will be in your study? For qualitative studies and quantitative studies, look for how well the sample is described and whether there are important characteristics missing from the article that you would need to determine the quality of the sample.

Limitations

Honest authors will include these at the end of each article. But you should also note any additional limitations you find with their work as well.

Your annotations

These are just a few suggested annotations, but you can come up with your own. For example, maybe there are annotations you would use for different assignments or for the problem statement in your research proposal. If you have an argument or idea that keeps coming to mind when you read, consider creating an annotation for it so you can remember which part of each article supports your ideas. Whatever works for you. The goal with annotation is to extract as much information from each article while reading, so you don't have to go back through everything again. It's useless to read an article and forget most of what you read. Annotate!

Key Takeaways

- Begin your search by reading thorough and cohesive literature reviews. Review articles are great sources of information to get a broad perspective of your topic.
- Don't read an article just to say you've read it. Annotate and take notes so you don't have to re-read it later.
- Use software or paper-and-pencil approaches to writing notes on articles.

Exercises

- Select a review article to read. Ideally, this will be literature review, systematic review, or meta-analysis, or if those are not available, an article with a lengthy literature review in the introduction and discussion sections.
- Annotate the article using the aforementioned annotations and create some of your own.
- Write a few sentences reflecting on what you learned and what you want to read about next.

4.3 Critical information literacy

Learning Objectives

Learners will be able to...

- Define critical information literacy
- Explore the relationship between social work practice, consuming social science, and fighting for social justice

Ultimately, searching and reviewing the literature will be one of the most transferable skills from your research methods classes. All social workers have to consume research information as part of their jobs. In this closing section, we hope to ground this orientation toward scientific literature in your identity as a social worker, scholar, and social scientist. In one sense, to be a critical consumer of research is to be discerning about which sources of information you read and why. If you have followed along with the exercises in this chapter, you hopefully have about 30, 50, or even 100 PDFs of articles that are relevant to your project in a folder on your computer. **You do not have to read every article or source that discusses your topic**.

At some point, reading another article won't add anything new to your literature review. We've discussed in this chapter how to read sources strategically, getting the most out of each one without wasting your time. Ultimately, the number of sources you need should be guided, at a minimum, by your professor's expectations and what you need to provide a comprehensive review of the literature on your topic. The purpose of the literature review is to give an overview of the research relevant to your project—everything a reader would need to understand the importance, purpose, and thought behind your project—not for you to restate everything that has ever been studied about your topic.

Research is a human right

But when we talk about being critical in social work, we mean more than critical thinking. The core skill you are developing in Chapters 3-5 of this textbook is **information literacy**, or "a set of abilities requiring individuals to 'recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association, 2020).[5] Information literacy is key to the lifelong learning process of social work practice, as you will have to continue to absorb new information after you leave school and progress as a social work practitioner. In the evidence-based practice process, information literacy is a key component in helping clients and communities achieve their goals.

See this open textbook on information literacy for a more thorough guide to conducting literature searches and reviews.

However, social work researchers and librarians dedicated to social change embrace a more progressive conceptualization of this skill called **critical information literacy**. It is not enough to simply know how to use the tools we use to share knowledge. Instead, social work researchers should critically examine "the social, political, economic, and corporate systems that have power and influence over information production, dissemination, access, and consumption" (Gregory & Higgins, 2013, p. ix).[6] Just like all other social structures, those we use to create and share scientific knowledge are subject to the same oppressive forces we encounter in everyday life—racism, sexism, classism, and so forth. Critical information literacy combines both fine-tuned skills for finding and evaluating literature as well as an understanding of the cultural forces of oppression and domination that structure the availability of information. As Tewell (2016)[7] argues, "critical information literacy is an attempt to render visible the complex workings of information so that we may identify and act upon the power structures that shape our lives" (para. 6).

From critical information literacy, we get the term **information privilege** which is defined by Booth (2017)[8] as:

> the accumulation of special rights and advantages not available to others in the area of information access. Individuals with the resources to access the information they need, are affiliated with research or academic institutions and libraries, or live close to a public library with access to resources and services such as free interlibrary loan are examples of those with information privilege. Those who are unable to access the information they need are **information underprivileged** or **impoverished** [emphasis in original]; this includes people who are incarcerated, poor, unaffiliated with a university or research institution, or live in rural areas distant from a public library.

How can you recognize information privilege? The video from the Steely Library at Northern Kentucky University below will help you.



A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.rampages.us/msw-research/?p=281

It is important to recognize your own information privilege and use it to help enact social change on behalf of those who are oppressed within the system of scholarly knowledge production and sharing we currently have. We previously discussed the issue of **paywalls** in this chapter. Paywalls lock away access to knowledge to only those who can afford to pay, shutting out those with fewer resources. This effect of publishing only in journals that require a paywall is endemic to social work scholarship, as Pendell (2020, 2018)[9] describes, there are few social work open access journals and social work researchers do not post open access copies of their articles even when explicitly allowed by publishers to do so. The reasons for this are not financial, as authors do not profit from the sales of journal articles. Indeed, faculty who edit, review, and author articles are not paid for their work under the current model of commercial journal publication. Scholars do not have a meaningful share in the 31.3% profit margins of Elsevier, the largest commercial publisher of scholarly journals (RELX, 2019).[10] Libraries are struggling to keep up with annual price increases. This topsy-turvy world is best encapsulated in Figure 4.1, which summarizes the problems in scholarly publication succinctly.



Figure 4.1 The Matrix-like logic of scholarly publication

As we discussed at the beginning of this chapter, paywalls effectively shut out social work students from accessing journal articles after they graduate.[11] However, paywalls also shut out community members, clients, and self-advocates from accessing the research information they need to effectively advocate for themselves. This is because paywalls are an obstruction to the basic human right to access and interact with the knowledge humanity creates.

As Willinsky (2006) states, "access to knowledge is a human right that is closely associated with the ability to defend, as well as to advocate for, other rights." The open access movement is a human rights movement that seeks to secure the universal right to freely access information in order to produce social change. Information is a resource, and the current approach to sharing that resource—the key to human development—excludes many oppressed groups from accessing what they need to address matters of social justice. Appadurai (2006)[12] conceptualizes this as a "right to research…the right to the tools through which any citizen can systematically increase that stock of knowledge which they consider most vital to their survival as human beings and to their claims as citizens" (p. 168). From

a human rights perspective, research is not something confined to professional researchers but "the capacity to systematically increase the horizons of one's current knowledge, in relation to some task, goal or aspiration" (p. 173).

In Chapter 2, we discussed action research which includes community members as part of the research team. Action research addresses information privilege by addressing the power imbalance between academic researchers and community members, ensuring that the voice of the community is represented throughout the process of creating scientific knowledge. This equity-enhancing process provides community members with access to scientific knowledge in many ways: (1) access via academic to scholarly databases, (2) access to the training and human capital of the researcher, who embodies years of education in how to conduct social science research, and (3) access to the specialized resources like statistical or qualitative data analysis software required to conduct scientific research. Moreover, it highlights that while open access is important, it is only one half of the equation. Open access only addresses how people *receive* scholarly information. But what about how social science knowledge is *created*? Action research underscores that equity is not just about accessing scientific knowledge, but co-creating scientific knowledge as partners with community members. Critical information literacy critiques the current practices of scientific inquiry in social work and other disciplines as exclusionary, as they reinforce existing sources of privilege and oppression.

This imbalance between academic researchers and community members should be considered within an English-speaking, Western context. The widespread adoption of open access and open science in the developing world underscores the extreme imbalances that international researchers face in accessing scholarly information (Arunachalam, 2017).[13] Paywalls, barriers to international travel, and the tradition of in-person physical conferences structure the information sharing practices in social science in a manner that excludes participation from researchers who lack the financial and practical resources to access these exclusionary spaces (Bali & Caines, 2016; Eaves, 2020).[14]

In the United States, the federal government has increasingly adopted policies that facilitate open access, including the National Institute of Health's requirement that all publications from projects it funds must be open access within a year after publication in a commercial journal as well as President Obama's open data initiative. At the time of this writing, the Scholarly Publishing and Academic Resources Coalition (SPARC) is working with the Trump administration on a formal proposal to make all research articles published using federal grant funds accessible to the public as open access, though at the time of this writing there is no final agreement on the policy design or implementation. In Europe, Plan S is a multi-stakeholder social change coalition that is seeking structural change to scholarly publication and open access to research. Latin America and South America are far ahead of their Western counterparts in adopting open access, providing a view of what is possible when community and equity are centered in scholarly publication (Aguado-Lopez & Becerril-Garcia, 2019).[15]

The slow progress of social movement organizations to ensure free access to scientific knowledge has inspired radical action. Out of growing frustration with journal paywalls, Sci-Hub was created by a computer programmer from Kazakhstan, Alexandra Elbakyan. This resource is an illegal, pirate

repository of about 85% of all paywalled journal articles in existence up to 2020, when it stopped uploading papers in compliance with an injunction from an Indian court (Himmelstein et al., 2018).[16] Sci-Hub is not legal under international copyright law,[17] yet researchers unaffiliated with a well-funded university in the developed world cannot conduct research without it. The site has moved multiple times as their domains are shut down commercial publishers whose content is illegally stored by Sci-Hub, and its founder hopes that by successfully arguing her case before and Indian court, she can continue to operate Sci-Hub legally under Indian law, and in effect, guarantee the human right to access research for free within India (Cummins, 2021).[18] Sci-Hub is a symptom of a broken system of scholarly publication that locks away scientific knowledge behind impossibly high textbook and journal paywalls. These are impossible for nearly all people to pay for in the course of a normal literature review, and thus, our broken system of scholarly publication necessitates that researchers use shadow libraries like Sci-Hub, Z-Library, and Library Genesis. It should not require mass-scale copyright infringement for the world to access scientific information.

The current model of scientific publishing privileges those already advantaged and raises important obstacles for those in oppressed groups to access and contribute to scientific knowledge or research-informed social change initiatives. For a more thorough, Black feminist perspective on scholarly publication see Eaves (2020).[19] As social workers, it is your responsibility to use your information privilege—the access you have right now to the world's knowledge and the skills you gain during your graduate education and post-graduate professional development—to fight for social change.

Being a responsible consumer of research

Social work often involves accessing, creating, and otherwise engaging with social science knowledge to create change. On the micro-level, critical information literacy is needed to inform evidence-based decision-making in clinical practice. On the meso- and macro-level, social workers can use information literacy skills to give a voice for community concerns, help communities access and create the knowledge they need to foster change, or evaluate how well existing programs serving the community achieve their goals. Now that you are familiar with how to conduct ethical and responsible research and how to read the results of others' research, you have an obligation to use your information literacy skills to create social change. This is part of critical information literacy: using your information privilege to address social injustices.

Collecting, sharing, and creating research findings for social change requires you to take seriously your identity as a social scientist. Doing so is in part a matter of being able to distinguish what you do know based on research findings from what you do not know. It is also a matter of having some awareness about what you can and cannot reasonably know.

When assessing social scientific findings, think about the information provided to you. Social scientists should be transparent with how they collected their data, ran their analyses, and formed their

conclusions. These methodological details can help you evaluate the researcher's claims. If, on the other hand, you come across some discussion of social scientific research in a popular magazine or newspaper, chances are that you will not find the same level of detailed information that you would find in a scholarly journal article. With secondary sources like news articles, it is hard to know enough about the study to be an informed consumer of information. Always read the **primary source** when possible.

Additionally, take into account whatever information is provided about a study's funding source. Most funders want, and in fact require, that recipients acknowledge them in publications. Keep in mind that some sources may not disclose who funds them. If this information is not provided in the source from which you learned about a study, it might behoove you to do a quick search on the internet to see if you can learn more about the funding. Findings that seem to support a particular political agenda, for example, might have more or less influence on your thinking about your topic once you know if the funding posed a potential conflict of interest.

There is some information that even the most responsible consumer of research cannot know. Because researchers are ethically bound to keep the identity of people in our study confidential, for example, we will never know exactly who participated in a given study or sometimes even in what location it was conducted. Awareness that you may never know everything about a study should provide some humility in terms of what we can "take away" from a given report of findings.

Unfortunately, researchers also sometimes engage in unethical behavior and do not disclose things that they should. For example, a recent study on COVID-19 (Bendavid et al., 2020)[20] did not disclose that it was funded by the chief executive of JetBlue, an airline company losing money from COVID-19 travel restrictions. It is alleged that this study was paid for by airline executives in order to provide scientific support for increasing the use of air travel and lifting travel restrictions. These conflicts of interest demonstrate that science is not distinct from other areas of social life that can be abused by those with more resources in order to benefit themselves.

COVID-19 is a particularly instructive case in spotting bad science. In a rapidly evolving information context, social workers and others were forced to make decisions quickly using imperfect information. The *Lancet* and the *New England Journal of Medicine*, two of the most prestigious journals in medicine, had to retract two studies due to irregularities missed by pre-publication peer review despite the fact that the results had already been used to inform policy changes (Joseph, 2020).[21] At the same time, President Trump's lies and misinformation about COVID-19 were a grave reminder of how information can be corrupted by those with power in the social and political arena (Paz, 2020).[22]

Figure 4.2 presents a rough guide to spotting bad science that is particularly useful when science has not had enough time for peer review and scholarly debate to thoroughly and systematically investigate a topic, as in the COVID-19 crisis. It is also a useful quick-reference guide for social work practitioners who encounter new information about their topics from the news media, social media, or other informal sources of information like friends, family, and colleagues.

A Rough Guide to

SPOTTING BAD SCIENCE

Being able to evaluate the evidence behind a scientific claim is important. Being able to recognise bad science reporting, or faults in scientific studies, is equally important. These 12 points will help you separate the science from the pseudoscience.

1. SENSATIONALISED HEADLINES



Article headlines are commonly designed to entice viewers into clicking on and reading the article. At times, they can over-simplify the findings of scientific research. At worst, they sensationalise and misrepresent them.

2. MISINTERPRETED RESULTS



News articles can distort or misinterpret the findings of research for the sake of a good story, whether intentionally or otherwise. If possible, try to read the original research, rather than relying on the article based on it for information.

3. CONFLICTS OF INTEREST



Many companies will employ scientists to carry out and publish research - whilst this doesn't necessarily invalidate the research, it should be analysed with this in mind. Research can also be misrepresented for personal or financial gain.

4. CORRELATION & CAUSATION



Be wary of any confusion of correlation and causation. A correlation between variables doesn't always mean one causes the other. Global warming increased since the 1800s, and pirate numbers decreased, but lack of pirates doesn't cause global warming.

5. UNSUPPORTED CONCLUSIONS



Speculation can often help to drive science forward. However, studies should be clear on the facts their study proves, and which conclusions are as yet unsupported ones. A statement framed by speculative language may require further evidence to confirm.

6. PROBLEMS WITH SAMPLE SIZE



In trials, the smaller a sample size, the lower the confidence in the results from that sample. Conclusions drawn can still be valid, and in some cases small samples are unavoidable, but larger samples often give more representative results.

7. UNREPRESENTATIVE SAMPLES USED



In human trials, subjects are selected that are representative of a larger population. If the sample is different from the population as a whole, then the conclusions from the trial may be biased towards a particular outcome.

8. NO CONTROL GROUP USED



In clinical trials, results from test subjects should be compared to a 'control group' not given the substance being tested. Groups should also be allocated randomly. In general experiments, a control test should be used where all variables are controlled.

9. NO BLIND TESTING USED



To try and prevent bias, subjects should not know if they are in the test or the control group. In 'double blind' testing, even researchers don't know which group subjects are in until after testing. Note, blind testing isn't always feasible, or ethical.

10. SELECTIVE REPORTING OF DATA



Also known as 'cherry picking', this involves selecting data from results which supports the conclusion of the research, whilst ignoring those that do not. If a research paper draws conclusions from a selection of its results, not all, it may be guilty of this.

11. UNREPLICABLE RESULTS



Results should be replicable by independent research, and tested over a wide range of conditions (where possible) to ensure they are consistent. Extraordinary claims require extraordinary evidence - that is, much more than one independent study!

12. NON-PEER REVIEWED MATERIAL



Peer review is an important part of the scientific process. Other scientists appraise and critique studies, before publication in a journal. Research that has not gone through this process is not as reputable, and may be flawed.

© COMPOUND INTEREST 2015 - WWW.COMPOUNDCHEM.COM | @COMPOUNDCHEM
Shared under a Creative Commons Attribution-NonCommercial-NoDerivatives licence.

Figure 4.2 A rough guide to spotting bad science

Feminist perspectives on science generally support the framework in Figure 4.2, but consider them to be incomplete, as they do not critique the scientific process itself. By drawing a line between science vs. pseudoscience, scientific inquiry can further social justice by using data to battle misinformation and uncover social inequities. However, feminist perspectives also draw our attention to historically overlooked aspects of the scientific process. D'ignazio and Klein (2020)[23] instead offer seven intersectional feminist principles for equitable and actionable COVID-19 data, as visualized in Figure 4.3.

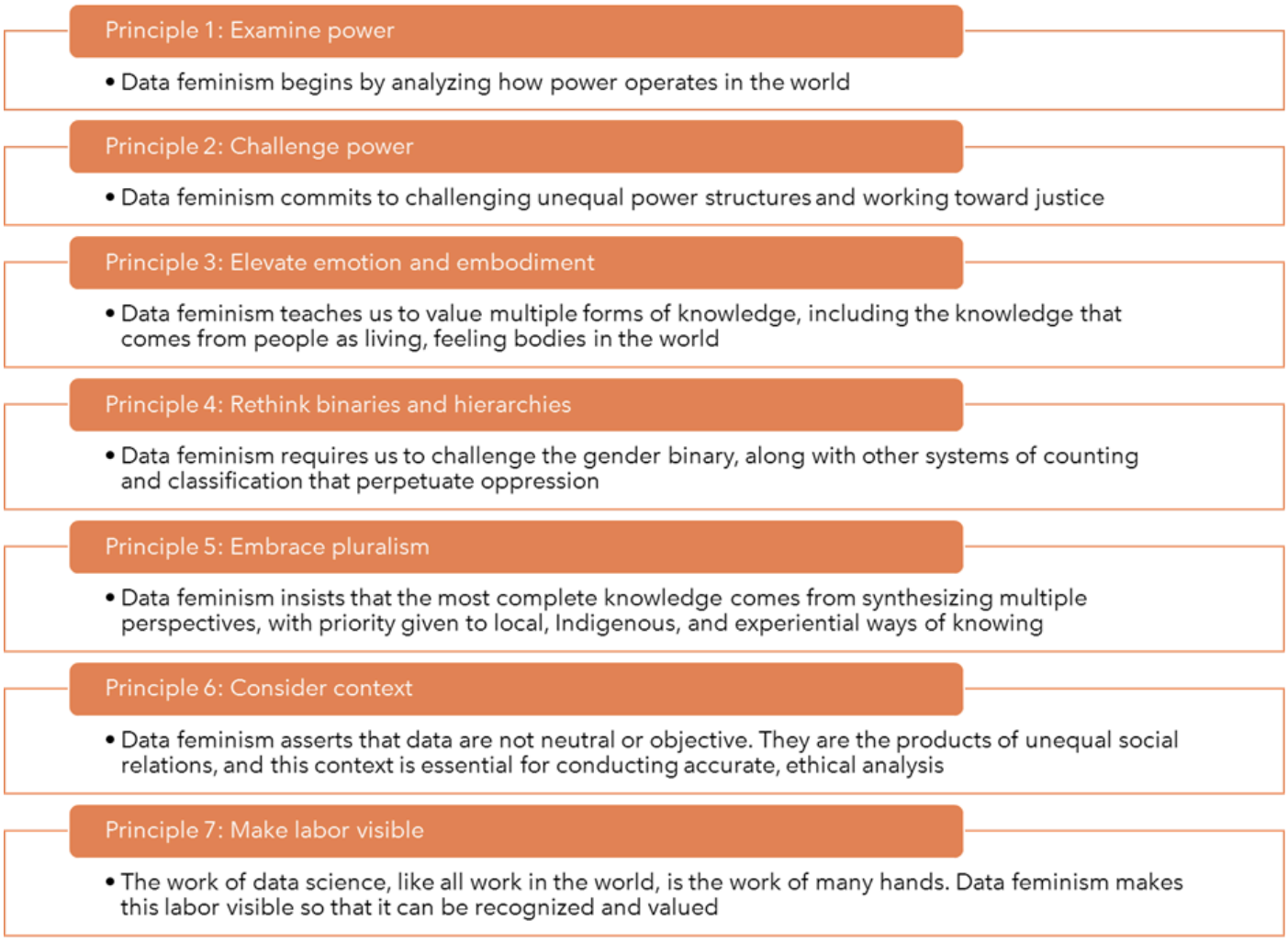


Figure 4.3: Seven intersectional feminist principles for equitable and actionable COVID-19 data

Information literacy beyond scholarly literature

The research process we described in this chapter will help you arrive at an understanding of the scientific literature. However, that is not the only literature of value for researchers. For those conducting action research that engages more with communities and target populations, researchers are responsible not only for reviewing the scientific literature on their topic but also the literature that communities find important. If there are local newspapers, television shows, religious services or events, community meetings, or other sources of knowledge that your target population finds important, you should engage with those resources as well. Understanding these information sources builds empathetic understanding of participating groups and can help inform your research study. Moreover, they are likely to contain knowledge that is not a part of the scientific literature but is nevertheless crucial for conducting scientific research appropriately and effectively in a community.

Key Takeaways

- At this point, you should have a folder full of articles (at least a few dozen) that are relevant to your topic. Don't worry! You won't read all of them, but you will skim most of them for the most important information.
- Social workers should develop critical information literacy. This helps social workers use social science knowledge for social change, and it critiques how current publishing models exclude and privilege different groups from accessing and creating knowledge.
- Social work involves helping others understand social science and applying it in your practice. You must learn how to discriminate between reliable and unreliable information and apply your scientific knowledge to benefit your clients and community.

Exercises

- Write a few sentences about what you think the answer to your working question might be.
- Identify at least five reputable sources of information from your literature search that provide evidence that what you wrote is true.
- What steps do you plan to take to demonstrate that you are helping others to understand social science and its relationship to your practice?

Media Attributions

- download-1666700_1920 © Geralt is licensed under a CC0 (Creative Commons Zero) license
- 19 © Palreeparit, I. is licensed under a CC BY-NC (Attribution NonCommercial) license
- sift-infographic © Mike Caulfield adapted by Walter Butler, Aloha Sargent, and Kelsey Smith is licensed under a CC BY (Attribution) license
- jazmin-quaynor-7Hu4iWksw2k-unsplash © Jazmin Quaynor
- Jhangiani Matrix © Rajiv Jhangiani is licensed under a CC BY (Attribution) license
- A-Rough-Guide-to-Spotting-Bad-Science-2015 © Compound interest is licensed under a CC BY-NC-ND (Attribution NonCommercial NoDerivatives) license
- Figure 4.3: Seven intersectional feminist principles for equitable and actionable COVID-19 data © Catherine D'Ignazio, Lauren F. Klein adapted by Matt DeCarlo is licensed under a CC BY-NC (Attribution NonCommercial) license

Notes

1. Schimmer, R., Geschuhn, K. K., & Vogler, A. (2015). *Disrupting the subscription journals' business model for the necessary large-scale transformation to open access.* doi:10.17617/1.3.
2. Mackenzie, L. (2018, October 4). Publishers escalate legal battle against ResearchGate. *Inside Higher Education*. Retrieved from: https://www.insidehighered.com/news/2018/10/04/publishers-accuse-researchgate-mass-copyright-infringement
3. Schimmer, R., Geschuhn, K. K., & Vogler, A. (2015). *Disrupting the subscription journals' business model for the necessary large-scale transformation to open access.* doi:10.17617/1.3.
4. McNeece, C. A., & Thyer, B. A. (2004). Evidence-based practice and social work. *Journal of evidence-based social work*, 1(1), 7-25.
5. American Library Association (2020). *Information literacy*. Retrieved from: https://literacy.ala.org/information-literacy/
6. Gregory, L. & Higgins, S. (eds.) (2013). *Information literacy and social justice: Radical professional praxis*. Sacramento, CA: Library Juice Press.
7. Tewell, E. (2016). Putting critical information literacy into context: How and why librarians adopt critical practices in their teaching. In *the Library with the Lead Pipe*. Retrieved from: http://www.inthelibrarywiththeleadpipe.org/2016/putting-critical-information-literacy-into-context-how-and-why-librarians-adopt-critical-practices-in-their-teaching/
8. Booth, C. (2017, November 9). *Open access, information privilege, and library work.* OCLC Distinguished Seminar Series. Retrieved from: https://www.oclc.org/research/events/2017/11-09.html
9. Pendell, K. (2020, April 30). *Social work's (very few) gold OA journals*. Retrieved from: https://opensocialwork.org/2020/04/30/gold-oa-journals/; Pendell, K. D. (2018). Behind the Wall: An Exploration of Public Access to Research Articles in Social Work Journals. *Advances in Social Work*, 18, 1041-1052.
10. RELX (20`19). *Annual report and financial statements 2018*. Retrieved from: https://www.relx.com/~/media/Files/R/RELX-Group/documents/reports/annual-reports/2018-annual-report.pdf
11. After a year or so, your login will no longer work with the library. It's sincerely too expensive for your university to afford lifetime access to journal articles for all graduates, though it is certainly understandable why students would expect differently.

12. Appadurai, A. (2006). The right to research. *Globalisation, societies and education*, 4(2), 167-177.
13. Arunachalam, S. (2017). Social justice in scholarly publishing: Open access is the only way. *The American Journal of Bioethics*, 17(10), 15-17.
14. Bali, M., & Caines, A. (2018). A call for promoting ownership, equity, and agency in faculty development via connected learning. *International Journal of Educational Technology in Higher Education*, 15(1), 46.; Eaves, L. E. (2020). Power and the paywall: A Black feminist reflection on the socio-spatial formations of publishing. *Geoforum; Journal of Physical, Human, and Regional Geosciences*.
15. Aguado-López, E., & Becerril-Garcia, A. (2019). *AmeliCA before Plan S–The Latin American Initiative to Develop a Cooperative, Non-Commercial, Academic Led, System of Scholarly Communication*. Retrieved from: https://blogs.lse.ac.uk/impactofsocialsciences/2019/08/08/amelica-before-plan-s-the-latin-american-initiative-to-develop-a-cooperative-non-commercial-academic-led-system-of-scholarly-communication/
16. Himmelstein, D. S., Romero, A. R., Levernier, J. G., Munro, T. A., McLaughlin, S. R., Tzovaras, B. G., & Greene, C. S. (2018). Sci-Hub provides access to nearly all scholarly literature. *ELife*, 7, e32822.
17. We are not lawyers, and we are not giving legal advice.
18. Cummins, B. (2021, June 8). How academic pirate Alexandra Elbakyan is fighting scientific misinformation. *Vice News*. Retrieved from: https://www.vice.com/en/article/v7ev3x/how-academic-pirate-alexandra-elbakyan-is-fighting-scientific-misinformation
19. Eaves L. E. (2021). Power and the paywall: A Black feminist reflection on the socio-spatial formations of publishing. *Geoforum; journal of physical, human, and regional geosciences*, 118, 207–209. https://doi.org/10.1016/j.geoforum.2020.04.002
20. Bendavid, E., Mulaney, B., Sood, N., Shah, S., Ling, E., Bromley-Dulfano, R., ... & Tversky, D. (2020, April 17). *COVID-19 antibody seroprevalence in Santa Clara County, California*. MedRxiv.
21. Joseph, A. (2020, June 4)
22. Paz, C. (2020, May 27, 2020). All the President's lies about the coronavirus: An unfinished compendium of Trump's overwhelming dishonesty during a national emergency. *The Atlantic*. Retrieved from: https://www.theatlantic.com/politics/archive/2020/05/trumps-lies-about-coronavirus/608647/
23. D'Ignazio, C., & F. Klein, L. (2020). Seven intersectional feminist principles for equitable and actionable COVID-19 data. *Big Data & Society*, 7(2), 2053951720942544.

5. Writing your literature review

Chapter Outline

1. Reading results (16 minute read)
2. Synthesizing information (16 minute read)
3. Writing a literature review (18 minute read)

Content warning: examples in this chapter contain references to domestic violence and details on types of abuse, drug use, poverty, mental health, sexual harassment and details on harassing behaviors, children's mental health, LGBTQ+ oppression and suicide, obesity, anti-poverty stigma, and psychotic disorders.

5.1 Reading results

Learning Objectives

Learners will be able to...

- Describe how statistical significance and confidence intervals demonstrate which results are most important
- Differentiate between qualitative and quantitative results in an empirical journal article

If you recall from section 3.1, **empirical journal articles** are those that report the results of quantitative or qualitative data analyzed by the author. They follow a set structure–introduction, methods, results, discussion/conclusions. This section is about reading the most challenging section: results.

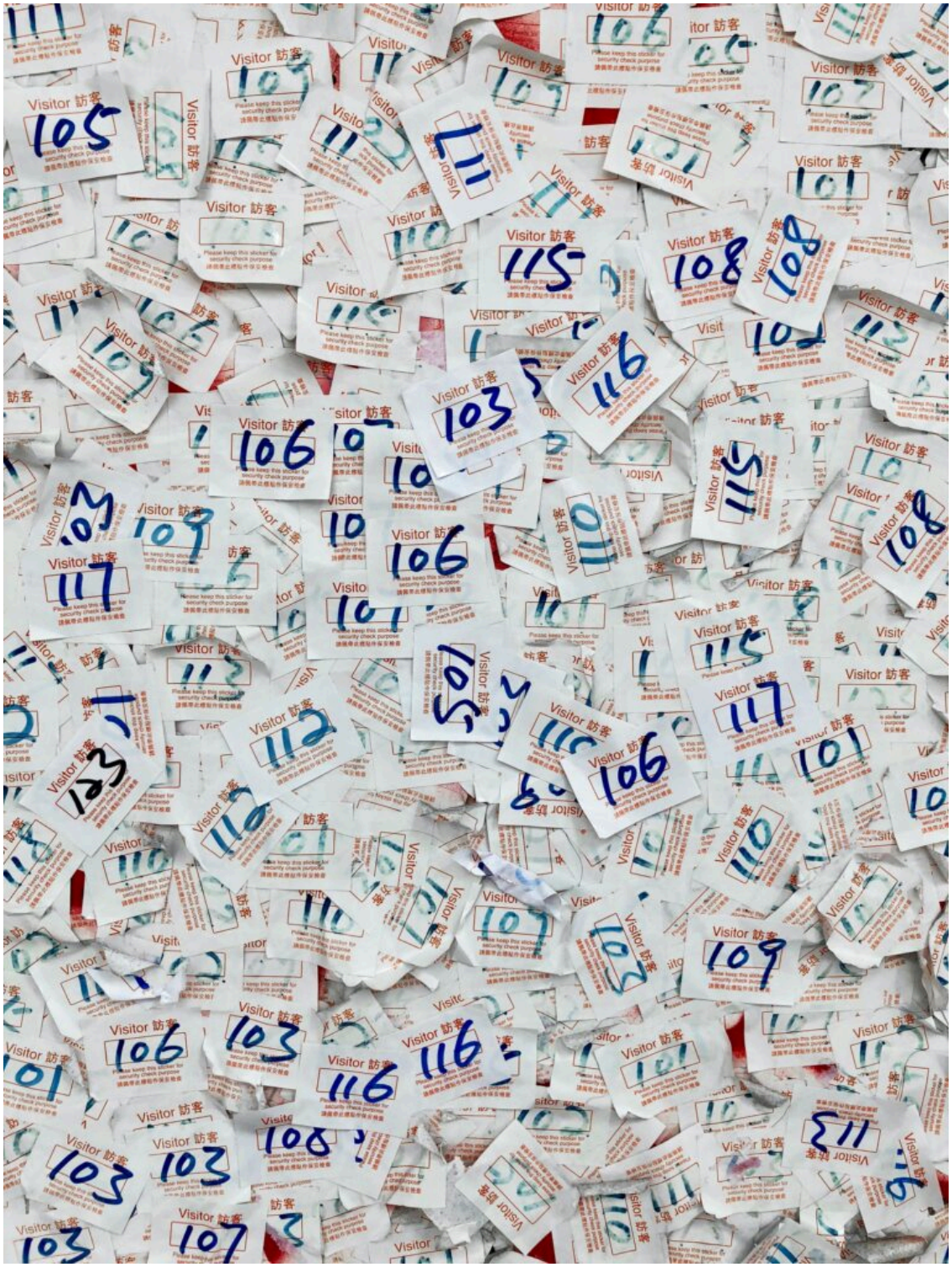
Read beyond the abstract

At this point, I have read hundreds of literature reviews written by students. One of the challenges I have noted is that students will report the results as summarized in the abstract, rather than the detailed findings laid out in the results section of the article. This poses a problem when you are writing a literature review because you need to provide specific and clear facts that support your reading of the literature. The abstract may say something like: "we found that poverty is associated with mental

health status." For your literature review, you want the details, not the summary. In the results section of the article, you may find a sentence that states: "children living in households experiencing poverty are three times more likely to have a mental health diagnosis." This more specific statistical information provides a stronger basis on which to build the arguments in your literature review.

Using the summarized results in an abstract is an understandable mistake to make. The results section often contains figures and tables that may be challenging to understand. Often, without having completed more advanced coursework on statistical or qualitative analysis, some of the terminology, symbols, or diagrams may be difficult to comprehend. This section is all about how to read and interpret the results of an empirical (quantitative or qualitative) journal article. Our discussion here will be basic, and in parts three and four of the textbook, you will learn more about how to interpret results from statistical tests and qualitative data analysis.

Remember, this section only addresses empirical articles. Non-empirical articles (e.g., theoretical articles, literature reviews) don't have results. They cite the analysis of raw data completed by other authors, not the person writing the journal article who is merely summarizing others' work.



Quantitative results

Quantitative articles often contain tables, and scanning them is a good way to begin reading the results. A **table** usually provides a quick, condensed summary of the report's key findings. Tables are a concise way to report large amounts of data. Some tables present descriptive information about a researcher's

sample (often the first table in a results section). These tables will likely contain frequencies (N) and percentages (%). For example, if gender happened to be an important variable for the researcher's analysis, a descriptive table would show how many and what percent of all study participants are of a particular gender. Frequencies or "how many" will probably be listed as N, while the percent symbol (%) might be used to indicate percentages.

In a table presenting a causal relationship, two sets of variables are represented. The **independent variable**, or cause, and the **dependent variable**, the effect. We'll go into more detail on variables in Chapter 8. Independent variable attributes are typically presented in the table's columns, while dependent variable attributes are presented in rows. This allows the reader to scan a table's rows to see how values on the dependent variable change as the independent variable values change. Tables displaying results of quantitative analysis will also likely include some information about which relationships are significant or not. We will discuss the details of significance and p-values later in this section.

Let's look at a specific example: Table 5.1. It presents the causal relationship between gender and experiencing harassing behaviors at work. In this example, gender is the independent variable (the cause) and the harassing behaviors listed are the dependent variables (the effects).[1] Therefore, we place gender in the table's columns and harassing behaviors in the table's rows.

Reading across the table's top row, we see that 2.9% of women in the sample reported experiencing subtle or obvious threats to their safety at work, while 4.7% of men in the sample reported the same. We can read across each of the rows of the table in this way. Reading across the bottom row, we see that 9.4% of women in the sample reported experiencing staring or invasion of their personal space at work while just 2.3% of men in the sample reported having the same experience. We'll discuss *p* values later in this section.

Table 5.1 Percentage reporting harassing behaviors at work

Behavior experienced at work	**Women**	**Men**	***p*-value**
Subtle or obvious threats to your safety	2.9%	4.7%	0.623
Being hit, pushed, or grabbed	2.2%	4.7%	0.480
Comments or behaviors that demean your gender	6.5%	2.3%	0.184
Comments or behaviors that demean your age	13.8%	9.3%	0.407
Staring or invasion of your personal space	9.4%	2.3%	0.039
Note: Sample size was 138 for women and 43 for men.			

While you can certainly scan tables for key results, they are often difficult to understand without reading the text of the article. The article and table were meant to complement each other, and the text should provide information on how the authors interpret their findings. The table is not redundant

with the text of the results section. Additionally, the first table in most results sections is a summary of the study's sample, which provides more background information on the study than information about hypotheses and findings. It is also a good idea to look back at the methods section of the article as the data analysis plan the authors outline should walk you through the steps they took to analyze their data which will inform how they report them in the results section.

Statistical significance

The statistics reported in Table 5.1 represent what the researchers found in their sample. The purpose of statistical analysis is usually to **generalize** from a the small number of people in a study's sample to a larger population of people. Thus, the researchers intend to make causal arguments about harassing behaviors at workplaces beyond those covered in the sample.

Generalizing is key to understanding **statistical significance**. According to Cassidy and colleagues, (2019)[2] 89% of research methods textbooks in psychology define statistical significance incorrectly. This includes an early draft of this textbook which defined statistical significance as "the likelihood that the relationships we observe could be caused by something other than chance." If you have previously had a research methods class, this might sound familiar to you. It certainly did to me!

But statistical significance is less about "random chance" than more about the **null hypothesis**. Basically, at the beginning of a study a researcher develops a hypothesis about what they expect to find, usually that there is a statistical relationship between two or more **variables**. The null hypothesis is the opposite. It is the hypothesis that there is no relationship between the variables in a research study. Researchers then can hopefully reject the null hypothesis because they find a relationship between the variables.

For example, in Table 5.1 researchers were examining whether gender impacts harassment. Of course, researchers assumed that women were more likely to experience harassment than men. The null hypothesis, then, would be that gender has no impact on harassment. Once we conduct the study, our results will hopefully lead us to reject the null hypothesis because we find that gender impacts harassment. We would then generalize from our study's sample to the larger population of people in the workplace.

Statistical significance is calculated using a **p-value** which is obtained by comparing the statistical results with a hypothetical set of results if the researchers re-ran their study a large number of times. Keeping with our example, imagine we re-ran our study with different men and women from different workplaces hundreds and hundred of times and we assume that the null hypothesis is true that gender has no impact on harassment. If results like ours come up pretty often when the null hypothesis is true, our results probably don't mean much. "The smaller the p-value, the greater the statistical incompatibility with the null hypothesis" (Wasserstein & Lazar, 2016, p. 131).[3] Generally, researchers in

the social sciences have used 0.05 as the value at which a result is significant (p is less than 0.05) or not significant (p is greater than 0.05). The p-value 0.05 refers to if 5% of those hypothetical results from re-running our study show the same or more extreme relationships when the null hypothesis is true. Researchers, however, may choose a stricter standard such as 0.01 in which only 1% of those hypothetical results are more extreme or a more lenient standard like 0.1 in which 10% of those hypothetical results are more extreme than what was found in the study.

Let's look back at Table 5.1. Which one of the relationships between gender and harassing behaviors is statistically significant? It's the last one in the table, "staring or invasion of personal space," whose p-value is 0.039 (under the $p<0.05$ standard to establish statistical significance). Again, this indicates that if we re-ran our study over and over again and gender *did not* impact staring/invasion of space (i.e., the null hypothesis was true), only 3.9% of the time would we find similar or more extreme differences between men and women than what we observed in our study. Thus, we conclude that *for staring or invasion of space only*, there is a statistically significant relationship.

For contrast, let's look at "being pushed, hit, or grabbed" and run through the same analysis to see if it is statistically significant. If we re-ran our study over and over again and the null hypothesis was true, 48% of the time ($p=.48$) we would find similar or more extreme differences between men and women. That means these results are not statistically significant.

This discussion should also highlight a point we discussed previously: that it is important to read the full results section, rather than simply relying on the summary in the abstract. If the abstract stated that most tests revealed no statistically significant relationships between gender and harassment, you would have missed the detail on which behaviors were and were not associated with gender. Read the full results section! And don't be afraid to ask for help from a professor in understanding what you are reading, as results sections are often not written to be easily understood.

Statistical significance and p-values have been critiqued recently for a number of reasons, including that they are misused and misinterpreted (Wasserstein & Lazar, 2016)[4], that researchers deliberately manipulate their analyses to have significant results (Head et al., 2015)[5], and factor into the difficulty scientists have today in reproducing many of the results of previous social science studies (Peng, 2015).[6] For this reason, we share these principles, adapted from those put forth by the American Statistical Association,[7] for understanding and using p-values in social science:

1. P-values provide evidence against a null hypothesis.
2. P-values do not indicate whether the results were produced by random chance alone or if the researcher's hypothesis is true, though both are common misconceptions.
3. Statistical significance can be detected in minuscule differences that have very little effect on the real world.
4. Nuance is needed to interpret scientific findings, as a conclusion does not become true or false when the p-value passes from $p=0.051$ to $p=0.049$.
5. Real-world decision-making must use more than reported p-values. It's easy to run analyses of

large datasets and only report the significant findings.
6. Greater confidence can be placed in studies that pre-register their hypotheses and share their data and methods openly with the public.
7. "By itself, a p-value does not provide a good measure of evidence regarding a model or hypothesis. For example, a p-value near 0.05 taken by itself offers only weak evidence against the null hypothesis. Likewise, a relatively large p-value does not imply evidence in favor of the null hypothesis; many other hypotheses may be equally or more consistent with the observed data" (Wasserstein & Lazar, 2016, p. 132).

Confidence intervals

Because of the limitations of p-values, scientists can use other methods to determine whether their models of the world are true. One common approach is to use a **confidence interval**, or a range of values in which the true value is likely to be found. Confidence intervals are helpful because, as principal #5 above points out, p-values do not measure the size of an effect (Greenland et al., 2016).[8] Remember, something that has very little impact on the world can be statistically significant, and the values in a confidence interval would be helpful. In our example from Table 5.1, imagine our analysis produced a confidence interval that women are 1.2-3.4x more likely to experience "staring or invasion of personal space" than men. As with p-values, calculation for a confidence interval compares what was found in one study with a hypothetical set of results if we repeated the study over and over again. If we calculated 95% confidence intervals for all of the hypothetical set of hundreds and hundreds of studies, that would be our confidence interval.

Confidence intervals are pretty intuitive. As of this writing, my wife and are expecting our second child. The doctor told us our due date was December 11th. But the doctor also told us that December 11th was only their best estimate. They were actually 95% sure our baby might be born any time in the 30-day period between November 27th and December 25th. Confidence intervals are often listed with a percentage, like 90% or 95%, and a range of values, such as between November 27th and December 25th. You can read that as: "we are 95% sure your baby will be born between November 27th and December 25th because we've studied hundreds of thousands of fetuses and mothers, and we're 95% sure your baby will be within these two dates."

Notice that we're hedging our bets here by using words like "best estimate." When testing hypotheses, social scientists generally phrase their findings in a tentative way, talking about what results "indicate" or "support," rather than making bold statements about what their results "prove." Social scientists have humility because they understand the limitations of their knowledge. In a literature review, using a single study or fact to "prove" an argument right or wrong is often a signal to the person reading your literature review (usually your professor) that you may not have appreciated the limitations of that study or its place in the broader literature on the topic. Strong arguments in a literature review include multiple facts and ideas that span across multiple studies.

You can learn more about creating tables, reading tables, and tests of statistical significance in a class focused exclusively on statistical analysis. We provide links to many free and openly licensed resources on statistics in Chapter 16. For now, we hope this brief introduction to reading tables will improve your confidence in reading and understanding the results sections in quantitative empirical articles.

Qualitative results

Quantitative articles will contain a lot of numbers and the results of statistical tests demonstrating associations between those numbers. Qualitative articles, on the other hand, will consist mostly of quotations from participants. For most qualitative articles, the authors want to put their results in the words of their participants, as they are the experts. Articles that lack quotations make it difficult to assess whether the researcher interpreted the data in a trustworthy, unbiased manner. These types of articles may also indicate how often particular themes or ideas came up in the data, potentially reflective of how important they were to participants.

Authors often organize qualitative results by themes and subthemes. For example, see this snippet from the results section in Bonanno and Veselak (2019)[9] discussion parents' attitudes towards child mental health information sources.

> Data analysis revealed four themes related to participants' abilities to access mental health help and information for their children, and parents' levels of trust in these sources. These themes are: others' firsthand experiences family and friends with professional experience, protecting privacy, and uncertainty about schools as information sources. Trust emerged as an overarching and unifying concept for all of these themes.
>
> **Others' firsthand experiences.** Several participants reported seeking information from other parents who had experienced mental health struggles similar to their own children. They often referenced friends or family members who had been or would be good sources of information due to their own personal experiences. The following quote from Adrienne demonstrates the importance of firsthand experience:
>
> [I would only feel comfortable sharing concerns or asking for advice] *if I knew that they had been in the same situation.* (Adrienne)
>
> Similarly, Michelle said: And I talked to a friend of mine who has kids who have IEPs in the district to see, kind of, how did she go about it. (Michelle)
>
> …
>
> **Friends/family with professional experience**. Several respondents referred to friends or family members who had professional experience with or knowledge of child mental health and

suggested that these individuals would be good sources of information. For example, Hannah said:

> Well, what happened with me was I have an uncle who's a psychiatrist. Sometimes if he's up in (a city to the north), he's retired, I can call him sometimes and get information. (Hannah)

> Michelle, who was in nursing school, echoed this sentiment: At this point, [if my child's behavioral difficulties continued], I would probably call one of my [nursing] professors. That's what I've done in the past when I've needed help with certain things…I have a professor who I would probably consider a friend who I would probably talk to first. She has a big adolescent practice. (Michelle) (p. 402-403)

The terms in bold above refer to the key themes (i.e., qualitative results) that were present in the data. Researchers will state the process by which they interpret each theme, providing a definition and usually some quotations from research participants. Researchers will also draw connections between themes, note consensus or conflict over themes, and situate the themes within the study context.

Qualitative results are specific to the time, place, and culture in which they arise, so you will have to use your best judgment to determine whether these results are relevant to your study. For example, students in my class at Radford University in Southwest Virginia may be studying rural populations. Would a study on group homes in a large urban city transfer well to group homes in a rural area?

Maybe. But even if you were using data from a qualitative study in another rural area, are all rural areas the same? How is the client population and sociocultural context in the article similar or different to the one in your study? Qualitative studies have tremendous depth, but researchers must be intentional about drawing conclusions about one context based on a study in another context.

Key Takeaways

- The results section of empirical articles are often the most difficult to understand.
- To understand a quantitative results section, look for results that were statistically significant and examine the confidence interval, if provided.
- To understand a qualitative results section, look for definitions of themes or codes and use the quotations provided to understand the participants' perspective.

Exercises

Select a quantitative empirical article related to your topic.

- Write down the results the authors identify as statistically significant in the results section.
- How do the authors interpret their results in the discussion section?
- Do the authors provide enough information in the introduction for you to understand their results?

Select a qualitative empirical article relevant to your topic.

- Write down the key themes the authors identify and how they were defined by the participants.
- How do the authors interpret their results in the discussion section?
- Do the authors provide enough information in the introduction for you to understand their results?

5.2 Organizing information

Learning Objectives

Learners will be able to…

- Describe how to use summary tables to organize information from empirical articles
- Describe how to use topical outlines to organize information from the literature reviews of articles you read
- Create a concept map that visualizes the key concepts and relationships relevant to your working question
- Use what you learn in the literature search to revise your working question

This section will introduce you to three tools scholars use to organize and synthesize (i.e., weave together) information from multiple sources. First, we will discuss how to build a summary table containing information from empirical articles that are highly relevant—from literature review, to methods and results—to your entire research proposal. These are articles you will need to know the details of back-to-front because they are so highly related to your proposed study.

Second, we'll discuss what to do with the *other* articles you've downloaded. As we've discussed previously, you're not going to read most of the sources you download from start-to-finish. Instead, you'll look at the author's literature review, key ideas, and skim for any relevant passages for your project. As you do so, you should create a topical outline that organizes all relevant facts you might use in your literature that you've collected from the abstract, literature review, and conclusion of the articles you've found. Of course, it is important to note the original source of the information you are citing.

Finally, we will revisit concept mapping as a technique for visualizing the concepts in your study. Altogether, these techniques should help you create intermediary products—documents you are not likely to show to anyone or turn in for a grade—but that are vital steps to a final research proposal.

Organizing empirical articles using a summary table

Your research proposal is an empirical project. You will collect raw data and analyze it to answer your question. Over the next few weeks, identify about 10 articles that are empirically similar to the study you want to conduct. If you plan on conducting surveys of practitioners, it's a good idea for you to read in detail other articles that have used similar methods (sampling, measures, data analysis) and asked similar questions to your proposal. A summary table can help you organize these Top 10 articles: empirical articles that are highly relevant to your proposal and working question.

Using the annotations in Section 4.2 as a guide, create a spreadsheet or Word table with your annotation categories as columns and each source as new row. For example, I was searching for articles on using a specific educational technique in the literature. I wanted to know whether other researchers found positive results, how big their samples were, and whether they were conducted at a single school or across multiple schools. I looked through each empirical article on the topic and filled in a summary table. At the end, I could do an easy visual analysis and state that most studies revealed no significant results and that there were few multi-site studies. These arguments were then included in my literature review. These tables are similar to those you will find in a systematic review article.

A basic summary table is provided in Figure 5.1. A more detailed example is available from Elaine Gregersen's blog, and you can download an Excel template from Raul Pacheco-Vega's blog. Remember, although "the means of summarizing can vary, the key at this point is to make sure you understand what you've found and how it relates to your topic and research question" (Bennard et al., 2014, para. 10).[10] As you revisit and revise your working question over the next few weeks, think about those sources that are so relevant you need to understand every detail about them.

A good summary table will also ensure that when you cite these articles in your literature review, you are able to provide the necessary detail and context for readers to properly understand the results. For example, one of the common errors I see in student literature reviews is using a small, exploratory study to represent the truth about a larger population. You will also notice important differences in how variables are measured or how people are sampled, for instance, and these details are often the source of a good critical review of the literature.

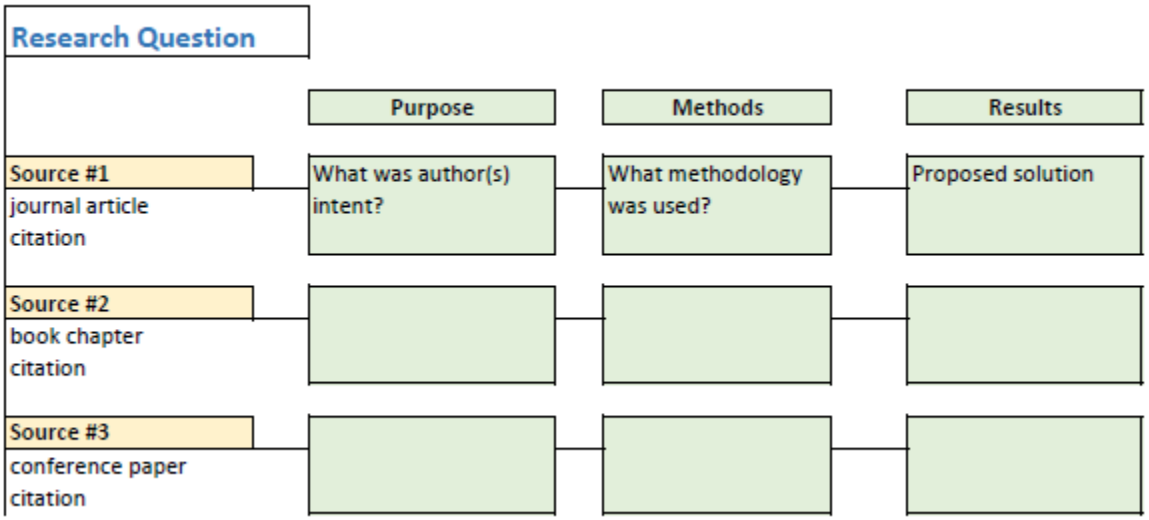


Figure 5.1 Basic summary table

Exercises

- Using your folder of article PDFs from you've downloaded in previous exercises, identify which articles are likely to be most relevant to your proposed study. This may change as you revise your working question and study design over the next few weeks. Create a list of 10 articles that are highly relevant to the extent that you will need to remember key details from each section of the article.
- Create a spreadsheet for your summary table and save it in your project folder on your hard drive. Using one of the templates linked in this chapter, fill in the columns of your spreadsheet. Enter the information from one of the articles you've read so far. As you finalize your research question over the next few weeks, fill in your summary table with the 5 most relevant empirical articles on your topic.

Synthesizing facts using a topical outline

If we're only reading 10 articles in detail, what do we do with the others? Raul Pacheco-Vega recommends using the AIC approach: read the abstract, introduction, and conclusion (and the discussion section, in empirical articles). For non-empirical articles, it's a little less clear but the first few pages and last few pages of an article usually contain the author's reading of the relevant literature and their principal conclusions. You may also want to skim the first and last sentence of each paragraph.

Only read paragraphs in which you are likely to find information relevant to your working question. Skimming like this gives you the general point of the article, though you should read in detail the most valuable resource of all—another author's literature review.

It's impossible to read all of the literature about your topic. You will read about 10 articles in detail. For a few dozen more (there is no magic number), you will read the abstract, introduction, and conclusion, skim the rest of the article, but ultimately never read everything. Make the most out of the articles you do read by extracting as many facts as possible from each. You are starting your research project without a lot of knowledge of the topic you want to study, and by using the literature reviews provided in academic journal articles, you can gain a lot of knowledge about a topic in a short period of time. This way, by reading only a small number of articles, you are also reading their citations and synthesis of dozens of other articles as well.

As you read an article in detail, we suggest copying any facts you find relevant in a separate word processing document. Another idea is to copy anything you've annotated as background information in Section 4.2 into an outline. Copying and pasting from PDF to Word can be difficult because PDFs are image files, not documents. To make that easier, use the HTML version of the article, convert the PDF to Word in Adobe Acrobat or another PDF reader, or use the "paste special" command to paste the content into Word without formatting. If it's an old PDF, you may have to simply type out the information you need. It can be a messy job, but having all of your facts in one place is very helpful when drafting your literature review.

You should copy and paste any fact or argument you consider important. Some good examples include definitions of concepts, statistics about the size of the social problem, and empirical evidence about the key variables in the research question, among countless others. It's a good idea to consult with your professor and the course syllabus to understand what they are looking for when reading your literature review. Facts for your literature review are principally found in the introduction, results, and discussion section of an empirical article or at any point in a non-empirical article. Copy and paste into your notes anything you may want to use in your literature review.

Importantly, you must make sure you note the original source of each bit of information you copy. Nothing is worse than needing to track down a source for fact you read who-knows-where. If you found a statistic that the author used in the introduction, it almost certainly came from another source that the author cited in a footnote or internal citation. You will want to check the original source to make sure the author represented the information correctly. Moreover, you may want to read the original study to learn more about your topic and discover other sources relevant to your inquiry.

Assuming you have pulled all of the facts out of multiple articles, it's time to start thinking about how these pieces of information relate to each other. Start grouping each fact into categories and subcategories as shown in Table 5.2. For example, a statistic stating that single adults who are homeless are more likely to be male may fit into a category of gender and homelessness. For each topic or subtopic you identify during your critical analysis of each paper, determine what those papers have in common. Likewise, determine which differ. If there are contradictory findings, you may be able

to identify methodological or theoretical differences that could account for these contradictions. For example, one study may sample only high-income earners or those living in a rural area. Determine what general conclusions you can report about the topic or subtopic, based on all of the information you've found.

Create a separate document containing a topical outline that combines your facts from each source and organizes them by topic or category. As you include more facts and more sources in your topical outline, you will begin to see how each fact fits into a category and how categories are related to one another. Keep in mind that your category names may change over time, as may their definitions. This is a natural reflection of the learning you are doing.

Table 5.2 Topical outline

Facts copied from an article	Topical outline: Facts organized by category
• Accumulating evidence indicates that adolescents who have same-sex sexual attractions, who have had sexual or romantic relationships with persons of the same sex, or who identify as lesbian, gay, or bisexual are more likely than heterosexual adolescents to experience depressive symptoms, suicidal ideation, and to make suicide attempts (Remafedi et al. 1998; Russell and Joyner 2001; Safren and Heimberg 1999). • Youth Risk Behavior Surveillance (YRBS) system showed that 40% of youth who reported a minority sexual orientation indicated feeling sad or hopeless in the past 2 weeks, compared to 26% of heterosexual youth (District of Columbia Public Schools, 2007). Those data also showed that lesbian, gay, and bisexual youth were more than twice as likely as heterosexual youth to have considered attempting suicide in the past year (31% vs. 14%). This body of research demonstrates that lesbian, gay, and bisexual youth have high levels of emotional distress. • A much smaller body of research suggests that adolescents who identify as transgendered or transsexual also experience increased emotional distress (Di Ceglie et al. 2002; Grossman and D'Augelli 2006, 2007). • In a study based on a convenience sample of 55 transgendered youth aged to 15–21 years, the authors found that more than one fourth reported a prior suicide attempt (Grossman and D'Augelli 2007).	• LGBTQ+ adolescents and suicide ◦ Accumulating evidence indicates that adolescents who have same-sex sexual attractions, who have had sexual or romantic relationships with persons of the same sex, or who identify as lesbian, gay, or bisexual are more likely than heterosexual adolescents to experience depressive symptoms, suicidal ideation, and to make suicide attempts (Remafedi et al. 1998; Russell and Joyner 2001; Safren and Heimberg 1999). • LGBTQ+ adolescents and emotional distress ◦ Youth Risk Behavior Surveillance (YRBS) system showed that 40% of youth who reported a minority sexual orientation indicated feeling sad or hopeless in the past 2 weeks, compared to 26% of heterosexual youth (District of Columbia Public Schools, 2007). Those data also showed that lesbian, gay, and bisexual youth were more than twice as likely as heterosexual youth to have considered attempting suicide in the past year (31% vs. 14%). This body of research demonstrates that lesbian, gay, and bisexual youth have high levels of emotional distress. • Transgender adolescents and emotional distress ◦ A much smaller body of research suggests that adolescents who identify as transgendered or transsexual also experience increased emotional distress (Di Ceglie et al. 2002; Grossman and D'Augelli 2006, 2007). ◦ In a study based on a convenience sample of 55 transgendered youth aged to 15–21 years, the authors found that more than one fourth reported a prior suicide attempt (Grossman and D'Augelli 2007).

A complete topical outline is a long list of facts arranged by category. As you step back from the outline, you should assess which topic areas for which you have enough research support to allow you to draw strong conclusions. You should also assess which areas you need to do more research in before you can write a robust literature review. The topical outline should serve as a transitional document between the notes you write on each source and the literature review you submit to your professor. It is important to note that they contain plagiarized information that is copied and pasted directly from the primary sources. In this case, it is not problematic because these are just notes and are not meant to be turned in as your own ideas. For your final literature review, you must paraphrase these sources to avoid plagiarism. More importantly, you should keep your voice and ideas front-and-center in what you write as this is *your* analysis of the literature. Make strong claims and support them thoroughly using facts you found in the literature. We will pick up the task of writing your literature review in section 5.3.

Exercises

- In your folder full of article PDFs, look for the most relevant review articles. If you don't have any, try to look for some. If there are none in your topic area, you can also use other non-empirical articles or empirical articles with long literature reviews (in the introduction and discussion sections).
- Create a word processing document for your topical outline and save it in your project folder on your hard drive. Using a review article, start copying facts you identified as Background Information or Results into your topical outline. Try to organize each fact by topic or theme. Make sure to copy the internal citation for the original source of each fact. For articles that do not use internal citations, create one using the information in the footnotes and references. As you finalize your research question over the next few weeks, skim the literature reviews of the articles you download for key facts and copy them into your topical outline.

Putting the pieces together: Building a concept map

Developing a concept map or mind map around your topic can be helpful in figuring out how the facts fit together. We talked about concept mapping briefly in Chapter 2, when we were first thinking about your topic and sketching out what you already know about it. Concept mapping during the literature review stage of a research project builds on this foundation of knowledge and aims to improve the "description of the breadth and depth of literature in a domain of inquiry. It also facilitates identification of the number and nature of studies underpinning mapped relationships among concepts, thus laying the groundwork for systematic research reviews and meta-analyses" (Lesley, Floyd, & Oermann, 2002, p. 229).[11] Its purpose, like other question refinement methods, is to help you organize, prioritize, and integrate material into a workable research area—one that is interesting, answerable, feasible, objective, scholarly, original, and clear.

Think about the topics you created in your topic outline. How do they relate to one another? Within

each topic, how do facts relate to one another? As you write down what you have, think about what you already know. What other related concepts do you not yet have information about? What relationships do you need to investigate further? Building a conceptual map should help you understand what you already know, what you need to learn next, and how you can organize a literature review.

This technique is illustrated in this YouTube video about concept mapping. You may want to indicate which concepts and relationships you've already found in your review and which ones you think *might* be true but haven't found evidence of yet. Once you get a sense of how your concepts are related and which relationships are important to you, it's time to revise your working question.

Exercises

- Create a concept map using a pencil and paper.
- Identify the key ideas inside the literature, how they relate to one another, and the facts you know about them.
- Reflect on those areas you need to learn more about prior to writing your literature review.
- As you finalize your research question over the next few weeks, update your concept map and think about how you might organize it into a written literature review.
- Refer to the topics and headings you use in your topical outline and think about what literature you have that helps you understand each concept and relationship between them in your concept map.

Revising your working question

You should be revisiting your working question throughout the literature review process. As you continue to learn more about your topic, your question will become more specific and clearly worded. This is normal, and there is no way to shorten this process. Keep revising your question in order to ensure it will contribute something new to the literature on your topic, is relevant to your target population, and is feasible for you to conduct as a student project.

For example, perhaps your initial idea or interest is how to prevent obesity. After an initial search of the relevant literature, you realize the topic of obesity is too broad to adequately cover in the time you have to do your project. You decide to narrow your focus to causes of childhood obesity. After reading some articles on childhood obesity, you further narrow your search to the influence of family risk factors on overweight children. A potential research question might then be, "What maternal factors are associated with toddler obesity in the United States?" You would then need to return to the literature to find more specific studies related to the variables in this question (e.g. maternal factors, toddler, obesity, toddler obesity).

Similarly, after an initial literature search for a broad topic such as school performance or grades, examples of a narrow research question might be:

- "To what extent does parental involvement in children's education relate to school performance over the course of the early grades?"
- "Do parental involvement levels differ by family social, demographic, and contextual characteristics?"
- "What forms of parent involvement are most highly correlated with children's outcomes? What factors might influence the extent of parental involvement?" (Early Childhood Longitudinal Program, 2011).[12]

In either case, your literature search, working question, and understanding of the topic are constantly changing as your knowledge of the topic deepens. A literature review is an iterative process, one that stops, starts, and loops back on itself multiple times before completion. As research is a practice behavior of social workers, you should apply the same type of critical reflection to your inquiry as you would to your clinical or macro practice.

There are many ways to approach synthesizing literature. We've reviewed the following: summary tables, topical outlines, and concept maps. Other examples you may encounter include annotated bibliographies and synthesis matrices. As you are learning how to conduct research, find a method that works for you. Reviewing the literature is a core component of evidence-based practice in social work. See the resources below if you need some additional help:

Literature Reviews: Using a Matrix to Organize Research / Saint Mary's University of Minnesota

Literature Review: Synthesizing Multiple Sources / Indiana University

Writing a Literature Review and Using a Synthesis Matrix / Florida International University

Sample Literature Reviews Grid / Complied by Lindsay Roberts

Literature review preparation: Creating a summary table. (Includes transcript) / Laura Killam

Key Takeaways

- You won't read every article all the way through. For most articles, reading the abstract, introduction, and conclusion are enough to determine its relevance. It's expected that you skim or search for relevant sections of each article without reading the whole thing.
- For articles where *everything* seems relevant, use a summary table to keep track of details. These are particularly helpful with empirical articles.
- For articles with literature review content relevant to your topic, copy any relevant information into a topical outline, along with the original source of that information.
- Use a concept map to help you visualize the key concepts in your topic area and the relationships between them.
- Revise your working question regularly. As you do, you will likely need to revise your search queries and include new articles.

Exercises

- Look back at the working question for your topic and consider any necessary revisions. It is important that questions become clearer and more specific over time. It is also common that your working question shift over time, sometimes drastically, as you explore new lines of inquiry in the literature. Return to your working question regularly and make sure it reflects the focus of your inquiry. You will continue to revise your working question until we formalize it into a research question at the end of Part 2 of this textbook.

5.3 Writing your literature review

Learning Objectives

Learners will be able to...

- Describe the components of a literature review
- Begin to write your literature review
- Identify the purpose of a problem statement
- Apply the components of a formal argument to your topic
- Use elements of formal writing style, including signposting and transitions
- Recognize commons errors in literature reviews

Congratulations! By now, you should have discovered, retrieved, evaluated, synthesized, and organized the information you need for your literature review. It's now time to turn that stack of articles, papers, and notes into a literature review–it's time to start writing!

Writing about research is different than other types of writing. Research writing is not like a journal entry or opinion paper. The goal here is not to apply your research question to your life or growth as a practitioner. Research writing is about the provision and interpretation of facts. The tone should be objective and unbiased, and personal experiences and opinions are excluded. Particularly for students who are used to writing case notes, research writing can be a challenge. That's why its important to normalize getting help! If your professor has not built in peer review, consider setting up a peer review group among your peers. You should also reach out to your academic advisor to see if there are writing services on your campus available to graduate students. **No one should feel bad for needing help with something they haven't done before, haven't done in a while, or were never taught how to do.**

If you've followed the steps in this chapter, you likely have an outline, summary table, and concept

map from which you can begin the writing process. But what do you need to include in your literature review? We've mentioned it before, but to summarize, a literature review should:

- Introduce the topic and define its key terms.
- Establish the importance of the topic.
- Provide an overview of the important literature related to the concepts found in the research question.
- Identify gaps or controversies in the literature.
- Point out consistent findings across studies.
- Synthesize that which is known about a topic, rather than just provide a summary of the articles you read.
- Discuss possible implications and directions for future research.

Do you have enough facts and sources to accomplish these tasks? It's a good time to consult your outlines and notes on each article you plan to include in your literature review. You may also want to consult with your professor on what is expected of you. If there is something you are missing, you may want to jump back to section 2.3 where we discussed how to search for literature. While you can always fill in material, there is the danger that you will start writing without really knowing what you are talking about or what you want to say. For example, if you don't have a solid definition of your key concepts or a sense of how the literature has developed over time, it will be difficult to make coherent scholarly claims about your topic.

There is no magical point at which one is ready to write. As you consider whether you are ready, it may be useful to ask yourself these questions:

- How will my literature review be organized?
- What section headings will I be using?
- How do the various studies relate to each other?
- What contributions do they make to the field?
- Where are the gaps or limitations in existing research?
- And finally, but most importantly, how does my own research fit into what has already been done?

The problem statement

Scholarly works often begin with a problem statement, which serves two functions. First, it establishes why your topic is a social problem worth studying. Second, it pulls your reader into the literature review. Who would want to read about something unimportant?



A problem statement generally answers the following questions, though these are far from exhaustive:

- Why is this an important problem to study?
- How many people are affected by this problem?
- How does this problem impact other social issues relevant to social work?
- Why is your target population an important one to study?

A strong problem statement, like the rest of your literature review, should be filled with empirical results, theory, and arguments based on the extant literature. A research proposal differs significantly from other more reflective essays you've likely completed during your social work studies. If your topic were domestic violence in rural Appalachia, I'm sure you could come up with answers to the above questions without looking at a single source. However, the purpose of the literature review is not to test your intuition, personal experience, or empathy. Instead, research methods are about gaining specific and articulable knowledge to inform action. With a problem statement, you can take a "boring" topic like the color of rooms used in an inpatient psychiatric facility, transportation patterns in major cities, or the materials used to manufacture baby bottles, and help others see the topic as you see it—an important part of the social world that impacts social work practice.

The structure of a literature review

In general, the problem statement belongs at the beginning of the literature review. We usually advise students to spend no more than a paragraph or two for a problem statement. For the rest of your

literature review, there is no set formula by which it needs to be organized. However, a literature review generally follows the format of any other essay—Introduction, Body, and Conclusion.

The introduction to the literature review contains a statement or statements about the overall topic. At a minimum, the introduction should define or identify the general topic, issue, or area of concern. You might consider presenting historical background, mentioning the results of a seminal study, and providing definitions of important terms. The introduction may also point to overall trends in what has been previously published on the topic or on conflicts in theory, methodology, evidence, conclusions, or gaps in research and scholarship. We also suggest putting in a few sentences that walk the reader through the rest of the literature review. Highlight your main arguments from the body of the literature review and preview your conclusion. An introduction should let the reader know what to expect from the rest of your review.

The body of your literature review is where you demonstrate your synthesis and analysis of the literature. Again, do not just summarize the literature. We would also caution against organizing your literature review by source—that is, one paragraph for source A, one paragraph for source B, etc. That structure will likely provide an adequate summary of the literature you've found, but it would give you almost no synthesis of the literature. That approach doesn't tell your reader how to put those facts together, it doesn't highlight points of agreement or contention, or how each study builds on the work of others. In short, it does not demonstrate critical thinking.

Organize your review by argument

Instead, use your outlines and notes as a guide what you have to say about the important topics you need to cover. Literature reviews are written from the perspective of an expert in that field. After an exhaustive literature review, you should feel as though you are able to make strong claims about what is true—so make them! There is no need to hide behind "I believe" or "I think." Put your voice out in front, loud and proud! But make sure you have facts and sources that back up your claims.

I've used the term "**argument**" here in a specific way. An argument in writing means more than simply disagreeing with what someone else said, as this classic Monty Python sketch demonstrates. Toulman, Rieke, and Janik (1984) identify six elements of an argument:

1. Claim: the thesis statement—what you are trying to prove
2. Grounds: theoretical or empirical evidence that supports your claim
3. Warrant: your reasoning (rule or principle) connecting the claim and its grounds
4. Backing: further facts used to support or legitimize the warrant
5. Qualifier: acknowledging that the argument may not be true for all cases
6. Rebuttal: considering both sides (as cited in Burnette, 2012)[13]

Let's walk through an example. If I were writing a literature review on a negative income tax, a policy in which people in poverty receive an unconditional cash stipend from the government each month equal to the federal poverty level, I would want to lay out the following:

1. Claim: the negative income tax is superior to other forms of anti-poverty assistance.
2. Grounds: data comparing negative income tax recipients to people receiving anti-poverty assistance in existing programs, theory supporting a negative income tax, data from evaluations of existing anti-poverty programs, etc.
3. Warrant: cash-based programs like the negative income tax are superior to existing anti-poverty programs because they allow the recipient greater self-determination over how to spend their money.
4. Backing: data demonstrating the beneficial effects of self-determination on people in poverty.
5. Qualifier: the negative income tax does not provide taxpayers and voters with enough control to make sure people in poverty are not wasting financial assistance on frivolous items.
6. Rebuttal: policy should be about empowering the oppressed, not protecting the taxpayer, and there are ways of addressing taxpayer spending concerns through policy design.

Like any effective argument, your literature review must have some kind of structure. For example, it might begin by describing a phenomenon in a general way along with several studies that provide some detail, then describing two or more competing theories of the phenomenon, and finally presenting a hypothesis to test one or more of the theories. Or, it might describe one phenomenon, then describe another that seems inconsistent with the first, then propose a theory that resolves the inconsistency, and finally present a hypothesis to test that theory. In applied research, it might describe a phenomenon or theory, then describe how that phenomenon or theory applies to some important real-world situation, and finally, may suggest a way to test whether it does, in fact, apply to that situation.

Use signposts

Another important issue is **signposting**. It may not be a term you are familiar with, but you are likely familiar with the concept. Signposting refers to the words used to identify the organization and structure of your literature review to your reader. The most basic form of signposting is using a topic sentence at the beginning of each paragraph. A topic sentence introduces the argument you plan to make in that paragraph. For example, you might start a paragraph stating, "There is strong disagreement in the literature as to whether psychedelic drugs cause people to develop psychotic disorders, or whether psychotic disorders cause people to use psychedelic drugs." Within that paragraph, your reader would likely assume you will present evidence for both arguments. The concluding sentence of your paragraph should address the topic sentence, discussing how the facts and arguments from the paragraph you've written support a specific conclusion. To continue with our example, I might say,

"There is likely a reciprocal effect in which both the use of psychedelic drugs worsens pre-psychotic symptoms and worsening psychosis increases the desire to use psychedelic drugs."



Signposting also involves using headings and subheadings. Your literature review will use APA formatting, which means you need to follow their rules for bolding, capitalization, italicization, and indentation of headings. Headings help your reader understand the structure of your literature review. They can also help if the reader gets lost and needs to re-orient themselves within the document. We often tell our students to assume we know nothing (they don't mind) and need to be shown exactly where they are addressing each part of the literature review. It's like walking a small child around, telling them "First we'll do this, then we'll do that, and when we're done, we'll know this!"

Another way to use signposting is to open each paragraph with a sentence that links the topic of the

paragraph with the one before it. Alternatively, one could end each paragraph with a sentence that links it with the next paragraph. For example, imagine we wanted to link a paragraph about barriers to accessing healthcare with one about the relationship between the patient and physician. We could use a transition sentence like this: "Even if patients overcome these barriers to accessing care, the physician-patient relationship can create new barriers to positive health outcomes." A transition sentence like this builds a connection between two distinct topics. Transition sentences are also useful within paragraphs. They tell the reader how to consider one piece of information in light of previous information. Even simple transitional words like 'however' and 'similarly' can help demonstrate critical thinking and link each building block of your argument together.

Many beginning researchers have difficulty incorporating transitions into their writing. Let's look at an example. Instead of beginning a sentence or paragraph by launching into a description of a study, such as "Williams (2004) found that…," it is better to start by indicating something about why you are describing this particular study. Here are some simple examples:

- Another example of this phenomenon comes from the work of Williams (2004)…
- Williams (2004) offers one explanation of this phenomenon…
- An alternative perspective has been provided by Williams (2004)…

Now that we know to use signposts, the natural question is "What goes on the signposts?" First, it is important to start with an outline of the main points that you want to make, organized in the order you want to make them. The basic structure of your argument should then be apparent from the outline itself. Unfortunately, there is no formula we can give you that will work for everyone, but we can provide some general pointers on structuring your literature review.

The literature review tends to move from general to more specific ideas. You can build a review by identifying areas of consensus and areas of disagreement. You may choose to present historical studies—preferably seminal studies that are of significant importance—and close with the most recent research. Another approach is to start with the most distantly related facts and literature and then report on those most closely related to your research question. You could also compare and contrast valid approaches, features, characteristics, theories – that is, one approach, then a second approach, followed by a third approach.

Here are some additional tips for writing the body of your literature review:

- Start broad and then narrow down to more specific information.
- When appropriate, cite two or more sources for a single point, but avoid long strings of references for a single idea.
- Use quotes sparingly. Quotations for definitions are okay, but reserve quotes for when something is said so well you couldn't possible phrase it differently. Never use quotes for statistics.
- Paraphrase when you need to relay the specific details within an article
- Include only the aspects of the study that are relevant to your literature review. Don't insert extra

facts about a study just to take up space.
- Avoid reflective, personal writing. It is traditional to avoid using first-person language (I, we, us, etc.).
- Avoid informal language like contractions, idioms, and rhetorical questions.
- Note any sections of your review that lack citations from the literature. Your arguments need to be based in empirical or theoretical facts. Do not approach this like a reflective journal entry.
- Point out consistent findings and emphasize stronger studies over weaker ones.
- Point out important strengths and weaknesses of research studies, as well as contradictions and inconsistent findings.
- Implications and suggestions for further research (where there are gaps in the current literature) should be specific.

The conclusion should summarize your literature review, discuss implications, and create a space for further research needed in this area. Your conclusion, like the rest of your literature review, should make a point. What are the important implications of your literature review? How do they inform the question you are trying to answer?

You should consult with your professor and the course syllabus about the final structure your literature review should take. Here is an example of one possible structure:

- Problem statement
    - Establish the importance of the topic
    - Number and type of people affected
    - Seriousness of the impact
    - Physical, psychological, economic, social, or spiritual consequences of the problem
- Argument 1
    - Definitions of key terms
    - Supporting evidence
    - Common findings across studies, gaps in the literature
- Argument 2
    - Definitions of key terms
    - Supporting evidence
    - Common findings across studies, gaps in the literature
- Argument 3
    - Definitions of key terms
    - Supporting evidence
    - Common findings across studies, gaps in the literature
- Final paragraph
    - **Aim**
    - Research question(s) and hypothesis(es)

Editing your literature review

Literature reviews are more than a summary of the publications you find on a topic. As you have seen in this brief introduction, literature reviews represent a very specific type of research, analysis, and writing. We will explore these topics further in upcoming chapters. As you begin your literature review, here are some common errors to avoid:

- Accepting a researcher's finding as valid without evaluating methodology and data
- Ignoring contrary findings and alternative interpretations
- Using findings that are not clearly related to your own study or using findings that are too general
- Dedicating insufficient time to literature searching
- Reporting statistical results from a single study, rather than synthesizing the results of multiple studies to provide a comprehensive view of the literature on a topic
- Relying too heavily on secondary sources
- Overusing quotations
- Not justifying arguments using specific facts or theories from the literature

> For a quick review of some of the pitfalls and challenges a new researcher faces when they begin work, see "Get Ready: Academic Writing, General Pitfalls and (oh yes) Getting Started!"

For your literature review, remember that your goal is to construct an argument for the importance of your research question. As you start editing your literature review, make sure it is balanced. Accurately report common findings, areas where studies contradict each other, new theories or perspectives, and how studies cause us to reaffirm or challenge our understanding of your topic.

It is acceptable to argue that the balance of the research supports the existence of a phenomenon or is consistent with a theory (and that is usually the best that researchers in social work can hope for), but it is not acceptable to ignore contradictory evidence. A large part of what makes a research question interesting is uncertainty about its answer (University of Minnesota, 2016).[14]

In addition to subjectivity and bias, writer's block can obstruct the completion of your literature review. Often times, writer's block can stem from confusing the creating and editing parts of the writing process. Many writers often start by simply trying to type out what they want to say, regardless of how good it is. Author Anne Lamott (1995)[15] terms these "shitty first drafts," and we all write them. They are a natural and important part of the writing process.

Even if you have a detailed outline from which to work, the words are not going to fall into place perfectly the first time you start writing. You should consider turning off the editing and critiquing part of your brain for a while and allow your thoughts to flow. Don't worry about putting a correctly

formatted internal citation (as long as *you* know which source you used there) when you first write. Just get the information out. Only after you've reached a natural stopping point might you go back and edit your draft for grammar, APA style, organization, flow, and more. Divorcing the writing and editing process can go a long way to addressing writer's block—as can picking a topic about which you have something to say!

As you are editing, keep in mind these questions adapted from Green (2012):[16]

- Content: Have I clearly stated the main idea or purpose of the paper? Is the thesis or focus clearly presented and appropriate for the reader?
- Organization: How well is it structured? Is the organization spelled out and easy to follow for the reader ?
- Flow: Is there a logical flow from section to section, paragraph to paragraph, sentence to sentence? Are there transitions between and within paragraphs that link ideas together?
- Development: Have I validated the main idea with supporting material? Are supporting data sufficient? Does the conclusion match the introduction?
- Form: Are there any APA style issues, redundancy, problematic wording and terminology (always know the definition of any word you use!), flawed sentence constructions and selection, spelling, and punctuation?

APA Style

Social workers use the APA style guide to format and structure their literature reviews. Most students know APA style only as it relates to internal and external citations. If you are confused about them, consult this amazing APA style guide from the University of Texas-Arlington library. Your university's library likely has resources they created to help you with APA style, and you can meet with a librarian or your professor to talk about formatting questions you have. Make sure you budget in a few hours at the end of each project to build a correctly formatted references page and check your internal citations.

Of course, APA style is about much more than knowing there is a period after "et al." or citing the location a book was published. APA style is also about what the profession considers to be good writing. If you haven't picked up an APA publication manual because you use citation generators, know that I did the same thing when I was in school. Purchasing the APA manual can help you with a common problem we hear about from students. Every professor (and every website about APA style) seems to have their own peculiar idea of "correct" APA style that you can, if needed, demonstrate is not accurate.

Here are some additional resources, if you would like more guidance on writing your literature review.

Doing a literature review / University of Leicester

Get lit: The literature review / Texas A&M Writing Centre

Guidebook for social work literature reviews / by Rebecca Mauldin and Matthew DeCarlo

Key Takeaways

- A literature review is not a book report. Do not organize it by article, with one paragraph for each source in your references. Instead, organize it based on the key ideas and arguments.
- The problem statement draws the reader into your topic by highlighting the importance of the topic to social work and to society overall.
- Signposting is an important component of academic writing that helps your reader follow the structure of your argument and of your literature review.
- Transitions demonstrate critical thinking and help guide your reader through your arguments.
- Editing and writing are separate processes.
- Consult with an APA style guide or a librarian to help you format your paper.

Exercises

Look at your professor's prompt for the literature review component of your research proposal (or if you don't have one, use the example question provided in this section).

- Write 2-3 facts you would use to address each question or component in the prompt.
- Reflect on which questions you have a lot of information about and which you need to gather more information about in order to answer adequately.

Outline the structure of your literature review using your concept map from Section 5.2 as a guide.

- Identify the key arguments you will make and how they are related to each other.
- Reflect on topic sentences and concluding sentences you would use for each argument.

Media Attributions

- Numbers © Pop and Zebra is licensed under a CC0 (Creative Commons Zero) license
- summary table © Laura Frederiksen is licensed under a Public Domain license
- problem-2731501_1920 © Geralt is licensed under a CC0 (Creative Commons Zero) license

- sign-2080927_1920 © MariaMichelle is licensed under a CC0 (Creative Commons Zero) license

Notes

1. It wouldn't make any sense to say that people's workplace experiences *cause* their gender, so in this example, the question of which is the independent variable and which are the dependent variables has a pretty obvious answer.
2. Cassidy, S. A., Dimova, R., Giguère, B., Spence, J. R., & Stanley, D. J. (2019). Failing grade: 89% of introduction-to-psychology textbooks that define or explain statistical significance do so incorrectly. *Advances in Methods and Practices in Psychological Science*, 2(3), 233-239.
3. Wasserstein, R. L., & Lazar, N. A. (2016). The ASA statement on p-values: context, process, and purpose. *The American Statistician*, 70, p. 129-133.
4. Wasserstein, R. L., & Lazar, N. A. (2016). The ASA statement on p-values: context, process, and purpose. *The American Statistician*, 70, p. 129-133.
5. Head, M. L., Holman, L., Lanfear, R., Kahn, A. T., & Jennions, M. D. (2015). The extent and consequences of p-hacking in science. *PLoS biology*, 13(3).
6. Peng, R. (2015), The reproducibility crisis in science: A statistical counterattack. *Significance*, 12, 30–32.
7. Wasserstein, R. L., & Lazar, N. A. (2016). The ASA statement on p-values: context, process, and purpose. *The American Statistician*, 70, p. 129-133.
8. Greenland, S., Senn, S. J., Rothman, K. J., Carlin, J. B., Poole, C., Goodman, S. N., & Altman, D. G. (2016). Statistical tests, P values, confidence intervals, and power: a guide to misinterpretations. *European journal of epidemiology*, 31(4), 337-350.
9. Bonanno, R., & Veselak, K. (2019). A matter of trust: Parents attitudes towards child mental health information sources. *Advances in Social Work*, 19(2), 397-415.
10. Bernnard, D., Bobish, G., Hecker, J., Holden, I., Hosier, A., Jacobson, T., Loney, T., & Bullis, D. (2014). Presenting: Sharing what you've learned. In Bobish, G., & Jacobson, T. (eds.) *The information literacy users guide: An open online textbook*. https://milnepublishing.geneseo.edu/the-information-literacy-users-guide-an-open-online-textbook/chapter/present-sharing-what-youve-learned/
11. Leslie, M., Floyd, J., & Oermann, M. (2002). Use of MindMapper software for research domain mapping. *Computers, informatics, nursing*, 20(6), 229-235.
12. Early Childhood Longitudinal Program. (2011). *Example research questions*. https://nces.ed.gov/ecls/researchquestions2011.asp
13. Burnett, D. (2012). Inscribing knowledge: Writing research in social work. In W. Green & B. L. Simon (Eds.), *The Columbia guide to social work writing* (pp. 65-82). New York, NY: Columbia University Press.
14. University of Minnesota Libraries Publishing. (2016). This is a derivative of *Research Methods in Psychology* by a publisher who has requested that they and the original author not receive attribution, which was originally released and is used under CC BY-NC-SA. This work, unless otherwise expressly stated, is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License
15. Lamott, A. (1995). *Bird by bird: Some instructions on writing and life*. New York, NY: Penguin.
16. Green, W. Writing strategies for academic papers. In W. Green & B. L. Simon (Eds.), *The Columbia guide to social work writing* (pp. 25-47). New York, NY: Columbia University Press.

PART 2: CONCEPTUALIZING YOUR RESEARCH PROJECT

6. Research ethics

Chapter Outline

1. Human subjects research (19 minute read)
2. Specific ethical issues to consider (12 minute read)
3. Benefits and harms of research across the ecosystem (7 minute read)
4. Being an ethical researcher (8 minute read)

Content warning: examples in this chapter contain references to numerous incidents of unethical medical experimentation (e.g. intentionally injecting diseases into unknowing participants, withholding proven treatments), social experimentation under extreme conditions (e.g. being directed to deliver electric shocks to test obedience), violations of privacy, gender and racial inequality, research with people who are incarcerated or on parole, experimentation on animals, abuse of people with Autism, community interactions with law enforcement, WWII, the Holocaust, and Nazi activities (especially related to research on humans).

With your literature review underway, you are ready to begin thinking in more concrete terms about your research topic. Recall our discussion in Chapter 2 on practical and ethical considerations that emerge as part of the research process. In this chapter, we will expand on the ethical boundaries that social scientists must abide by when conducting human subjects research. As a result of reading this chapter, you should have a better sense of what is possible and ethical for the research project you create.

6.1 Human subjects research

Learning Objectives

Learners will be able to...

- Understand what we mean by ethical research and why it is important
- Understand some of the egregious ethical violations that have occurred throughout history

While all research comes with its own set of ethical concerns, those associated with research conducted on human subjects vary dramatically from those of research conducted on nonliving entities. The US Department of Health and Human Services (USDHHS) defines a **human subject** as "a living individual

about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information" (USDHHS, 1993, para. 1).[1] Some researchers prefer the term "participants" to "subjects'" as it acknowledges the agency of people who participate in the study. For our purposes, we will use the two terms interchangeably.

In some states, human subjects also include deceased individuals and human fetal materials. Nonhuman research subjects, on the other hand, are objects or entities that investigators manipulate or analyze in the process of conducting research. Nonhuman research subjects typically include sources such as newspapers, historical documents, pieces of clothing, television shows, buildings, and even garbage (to name just a few), that are analyzed for unobtrusive research projects. Unsurprisingly, research on human subjects is regulated much more heavily than research on nonhuman subjects. This is why many student research projects use data that is publicly available, rather than recruiting their own study participants. However, there are ethical considerations that all researchers must take into account, regardless of their research subject. We'll discuss those considerations in addition to concerns that are unique to human subject research.

Why do research participants need protection?

First and foremost, we are professionally bound to engage in the ethical practice of research. This chapter discusses ethical research and will show you how to engage in research that is consistent with the NASW Code of Ethics as well as national and international ethical standards all researchers are accountable to. Before we begin, we need to understand the historical occurrences that were the catalyst for the formation of the current ethical standards. This chapter will enable you to view ethics from a micro, mezzo, and macro perspective.

The research process has led to many life-changing discoveries; these have improved life expectancy, improved living conditions, and helped us understand what contributes to certain social problems. That said, not all research has been conducted in respectful, responsible, or humane ways. Unfortunately, some research projects have dramatically marginalized, oppressed, and harmed participants and whole communities.

Would you believe that the following actions have been carried out in the name of research? I realize there was a content warning at the beginning of the chapter, but it is worth mentioning that the list below of research atrocities may be particularly upsetting or triggering.

- intentionally froze healthy body parts of prisoners to see if they could develop a treatment for freezing[2]
- scaled the body parts of prisoners to how best to treat soldiers who had injuries from being exposed to high

temperatures[3]

- intentionally infected healthy individuals to see if they could design effective methods of treatment for infections[4]
- gave healthy people TB to see if they could treat it[5]
- attempted to transplant limbs, bones, and muscles to another person to see if this was possible[6]
- castrated and irradiated genitals to see if they could develop a faster method of sterilization[7]
- starved people and only allowed them to drink seawater to see if they could make saline water drinkable[8]
- artificially inseminated women with animal sperm to see what would happen[9]
- gassed living people to document how they would die[10]
- conducted cruel experiments on people and if they did not die, would kill them so they could undergo an autopsy[11]
- refused to treat syphilis in African American men (when treatment was available) because they wanted to track the progression of the illness[12]
- vivisected humans without anesthesia to see how illnesses that researches gave prisoners impacted their bodies[13]
- intentionally tried to infect prisoners with the Bubonic Plague[14]
- intentionally infected prisoners, prostitutes, soldiers, and children with syphilis to study the disease's progression[15]
- performed gynecological experiments on female slaves without anesthesia to investigate new surgical methods[16]

The sad fact is that not only did all of these occur, in many instances, these travesties continued for years until exposed and halted. Additionally, these examples have contributed to the formation of a legacy of distrust toward research. Specifically, many underrepresented groups have a deep distrust of agencies that implement research and are often skeptical of research findings. This has made it difficult for groups to support and have confidence in medical treatments, advances in social service programs, and evidence-informed policy changes. While the aforementioned unethical examples may have ended, this deep and painful wound on the public's trust remains. Consequently, we must be vigilant in our commitment to ethical research.



Many of the situations described may seem like extreme historical cases of misuse of power as researchers. However, ethical problems in research don't just happen in these extreme occurrences. None of us are immune to making unethical choices and the ethical practice of research requires

conscientious mindful attention to what we are asking of our research participants. A few examples of less noticeable ethical issues might include: failing to fully explain to someone in advance what their participation might involve because you are in a rush to recruit a large enough sample; or only presenting findings that support your ideas to help secure a grant that is relevant to your research area. Remember, any time research is conducted with human beings, there is the chance that ethical violations may occur that pose social, emotional, and even physical risks for groups, and this is especially true when vulnerable or oppressed groups are involved.

A brief history of unethical social science research

Research on humans hasn't always been regulated in the way it is today. The earliest documented cases of research using human subjects are of medical vaccination trials (Rothman, 1987).[17] One such case took place in the late 1700s, when scientist Edward Jenner exposed an 8-year-old boy to smallpox in order to identify a vaccine for the devastating disease. Medical research on human subjects continued without much law or policy intervention until the mid-1900s when, at the end of World War II, a number of Nazi doctors and scientists were put on trial for conducting human experimentation during the course of which they tortured and murdered many concentration camp inmates (Faden & Beauchamp, 1986).[18] The trials, conducted in Nuremberg, Germany, resulted in the creation of the **Nuremberg Code**, a 10-point set of research principles designed to guide doctors and scientists who conduct research on human subjects. Today, the Nuremberg Code guides medical and other research conducted on human subjects, including social scientific research.

Medical scientists are not the only researchers who have conducted questionable research on humans. In the 1960s, psychologist Stanley Milgram (1974)[19] conducted a series of experiments designed to understand obedience to authority in which he tricked subjects into believing they were administering an electric shock to other subjects. In fact, the shocks weren't real at all, but some, though not many, of Milgram's research participants experienced extreme emotional distress after the experiment (Ogden, 2008).[20] A reaction of emotional distress is understandable. The realization that one is willing to administer painful shocks to another human being just because someone who looks authoritative has told you to do so might indeed be traumatizing—even if you later learn that the shocks weren't real.

Around the same time that Milgram conducted his experiments, sociology graduate student Laud Humphreys (1970)[21] was collecting data for his dissertation on the tearoom trade, which was the practice of men engaging in anonymous sexual encounters in public restrooms. Humphreys wished to understand who these men were and why they participated in the trade. To conduct his research, Humphreys offered to serve as a "watch queen," in a local park restroom where the tearoom trade was known to occur. His role would be to keep an eye out for police while also getting the benefit of being able to watch the sexual encounters. What Humphreys did not do was identify himself as a researcher to his research subjects. Instead, he watched his subjects for several months, getting to know several of them, learning more about the tearoom trade practice and, without the knowledge of his research

subjects, jotting down their license plate numbers as they pulled into or out of the parking lot near the restroom.



Sometime after participating as a watch queen, with the help of several insiders who had access to motor vehicle registration information, Humphreys used those license plate numbers to obtain the names and home addresses of his research subjects. Then, disguised as a public health researcher, Humphreys visited his subjects in their homes and interviewed them about their lives and their health. Humphreys' research dispelled a good number of myths and stereotypes about the tearoom trade and its participants. He learned, for example, that over half of his subjects were married to women and many of them did not identify as gay or bisexual.[22]

Once Humphreys' work became public, there was some major controversy at his home university (e.g., the chancellor tried to have his degree revoked), among scientists in general, and among members of the public, as it raised public concerns about the purpose and conduct of social science research. In addition, the *Washington Post* journalist Nicholas von Hoffman wrote the following warning about "sociological snoopers":

> We're so preoccupied with defending our privacy against insurance investigators, dope sleuths, counterespionage men, divorce detectives and credit checkers, that we overlook the social scientists behind the hunting blinds who're also peeping into what we thought were our most private and secret lives. But they are there, studying us, taking notes, getting to know us, as indifferent as everybody else to the feeling that to be a complete human involves having an aspect of ourselves that's unknown (von Hoffman, 1970).[23]

In the original version of his report, Humphreys defended the ethics of his actions. In 2008[24], years after Humphreys' death, his book was reprinted with the addition of a retrospect on the ethical implications of his work. In his written reflections on his research and the fallout from it, Humphreys maintained that his tearoom observations constituted ethical research on the grounds that those interactions occurred in public places. But Humphreys added that he would conduct the second part of his research

differently. Rather than trace license numbers and interview unwitting tearoom participants in their homes under the guise of public health research, Humphreys instead would spend more time in the field and work to cultivate a pool of informants. Those informants would know that he was a researcher and would be able to fully **consent** to being interviewed. In the end, Humphreys concluded "there is no reason to believe that any research subjects have suffered because of my efforts, or that the resultant demystification of impersonal sex has harmed society" (Humphreys, 2008, p. 231).[25]

Today, given increasing regulation of social scientific research, chances are slim that a researcher would be allowed to conduct a project similar to Humphreys'. Some argue that Humphreys' research was deceptive, put his subjects at risk of losing their families and their positions in society, and was therefore unethical (Warwick, 1973; Warwick, 1982).[26] Others suggest that Humphreys' research "did not violate any premise of either **beneficence** or the sociological interest in social justice" and that the benefits of Humphreys' research, namely the dissolution of myths about the tearoom trade specifically and human sexual practice more generally, outweigh the potential risks associated with the work (Lenza, 2004, p. 23).[27] What do you think, and why?

These and other studies (Reverby, 2009)[28] led to increasing public awareness of and concern about research on human subjects. In 1974, the US Congress enacted **the National Research Act**, which created the National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research. The commission produced ***The Belmont Report***, a document outlining basic ethical principles for research on human subjects (National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research, 1979).[29] The National Research Act (1974)[30] also required that all institutions receiving federal support establish **institutional review boards (IRBs)** to protect the rights of human research subjects. Since that time, many organizations that do not receive federal support but where research is conducted have also established review boards to evaluate the ethics of the research that they conduct. IRBs are overseen by the federal **Office of Human Research Protections**.



The Belmont Report

As mentioned above, The Belmont Report is a federal document that outlines the foundational principles that guide the ethical practice of research in the United States. These ethical principles include: respect for persons, beneficence, and justice. Each of these terms has specific implications as they are applied to the practice of research. These three principles arose as a response to many of the mistreatment and abuses that have been previously discussed and provide important guidance as researchers consider how they will construct and conduct their research studies. As you are crafting your research proposal, makes sure you are mindful of these important ethical guidelines.

Respect for Persons

As social workers, our professional code of ethics requires that we recognize and respect the "inherent dignity and worth of the person."[31] This is very similar to the ethical research principle of **respect for persons**. According to this principle, as researchers, we need to treat all research participants with respect, dignity and inherent autonomy. This is reflected by ensuring that participants have self-determination to make informed decisions about their participation in research, that they have a clear understanding of what they will be asked to do and any risks involved, and that their participation is voluntary and can be stopped at any time. Furthermore, for those persons who may have **diminished autonomy** (e.g. children, people who are incarcerated), extra protections must be built in to these research studies to ensure that respect for persons continues to be demonstrated towards these groups, as they may be especially vulnerable to exploitation and **coercion** through the research process. A critical tool in establishing respect for persons in your research is the **informed consent** process, which will be discussed in more detail below.

Beneficence

You may not be familiar with this word yet, but the concept is pretty straightforward. The main idea with **beneficence** is that the intent of research is to do good. As researchers, to accomplish this, we seek to maximize benefits and minimize risks. Benefits may be something good or advantageous directly received by the research participant, or they may represent a broader good to a wider group of people or the scientific community at large (such as increasing knowledge about the topic or social problem that you are studying). Risks are potential physical, social, or emotional harm that may come about as a response to participation in a study. These risks may be more immediate (e.g. risk of identifying information about a participant being shared, or a participant being upset or triggered by a particular question), or long-term (e.g. some aspect about the person could be shared that could lead to long-

term stigmatization). As researchers, we need to think about risk that might be experienced by the individual, but also risks that might be directed towards the community or population(s) the individual may represent. For instance, if our study is specifically focused on surveying single parents, we need to consider how the sharing of our findings might impact this group and how they are perceived. It is a very rare study in which there is no risk to participants. However, a well-designed and ethically sound study will seek to minimize these risks, provide resources to anticipate and address them, and maximize the benefits that are gained through the study.

Justice

The final ethical principle we need to cover is justice. While you likely have some idea what **justice** is, for the purposes of research, justice is the idea that the benefits and the burdens of research are distributed fairly across populations and groups. To help illustrate the concept of justice in research, research in the area of mental health and psychology has historically been critiqued as failing to adequately represent women and people of diverse racial and ethnic groups in their samples (Cundiff, 2012).[32] This has created a body of knowledge that is overly representative of the white male experience, further reinforcing systems of power and privilege. In addition, consider the influence of language as it relates to research justice. If we create studies that only recruit participants fluent in English, which many studies do, we are often failing to satisfy the ethical principle of justice as it applies to people who don't speak English. It is unrealistic to think that we can represent all people in all studies. However, we do need to thoughtfully acknowledge voices that might not be reflected in our samples and attempt to recruit diverse and representative samples whenever possible.

These three principles provide the foundation for the oversight work that is carried out by Institutional Review Boards, our next topic.

Institutional review boards

Institutional review boards, or IRBs, are tasked with ensuring that the rights and welfare of human research subjects will be protected at all institutions, including universities, hospitals, nonprofit research institutions, and other organizations, that receive federal support for research. IRBs typically consist of members from a variety of disciplines, such as sociology, economics, education, social work, and communications (to name a few). Most IRBs also include representatives from the community in which they reside. For example, representatives from nearby prisons, hospitals, or treatment centers might sit on the IRBs of university campuses near them. The diversity of membership helps to ensure that the many and complex ethical issues that may arise from human subjects research will be considered fully and by a knowledgeable and experienced panel. Investigators conducting research on

human subjects are required to submit proposals outlining their research plans to IRBs for review and approval prior to beginning their research. Even students who conduct research on human subjects must have their proposed work reviewed and approved by the IRB before beginning any research (though, on some campuses, exceptions are made for student projects that will not be shared outside of the classroom).



The IRB has three levels of review, defined in statute by the USDHHS.

Exempt

Exempt review is the lowest level of review. Studies that are considered exempt expose participants to the least potential for harm and often involve little participation by human subjects. In social work, exempt studies often examine data that is publicly available or secondary data from another researcher that has been de-identified by the person who collected it.

Expedited

Expedited review is the middle level of review. Studies considered under expedited review do not have to go before the full IRB board because they expose participants to minimal risk. However, the studies must be thoroughly reviewed by a member of the IRB committee. While there are many types of studies that qualify for expedited review, the most relevant to social workers include the use of existing medical records, recordings (such as interviews) gathered for research purposes, and research on individual group characteristics or behavior.

Full board

Finally, the highest level of review is called a **full board review**. A full board review will involve multiple members of the IRB evaluating your proposal. When researchers submit a proposal under full board review, the full IRB board will meet, discuss any questions or concerns with the study, invite the researcher to answer questions and defend their proposal, and vote to approve the study or send it back for revision. Full board proposals pose greater than minimal risk to participants. They may also involve the participation of **vulnerable populations**, or people who need additional protection from the IRB. Vulnerable populations include prisoners, children, people with cognitive impairments, people with physical disabilities, employees, and students. While some of these populations can fall under expedited review in some cases, they will often require the full IRB to approve their study.

It may surprise you to hear that IRBs are not always popular or appreciated by researchers. Who wouldn't want to conduct ethical research, you ask? In some cases, the concern is that IRBs are most well-versed in reviewing biomedical and experimental research, neither of which is particularly common within social work. Much social work research, especially qualitative research, is open-ended in nature, a fact that can be problematic for IRBs. The members of IRBs often want to know in advance exactly who will be observed, where, when, and for how long, whether and how they will be approached, exactly what questions they will be asked, and what predictions the researcher has for their findings. Providing this level of detail for a year-long participant observation within an activist group of 200-plus members, for example, would be extraordinarily frustrating for the researcher in the best case and most likely would prove to be impossible. Of course, IRBs do not intend to have researchers avoid studying controversial topics or avoid using certain methodologically sound data collection techniques, but unfortunately, that is sometimes the result. The solution is not to eradicate review boards, which serve a necessary and important function, but instead to help educate IRB members about the variety of social scientific research methods and topics covered by social workers and other social scientists.

What we have provided here is only a short summary of federal regulations and international agreements that provide the boundaries between ethical and unethical research.

Here are a few more detailed guides for continued learning about research ethics and human research protections.

- University of California, San Francisco: Levels of IRB Review
- United States Department of Health and Human Services: The Belmont Report
- NIH, National Institute of Environmental Health Sciences: What is Ethics in Research & Why is it important
- NIH: Guiding Principles for Ethical Research
- Council on Social Work Education: National Statement on Research Integrity in Social Work
- Butler, I. (2002). A code of ethics for social work and social care research. *British Journal of Social Work*, 32(2), 239-248

Key Takeaways

- Research on human subjects presents a unique set of challenges and opportunities when it comes to conducting ethical research.
- Research on human subjects has not always been regulated to the extent that it is today.
- All institutions receiving federal support for research must have an IRB. Organizations that do not receive federal support but where research is conducted also often include IRBs as part of their organizational structure.
- Researchers submit studies for IRB review at one of three different levels, depending on the level of harm the study may cause.

Exercises

- Recall whether your project will gather data from human subjects and sketch out what the data collection process might look like.
- Identify which level of IRB review is most appropriate for your project.
- For many students, your professors may have existing agreements with your university's IRB that allow students to conduct research projects outside the supervision of the IRB. Make sure that your project falls squarely within those parameters. If you feel you may be outside of such an agreement, consult with your professor to see if you will need to submit your study for IRB review before starting your project.

6.2 Specific ethical issues to consider

Learning Objectives

Learners will be able to...

- Define informed consent, and describe how it works
- Identify the unique concerns related to the study of vulnerable populations
- Differentiate between anonymity and confidentiality
- Explain the ethical responsibilities of social workers conducting research

As should be clear by now, conducting research on humans presents a number of unique ethical considerations. Human research subjects must be given the opportunity to consent to their

participation in research, and be fully informed of the study's risks, benefits, and purpose. Further, subjects' identities and the information they share should be protected by researchers. Of course, how consent and identity protection are defined may vary by individual researcher, institution, or academic discipline. In this section, we'll take a look at a few specific topics that individual researchers must consider before embarking on research with human subjects.

Informed consent

An expectation of voluntary participation is presumed in all social work research projects. In other words, we cannot force anyone to participate in our research without that person's knowledge or consent. Researchers must therefore design procedures to obtain subjects' informed consent to participate in their research. This specifically relates back to the ethical principle of respect for persons outlined in *The Belmont Report*. **Informed consent** is defined as a subject's voluntary agreement to participate in research based on a full understanding of the research and of the possible risks and benefits involved. Although it sounds simple, ensuring that one has actually obtained informed consent is a much more complex process than you might initially presume.

The first requirement is that, in giving their informed consent, subjects may neither waive nor even *appear* to waive any of their legal rights. Subjects also cannot release a researcher, her sponsor, or institution from any legal liability should something go wrong during the course of their participation in the research (USDHHS,2009).[33] Because social work research does not typically involve asking subjects to place themselves at risk of physical harm by, for example, taking untested drugs or consenting to new medical procedures, social work researchers do not often worry about potential liability associated with their research projects. However, their research may involve other types of risks.

For example, what if a social work researcher fails to sufficiently conceal the identity of a subject who admits to participating in a local swinger's club? In this case, a violation of confidentiality may negatively affect the participant's social standing, marriage, custody rights, or employment. Social work research may also involve asking about intimately personal topics that may be difficult for participants to discuss, such as trauma or suicide. Participants may re-experience traumatic events and symptoms when they participate in your study. Even if you are careful to fully inform your participants of all risks before they consent to the research process, I'm sure you can empathize with thinking you could bear talking about a difficult topic and then finding it too overwhelming once you start. In cases like these, it is important for a social work researcher to have a plan to provide supports. This may mean providing referrals to counseling supports in the community or even calling the police if the participant is an imminent danger to himself or others.

It is vital that social work researchers explain their mandatory reporting duties in the consent form and ensure participants understand them before they participate. Researchers should also emphasize to participants that they can stop the research process at any time or decide to withdraw from the

research study for any reason. Importantly, it is not the job of the social work researcher to act as a clinician to the participant. While a supportive role is certainly appropriate for someone experiencing a mental health crisis, social workers must ethically avoid dual roles. Referring a participant in crisis to other mental health professionals who may be better able to help them is the expectation.

Beyond the legal issues, most IRBs require researchers to share some details about the purpose of the research, possible benefits of participation, and, most importantly, possible risks associated with participating in that research with their subjects. In addition, researchers must describe how they will protect subjects' identities, how, where, and for how long any data collected will be stored, how findings may be shared, and whom to contact for additional information about the study or about subjects' rights. All this information is typically shared in an informed consent form that researchers provide to subjects. In some cases, subjects are asked to sign the consent form indicating that they have read it and fully understand its contents. In other cases, subjects are simply provided a copy of the consent form and researchers are responsible for making sure that subjects have read and understand the form before proceeding with any kind of data collection. Your IRB will often provide guidance or even templates for what they expect to see included in an informed consent form. This is a document that they will inspect very closely. Table 6.1 outlines elements to include in your informed consent. While these offer a guideline for you, you should always visit your schools, IRB website to see what guidance they offer. They often provide a template that they prefer researchers to use. Using these templates ensures that you are using the language that the IRB reviewers expect to see and this can also save you time.

Table 6.1 Elements to include in your informed consent

Elements	Brief description
Welcome	A greeting for your participants, a few words about who you/your team are, the aim of your study
Procedures	What your participants are being asked to do throughout the entire research process
Risks	Any potential risks associated with your study (this is very rarely none!); also, make sure to provide resources that address or mitigate the risks (e.g. counseling services, hotlines, EAP)
Benefits	Any potential benefits, either direct to participant or more broadly (indirect) to community or group; include any compensation here, as well
Privacy	Brief explanation of steps taken to protect privacy.; address confidentiality or anonymity (whichever applies); also address how the results of the study may be used/disseminated
Voluntary Nature	It is important to emphasize that participation is voluntary and can be stopped at any time
Contact Information	You will provide your contact information as the researcher and often the contact of the IRB that is providing approval for the study
Signatures	We will usually seek the signature and date of participant and researcher on these forms (unless otherwise specified and approved in your IRB application)

One last point to consider when preparing to obtain informed consent is that not all potential research subjects are considered equally competent or legally allowed to consent to participate in research. Subjects from vulnerable populations may be at risk of experiencing undue influence or coercion (USDHHS, 2009).[34] The rules for consent are more stringent for vulnerable populations. For example, minors must have the consent of a legal guardian in order to participate in research. In some cases, the minors themselves are also asked to participate in the consent process by signing special, age-appropriate assent forms designed specifically for them. Prisoners and parolees also qualify as vulnerable populations. Concern about the vulnerability of these subjects comes from the very real possibility that prisoners and parolees could perceive that they will receive some highly desired reward, such as early release, if they participate in research or that there could be punitive consequences if they choose not to participate. When a participant faces undue or excess pressure to participate by either favorable or unfavorable means, this is known as **coercion** and must be avoided by researchers.

Another potential concern regarding vulnerable populations is that they may be underrepresented or left out of research opportunities, specifically because of concerns about their ability to consent. So, on the one hand, researchers must take extra care to ensure that their procedures for obtaining consent from vulnerable populations are not coercive. The procedures for receiving approval to conduct research with these groups may be more rigorous than that for non-vulnerable populations. On the other hand, researchers must work to avoid excluding members of vulnerable populations from

participation simply on the grounds that they are vulnerable or that obtaining their consent may be more complex. While there is no easy solution to this ethical research dilemma, an awareness of the potential concerns associated with research on vulnerable populations is important for identifying whatever solution is most appropriate for a specific case.



Protection of identities

As mentioned earlier, the informed consent process includes the requirement that researchers outline how they will protect the identities of subjects. This aspect of the research process, however, is one of the most commonly misunderstood. Furthermore, failing to protect identities is one of the greatest risks to participants in social work research studies.

In protecting subjects' identities, researchers typically promise to maintain either the anonymity or confidentiality of their research subjects. These are two distinctly different terms and they are NOT interchangeable. Anonymity is the more stringent of the two and is very hard to guarantee in most research studies. When a researcher promises **anonymity** to participants, not even the researcher is able to link participants' data with their identities. Anonymity may be impossible for some social work researchers to promise due to the modes of data collection many social workers employ. Face-to-face interviewing means that subjects will be visible to researchers and will hold a conversation, making anonymity impossible. In other cases, the researcher may have a signed consent form or obtain personal information on a survey and will therefore know the identities of their research participants. In these cases, a researcher should be able to at least promise confidentiality to participants.

Offering **confidentiality** means that some identifying information is known at some time by the research team, but only the research team has access to this identifying information and this

information will not be linked with their data in any publicly accessible way. Confidentiality in research is quite similar to confidentiality in clinical practice. You know who your clients are, but others do not. You agree to keep their information and identity private. As you can see under the "Risks" section of the consent form in Figure 5.1, sometimes it is not even possible to promise that a subject's confidentiality will be maintained. This is the case if data are collected in public or in the presence of other research participants in the course of a focus group, for example. Participants who social work researchers deem to be of imminent danger to self or others or those that disclose abuse of children and other vulnerable populations fall under a social worker's duty to report. Researchers must then violate confidentiality to fulfill their legal obligations.

There are a number of steps that researchers can take to protect the identities of research participants. These include, but are not limited to:

- Collecting data in private spaces
- Not requesting information that will uniquely identify or "out" that person as a participant
- Assigning **study identification codes** or **pseudonyms**
- Keeping signed informed consent forms separate from other data provided by the participant
- Making sure that physical data is kept in a locked and secured location, and the virtual data is encrypted or password-protected
- Reporting data in aggregate (only discussing the data collectively, not by individual responses)

Protecting research participants' identities is not always a simple prospect, especially for those conducting research on stigmatized groups or illegal behaviors. Sociologist Scott DeMuth learned that all too well when conducting his dissertation research on a group of animal rights activists. As a participant observer, DeMuth knew the identities of his research subjects. So when some of his research subjects vandalized facilities and removed animals from several research labs at the University of Iowa, a grand jury called on Mr. DeMuth to reveal the identities of the participants in the raid. When DeMuth refused to do so, he was jailed briefly and then charged with conspiracy to commit animal enterprise terrorism and cause damage to the animal enterprise (Jaschik, 2009).[35]

Publicly, DeMuth's case raised many of the same questions as Laud Humphreys' work 40 years earlier. What do social scientists owe the public? Is DeMuth, by protecting his research subjects, harming those whose labs were vandalized? Is he harming the taxpayers who funded those labs? Or is it more important that DeMuth emphasize what he owes his research subjects, who were told their identities would be protected? DeMuth's case also sparked controversy among academics, some of whom thought that as an academic himself, DeMuth should have been more sympathetic to the plight of the faculty and students who lost years of research as a result of the attack on their labs. Many others stood by DeMuth, arguing that the personal and academic freedom of scholars must be protected whether we support their research topics and subjects or not. DeMuth's academic adviser even created a new group, Scholars for Academic Justice, to support DeMuth and other academics who face persecution or prosecution as a result of the research they conduct. What do you think? Should DeMuth have revealed the identities of his research subjects? Why or why not?

Discipline-specific considerations

Often times, specific disciplines will provide their own set of guidelines for protecting research subjects and, more generally, for conducting ethical research. For social workers, the National Association of Social Workers (NASW) Code of Ethics section 5.02 describes the responsibilities of social workers in conducting research. Summarized below, these responsibilities are framed as part of a social worker's responsibility to the profession. As representative of the social work profession, it is your responsibility to conduct and use research in an ethical manner.

A social worker should:

- Monitor and evaluate policies, programs, and practice interventions
- Contribute to the development of knowledge through research
- Keep current with the best available research evidence to inform practice
- Ensure voluntary and fully informed consent of all participants
- Not engage in any deception in the research process
- Allow participants to withdraw from the study at any time
- Provide access to appropriate supportive services for participants
- Protect research participants from harm
- Maintain confidentiality
- Report findings accurately
- Disclose any conflicts of interest

Key Takeaways

- Researchers must obtain the informed consent of research participants.
- Social workers must take steps to minimize the harms that could arise during the research process.
- If anonymity is promised, individual participants cannot be linked with their data.
- If confidentiality is promised, the identities of research participants cannot be revealed, even if individual participants can be linked with their data.
- The NASW Code of Ethics includes specific responsibilities for social work researchers.

Exercises

- Talk with your professor to see if an informed consent form is required for your research project. If documentation is required, customize the template provided by your professor or the IRB at your school, using

the details of your study. If documentation on consent is not required, for example if consent is given verbally, use the templates as guides to create a guide for what you will say to participants regarding informed consent.
- Identify whether your data will be confidential or anonymous. Describe the measures you will take to protect the identities of individuals in your study. How will you store the data? How will you ensure that no one can identify participants based on what you report in papers and presentations? Be sure to think carefully. People can be identified by characteristics such as age, gender, disability status, location, etc.

6.3 Benefits and harms of research across the ecosystem

Learning Objectives

Learners will be able to...

- Identify and distinguish between micro-, mezzo-, and macro-level considerations with respect to the ethical conduct of social scientific research

This chapter began with a long list of harmful acts that researchers engaged in while conducting studies on human subjects. Indeed, even the last section on informed consent and protection of confidential information can be seen in light of minimizing harm and maximizing benefits. The benefits of your study should be greater than the harms. But who benefits from your research study, and who might be harmed? The first person who benefits is, most clearly, you as the researcher. You need a project to complete, be it for a grade, a grant, an academic responsibility, etc. However you need to make sure that your benefit does not come at the expense of harming others. Furthermore, research requires resources, including resources from the communities we work with. Part of being good stewards of these resources as social work researchers means that we need to engage in research that benefits the people we serve in meaningful and relevant ways. We need to consider how others are impacted by our research.



Micro-, mezzo-, and macro-level concerns

One useful way to think about the breadth of ethical questions that might arise out of any research project is to think about potential issues from the perspective of different analytical levels that are familiar to us as social workers. In Chapter 1, you learned about the micro-, mezzo-, and macro-levels of inquiry and how a researcher's specific point of focus might vary depending on her level of inquiry. Here we'll apply this ecological framework to a discussion of research ethics. Within most research projects, there are specific questions that arise for researchers at each of these three levels.

At the micro-level, researchers must consider their own conduct and the impact on individual research participants. For example, did Stanley Milgram behave ethically when he allowed research participants to think that they were administering electric shocks to fellow participants? Did Laud Humphreys behave ethically when he deceived his research subjects about his own identity? Were the rights of individuals in these studies protected? How did these participants benefit themselves from the research that was conducted? While not social workers by trade, would the actions of these two researchers hold

up against our professional NASW Code of Ethics? The questions posed here are the sort that you will want to ask yourself as a researcher when considering ethics at the micro-level.

At the mezzo-level, researchers should think about their duty to the community. How will the results of your study impact your target population? Ideally, your results will benefit your target population by identifying important areas for social workers to intervene and to better understand the experiences of the communities they serve. However, it is possible that your study may perpetuate negative stereotypes about your target population or damage its reputation. Indigenous people in particular have highlighted how historically social science has furthered marginalization of indigenous peoples (Smith, 2013).[36] Mezzo-level concerns should also address other groups or organizations that are connected to your target population. This may include the human service agencies with whom you've partnered for your study as well as the communities and peoples they serve. If your study reflected negatively on a particular housing project in your area, for example, will community members seek to remove it from their community? Or might it draw increased law enforcement presence that is unwanted by participants or community members? Research is a powerful tool and can be used for many purposes, not all of them altruistic. In addition, research findings can have many implications, intended and unintended. As responsible researchers, we need to do our best to thoughtfully anticipate these consequences.

Finally, at the macro-level, a researcher should consider duty to, and the expectations of, society. Perhaps the most high-profile case involving macro-level questions of research ethics comes from debates over whether to use data gathered by, or cite published studies based on data gathered from, the Nazis in the course of their unethical and horrendous experiments on humans during World War II (Moe, 1984).[37] Some argue that because the data were gathered in such an unquestionably unethical manner, they should never be used. The data, say these people, are neither valid nor reliable and should therefore not be used in any current scientific investigation (Berger, 1990).[38]

On the other hand, some people argue that data themselves are neutral; that "information gathered is independent of the ethics of the methods and that the two are not linked together" (Pozos, 1992, p. 104).[39] Others point out that not using the data could inadvertently strengthen the claims of those who deny that the Holocaust ever happened. In his striking statement in support of publishing the data, medical ethics professor Velvl Greene (1992) says,

> Instead of banning the Nazi data or assigning it to some archivist or custodial committee, I maintain that it be exhumed, printed, and disseminated to every medical school in the world along with the details of methodology and the names of the doctors who did it, whether or not they were indicted, acquitted, or hanged....Let the students and the residents and the young doctors know that this was not ancient history or an episode from a horror movie where the actors get up after filming and prepare for another role. It was real. It happened yesterday (p. 169–170).[40]

While debates about the use of data collected by the Nazis are typically centered on medical scientists'

use of them, there are conceivable circumstances under which these data might be used by social scientists. Perhaps, for example, a social scientist might wish to examine contemporary reactions to the experiments. Or perhaps the data could be used in a study of the sociology of science. What do you think? Should data gathered by the Nazis be used or cited today? What arguments can you make in support of your position, and how would you respond to those who disagree?

Additionally at the macro-level, you must also consider your responsibilities to the profession of social work. When you engage in social work research, you stand on the reputation the profession has built for over a century. Since research is public-facing, meaning that research findings are intended to be shared publicly, you are an ambassador for the profession. How you conduct yourself as a social work researcher has potential implications for how the public perceives both social work and research. As a social worker, you have a responsibility to work towards greater social, environmental, and economic justice and human rights. Your research should reflect this responsibility. Attending to research ethics helps to fulfill your responsibilities to the profession, in addition to your target population.

Table 6.2 summarizes the key questions that researchers might ask themselves about the ethics of their research at each level of inquiry.

Table 6.2 Key questions for researchers about the ethics of their research at each level of inqu

Level of inquiry	Focus	Key ethics questions for researchers to ask themselves
Micro-level	Individual	Does my research interfere with the individual's right to privacy?
		Could my research offend subjects in any way, either the collection of data or the sharing of find
		Could my research cause emotional distress to any of my subjects?
		In what ways does my research benefit me?
		In what ways does my research benefit participants?
		Has my own conduct been ethical throughout the research process?
Mezzo-level	Group	How does my research portray my target population?
		Could my research positively or negatively impact various communities and the systems they are
		How do community members perceive my research?
		Have I met my duty to those who funded my research?
Macro-level	Society	What are potential ripple effects for my target population by conducting this research?
		Does my research meet the societal expectations of social research?
		What is the historical, political, social context of my research topic?
		Have I met my social responsibilities as a researcher and as a social worker?
		Does my research follow the ethical guidelines of my profession and discipline?
		How does my research advance social, environmental or economic justice and/or human rights?
		How does my research reinforce or challenge systems of power, control and structural oppressio

Unethical research impacts society well beyond the participants directly harmed by a given researcher. It is tempting to think of unethical research as a series of isolated incidents that took place a long time ago. This is alluring because it relieves us of the responsibility to ensure researchers are interacting with participants and communities in an ethical manner. Research ethics is not a historical problem, it is a present-day problem with historical roots. For example, see this Twitter thread criticizing studies of Applied Behavioral Analysis. Even a venerable researcher and public scientist like Dr. Anthony Fauci was in charge of National Institutes of Health (NIH) studies that coerced children in foster care into experiments for medications treating Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) (Solomon, 2005).[41]

Key Takeaways

- At the micro-level, researchers should consider their own conduct and the rights of individual research participants.
- At the mezzo-level, researchers should consider the expectations of their profession, any organizations that

may have funded their research, and the communities affected by their research.
- At the macro-level, researchers should consider their duty to and the expectations of society with respect to social science research.

Exercises

- Summarize the benefits and harms at the micro-, mezzo-, and macro-level of inquiry. At which level of inquiry is your research project?
- In a few sentences, identify whether the benefits of your study outweigh the potential harms.

6.4 Being an ethical researcher

Learning Objectives

Learners will be able to...

- Identify why researchers must provide a detailed description of methodology
- Describe what it means to use science in an ethical way

Research ethics has to do with both how research is conducted and how findings from that research are used. In this section, we'll consider research ethics from both angles.

Doing science the ethical way

As you should now be aware, researchers must consider their own personal ethical principles in addition to following those of their institution, their discipline, and their community. We've already considered many of the ways that social workers strive to ensure the ethical practice of research, such as informing and protecting subjects. But the practice of ethical research doesn't end once subjects have been identified and data have been collected. Social workers must also fully disclose their research

procedures and findings. This means being honest about how research subjects were identified and recruited, how exactly data were collected and analyzed, and ultimately, what findings were reached.

If researchers fully disclose how they conducted their research, then those who use their work to build research projects, create social policies, or make treatment decisions can have greater confidence in the work. By sharing how research was conducted, a researcher helps assure readers they have conducted legitimate research and didn't simply come to whatever conclusions they *wanted* to find. A description or presentation of research findings that is not accompanied by information about research methodology is missing relevant information. Sometimes methodological details are left out because there isn't time or space to share them. This is often the case with news reports of research findings. Other times, there may be a more insidious reason that important information is missing. This may be the case if sharing methodological details would call the legitimacy of a study into question. As researchers, it is our ethical responsibility to fully disclose our research procedures. As consumers of research, it is our ethical responsibility to pay attention to such details. We'll discuss this more in the next section.

There's a New Yorker cartoon that depicts a set of filing cabinets that aptly demonstrates what we don't want to see happen with research. Each filing cabinet drawer in the cartoon is labeled differently. The labels include such headings as, "Our Facts," "Their Facts," "Neutral Facts," "Disputable Facts," "Absolute Facts," "Bare Facts," "Unsubstantiated Facts," and "Indisputable Facts." The implication of this cartoon is that one might just choose to open the file drawer of her choice and pick whichever facts one likes best. While this may occur if we use some of the unscientific ways of knowing described in Chapter 1, it is fortunately not how the discovery of knowledge in social work, or in any other science for that matter, takes place. There actually is a method to this madness we call research. At its best, research reflects a systematic, transparent, informative process.

Honesty in research is facilitated by the scientific **principle of replication**. Ideally, this means that one scientist could repeat another's study with relative ease. By replicating a study, we may become more (or less) confident in the original study's findings. Replication is far more difficult (perhaps impossible) to achieve in the case of many qualitative studies, as our purpose is often a deep understanding of very specific circumstances, rather than the broad, generalizable knowledge we traditionally seek in quantitative studies. Nevertheless, **transparency** in the research process is an important standard for all social scientific researchers—that we provide as much detail as possible about the processes by which we reach our conclusions. This allows the quality of our research to be evaluated. Along with replication, **peer review** is another important principle of the scientific process. Peer review involves other knowledgeable researchers in our field of study to evaluate our research and to determine if it is of sufficient quality to share with the public. There are valid critiques of the peer review process: that it is biased towards studies with positive findings, that it may reinforce systemic barriers to oppressed groups accessing and leveraging knowledge, that it is far more subjective and/or unreliable than it claims to be. Despite these critiques, peer review remains a foundational concept for how scientific knowledge is generated.

Full disclosure also includes the need to be honest about a study's strengths and weaknesses, both with oneself and with others. Being aware of the strengths and weaknesses of your own work can help a researcher make reasonable recommendations about the next steps other researchers might consider taking in their inquiries. Awareness and disclosure of a study's strengths and weaknesses can also help highlight the theoretical or policy implications of one's work. In addition, openness about strengths and weaknesses helps those reading the research better evaluate the work and decide for themselves how or whether to rely on its findings. Finally, openness about a study's sponsors is crucial. How can we effectively evaluate research without knowing who paid the bills? This allows us to assess for potential **conflicts of interest** that may compromise the integrity of the research.

The standard of replicability, the peer-review process, and openness about a study's strengths, weaknesses, and funding sources enables those who read the research to evaluate it fairly and completely. Knowledge of funding sources is often raised as an issue in medical research. Understandably, independent studies of new drugs may be more compelling to the Food and Drug Administration (FDA) than studies touting the virtues of a new drug that happen to have been funded by the company who created that drug. But medical researchers aren't the only ones who need to be honest about their funding. If we know, for example, that a political think tank with ties to a particular party has funded some research, we can take that knowledge into consideration when reviewing the study's findings and stated policy implications. Lastly, and related to this point, we must consider how, by whom, and for what purpose research may be used.

Using science the ethical way

Science has many uses. By "use" I mean the ways that science is understood and applied (as opposed to the way it is conducted). Some use science to create laws and social policies; others use it to understand themselves and those around them. Some people rely on science to improve their life conditions or those of other people, while still others use it to improve their businesses or other undertakings. In each case, the most ethical way for us to use science is to educate ourselves about the design and purpose of any studies we may wish to use. This helps us to more adequately critique the value of this research, to recognize its strengths and limitations.

As part of my research course, students are asked to critique a research article. I often find in this assignment that students often have very lofty expectations for everything that 'should' be included in the journal article they are reviewing. While I appreciate the high standards, I often give them feedback that it is perhaps unrealistic (even unattainable) for a research study to be perfectly designed and described for public consumption. All research has limitations; this may be a consequence of limited resources, issues related to feasibility, and unanticipated roadblocks or problems as we are carrying out our research. Furthermore, the ways we disseminate or share our research often has restrictions on what and how we can share our findings. This doesn't mean that a study with limitations has no value—every study has limitations! However, as we are reviewing research, we should look for an open

discussion about **methodology**, strengths, and weaknesses of the study that helps us to interpret what took place and in what ways it may be important.

For instance, this can be especially important to think about in terms of a study's sample. It can be challenging to recruit a diverse and **representative sample** for your study (however, that doesn't mean we shouldn't try!). The next time you are reading research studies that were used to help establish an evidence based practice (EBP), make sure to look at the description of the sample. We cannot assume that what works for one group of people will uniformly work with all groups of people with very different life experiences; however, historically much of our intervention repertoire has been both created by and evaluated on white men. If research studies don't obtain a diverse sample, for whatever reason, we would expect that the authors would identify this as a limitation and an area requiring further study. We need to challenge our profession to provide practices, strategies, models, interventions, and policies that have been evaluated and tested for their efficacy with the diverse range of people that we work with as social workers.

Social scientists who conduct research on behalf of organizations and agencies may face additional ethical questions about the use of their research, particularly when the organization for which a study is conducted controls the final report and the publicity it receives. There is a potential conflict of interest for evaluation researchers who are employees of the agency being evaluated. A similar conflict of interest might exist between independent researchers whose work is being funded by some government agency or private foundation.

So who decides what constitutes ethical conduct or use of research? Perhaps we all do. What qualifies as ethical research may shift over time and across cultures as individual researchers, disciplinary organizations, members of society, and regulatory entities, such as institutional review boards, courts, and lawmakers, all work to define the boundaries between ethical and unethical research.

Key Takeaways

- Conducting research ethically requires that researchers be ethical not only in their data collection procedures but also in reporting their methods and findings.
- The ethical use of research requires an effort to understand research, an awareness of your own limitations in terms of knowledge and understanding, and the honest application of research findings.

Exercises

- Think about your research hypothesis at this point. What would happen if your results revealed information that could harm the population you are studying? What are your ethical responsibilities as far as reporting about

your research?
- Ultimately, we cannot control how others will use the results of our research. What are the implications of this for how you report on your research?

Media Attributions

- danger © The Navigators is licensed under a Public Domain license
- men's room © Arvin61r58 is licensed under a CC0 (Creative Commons Zero) license
- group discussion with documents © fauxels is licensed under a CC0 (Creative Commons Zero) license
- fingerprint © Wilfredor is licensed under a CC BY-SA (Attribution ShareAlike) license
- scale © winnifredxoxo is licensed under a CC BY (Attribution) license

Notes

1. US Department of Health and Human Services. (1993). Institutional review board guidebook glossary. Retrieved from https://ori.hhs.gov/education/products/ucla/chapter2/page00b.htm
2. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
3. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
4. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
5. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
6. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
7. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
8. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
9. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
10. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/; Kristof, N.D. (1995, March 17). Unmasking horror—A special report.; Japan confronting gruesome war atrocity. *The New York Times*. https://www.nytimes.com/1995/03/17/world/unmasking-horror-a-special-report-japan-confronting-gruesome-war-atrocity.html
11. Woodhead, L. (2000). Holocaust on trial [Film]. *Nova*. https://www.pbs.org/wgbh/nova/holocaust/
12. Center for Disease Control and Prevention (CDC). (n.d.). The Tuskegee timeline. *CDC.gov*. https://www.cdc.gov/tuskegee/timeline.htm
13. Kristof, N.D. (1995, March 17). Unmasking horror—A special report.; Japan confronting gruesome war atrocity. *The New York Times*. https://www.nytimes.com/1995/03/17/world/unmasking-horror-a-special-report-japan-confronting-gruesome-war-atrocity.html
14. Kristof, N.D. (1995, March 17). Unmasking horror—A special report.; Japan confronting gruesome war atrocity. *The New York Times*. https://www.nytimes.com/1995/03/17/world/unmasking-horror-a-special-report-japan-confronting-gruesome-war-atrocity.html

15. BBC News Service. (2010, October 2). US medical tests in Guatemala 'crime against humanity'. *bbc.co.uk*. https://web.archive.org/web/20160102060840/http://www.bbc.co.uk/news/world-us-canada-11457552; National Archives. (2011, March 28). National Archives releases John Cutler Papers online. *Archives.gov*. https://www.archives.gov/press/press-releases/2011/nr11-94.html
16. Ojanuga, D. (1993). The medical ethics of the 'Father of Gynaecology', Dr J Marion Sims. *Journal of Medical Ethics*, 19, 28-31. https://jme.bmj.com/content/medethics/19/1/28.full.pdf; Zellars, R. (2018, May 31). Black subjectivity and the origins of American gynecology. *Black Perspectives*. https://www.aaihs.org/black-subjectivity-and-the-origins-of-american-gynecology/
17. Rothman, D. J. (1987). Ethics and human experimentation. *The New England Journal of Medicine*, 317, 1195–1199.
18. One little-known fact, as described by Faden and Beauchamp in their 1986 book, is that during the time the Nazis conducted their horrendous experiments, Germany had written regulations specifying that human subjects must clearly and willingly consent to their participation in medical research. Obviously these regulations were completely disregarded by the Nazi experimenters, but the fact that they existed suggests that efforts to regulate the ethical conduct of research, while necessary, are certainly not sufficient for ensuring that human subjects' rights will be honored. Faden, R. R., & Beauchamp, T. L. (1986). *A history and theory of informed consent*. Oxford, UK: Oxford University Press.
19. Milgram, S. (1974). *Obedience to authority: An experimental view*. New York, NY: Harper & Row.
20. Ogden, R. (2008). Harm. In L. M. Given (Ed.), *The sage encyclopedia of qualitative research methods* (p. 379–380). Los Angeles, CA: Sage.
21. Humphreys, L. (1970). *Tearoom trade: Impersonal sex in public places*. London, UK: Duckworth.
22. Humphreys' research is still relevant today, as undercover police operations targeting tearoom activities still occur. For example, in 2007 Idaho Senator Larry Craig was arrested in a public restroom of the Minneapolis-St. Paul airport for engaging in similar activities. Humphreys' research is also frequently cited by attorneys who represent clients arrested for lewd behavior in public restrooms.
23. von Hoffman, N. (1970, January 30). Sociological snoopers. *The Washington Post*, p. B1.
24. Humphreys, L. (2008). *Tearoom trade: Impersonal sex in public places, enlarged edition with a retrospect on ethical issues*. New Brunswick, NJ: Aldine Transaction.
25. Humphreys, L. (2008). *Tearoom trade: Impersonal sex in public places, enlarged edition with a retrospect on ethical issues*. New Brunswick, NJ: Aldine Transaction.
26. Warwick, D. P. (1973). Tearoom trade: Means and ends in social research. *Hastings Center Studies*, 1, 39–49. See also Warwick, D. P. (1982). Types of harm in social research. In T. L. Beauchamp, R. R. Faden, R. J. Wallace Jr., & L. Walters (Eds.), *Ethical issues in social science research*. Baltimore, MD: Johns Hopkins University Press.
27. Lenza, M. (2004). Controversies surrounding Laud Humphreys' tearoom trade: An unsettling example of politics and power in methodological critiques. *International Journal of Sociology and Social Policy*, 24, 20–31. See also Nardi, P. M. (1995). "The breastplate of righteousness": Twenty- five years after Laud Humphreys' *Tearoom trade: Impersonal sex in public places*. *Journal of Homosexuality*, 30, 1–10.
28. One such study is the Tuskegee Syphilis Experiment, conducted in Alabama from the 1930s to the 1970s. The goal of the study was to understand the natural progression of syphilis in human beings. Investigators working for the Public Health Service enrolled hundreds of poor African American men in the study, some of whom had been diagnosed with syphilis and others who had not. Even after effective syphilis treatment was identified in the 1940s, research participants were denied treatment so that researchers could continue to observe the progression of the disease. The study came to an end in 1972 after knowledge of the experiment became public. In 1997, President Clinton publicly apologized on behalf of the American people for the study (http://clinton4.nara.gov/textonly/New/Remarks/Fri/19970516-898.html). For more on the Tuskegee Syphilis Experiment, see Reverby, S. M. (2009). *Examining Tuskegee: The infamous syphilis study and its legacy*. Chapel Hill, NC: University of North Carolina Press.
29. National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research. (1979). The Belmont report: Ethical principles and guidelines for the protection of human subjects of research. Retrieved from https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html
30. National Research Act of 1974, Pub. L. no. 93-348 Stat 88. (1974). The act can be read at https://history.nih.gov/research/downloads/PL93-348.pdf
31. National Association of Social Workers. (2017). Code of ethics of the National Association of Social Workers. Washington, DC. NASW Press.

32. Cundiff, J. L. (2012). Is mainstream psychological research "womanless" and "raceless"? An updated analysis. *Sex Roles*, 67(3-4), 158-173.
33. US Department of Health and Human Services. (2009). Code of federal regulations (45 CFR 46). The full set of requirements for informed consent can be read at https://www.hhs.gov/ohrp/regulations-and-policy/regulations/45-cfr-46/index.html
34. The US Department of Health and Human Services' guidelines on vulnerable populations can be read at https://www.hhs.gov/ohrp/regulations-and-policy/guidance/vulnerable-populations/index.html.
35. Jaschik, S. (2009, December 4). Protecting his sources. *Inside Higher Ed*. Retrieved from: http://www.insidehighered.com/news/2009/12/04/demuth
36. Smith, L. T. (2013). *Decolonizing methodologies: Research and indigenous peoples (2nd edition)*. London: Zed Books, Ltd.
37. Moe, K. (1984). Should the Nazi research data be cited? *The Hastings Center Report*, 14, 5–7.
38. Berger, P. L. (1990). Nazi science: The Dachau hypothermia experiments. *New England Journal of Medicine*, 322, 1435–1440.
39. Pozos, R. S. (1992). Scientific inquiry and ethics: The Dachau data. In A. L. Caplan (Ed.), *When medicine went mad: Bioethics and the Holocaust* (p. 104). Totowa, NJ: Humana Press.
40. Greene, V. W. (1992). Can scientists use information derived from the concentration camps? Ancient answers to new questions. In A. L. Caplan (Ed.), *When medicine went mad: Bioethics and the Holocaust* (p. 169–170). Totowa, NJ: Humana Press.
41. Solomon, J. (2005, May 4). *AIDS drugs tested on foster kids*. CBS News. Retrieved from: https://www.cbsnews.com/news/aids-drugs-tested-on-foster-kids/

7. Theory and paradigm

Chapter Outline

1. What are your assumptions? (16 minute read)
2. Ethical and critical considerations (15 minute read)
3. Social work research paradigms (25 minute read, plus 10 minute video)
4. Developing your theoretical framework (15 minute read)
5. Designing your project using theory and paradigm (13 minute read)

Content warning: examples in this chapter contain references to post-traumatic stress disorder and similar culture-bound syndromes related to trauma, colonization and Global North/West hegemony, racist beliefs about intelligence and racist science, sexism in medical science and STEM fields, dropping out of high school, poverty, addiction and the disease model, police violence and systemic racism, rape culture, depression, homelessness, "coming out" as a lesbian, ethnocentrism, sexual harassment, domestic violence, and oppression of TANF recipients.

7.1. What are your assumptions?

Learning Objectives

Learners will be able to...

- Ground your research project and working question in the philosophical assumptions of social science
- Define the terms '*ontology*' and '*epistemology*' and explain how they relate to quantitative and qualitative research methods

Last chapter, we reviewed the ethical commitment that social work researchers have to protect the people and communities impacted by their research. Answering the practical questions of harm, conflicts of interest, and other ethical issues will provide clear foundation of what you can and cannot do as part of your research project. In this chapter, we will transition from the real world to the conceptual world. Together, we will discover and explore the theoretical and philosophical foundations of your project. You should complete this chapter with a better sense of how theoretical and philosophical concepts help you answer your working question, and in turn, how theory and philosophy will affect the research project you design.

Embrace philosophy

The single biggest barrier to engaging with philosophy of science, at least according to some of my students, is the word philosophy. I had one student who told me that as soon as that word came up, she tuned out because she thought it was above her head. As we discussed in Chapter 1, some students already feel like research methods is too complex of a topic, and asking them to engage with philosophical concepts within research is like asking asking them to tap dance while wearing ice skates.

For those students, I would first answer that this chapter is my favorite one to write because it was the most personally impactful for me to learn during my MSW program. Finding my theoretical and philosophical home was important for me to develop as a clinician and a researcher. Following our advice in Chapter 2, you've hopefully chosen a topic that is important to your interests as a social work practitioner, and consider this chapter an opportunity to find your personal roots in addition to revising your working question and designing your research study.

Exploring theoretical and philosophical questions will cause your working question and research project to become clearer...eventually. Consider this chapter as something similar to getting a nice outfit for a fancy occasion. You have to try on a lot of different theories and philosophies before you find the one that fits with what you're going for. There's no right way to try on clothes, and there's no one right theory or philosophy for your project. You might find a good fit with the first one you've tried on, or it might take a few different outfits. You have to find ideas that make sense together because they fit with how you think about your topic and how you should study it.



As you read this section, try to think about which assumptions *feel* right for your working question and research project. Which assumptions match what you think and believe about your topic? The goal is not to find the "right" answer, but to develop your conceptual understanding of your research topic by finding the right theoretical and philosophical fit.

Theoretical & philosophical fluency

In addition to self-discovery, theoretical and philosophical fluency is a skill that social workers must possess in order to engage in social justice work. That's because theory and philosophy help sharpen your perceptions of the social world. Just as social workers use empirical data to support their work, they also use theoretical and philosophical foundations. More importantly, theory and philosophy help social workers build heuristics that can help identify the fundamental assumptions at the heart of social conflict and social problems. They alert you to the patterns in the underlying assumptions that different

people make and how those assumptions shape their worldview, what they view as true, and what they hope to accomplish. In the next section, we will review feminist and other critical perspectives on research, and they should help inform you of how assumptions about research can reinforce existing oppression.

Understanding these deeper structures is a true gift of social work research. Because we acknowledge the usefulness and truth value of multiple philosophies and worldviews contained in this chapter, we can arrive at a deeper and more nuanced understanding of the social world. Methods can be closely associated with particular worldviews or ideologies. There are necessarily philosophical and theoretical aspects to this, and this can be intimidating at times, but it's important to critically engage with these questions to improve the quality of research.

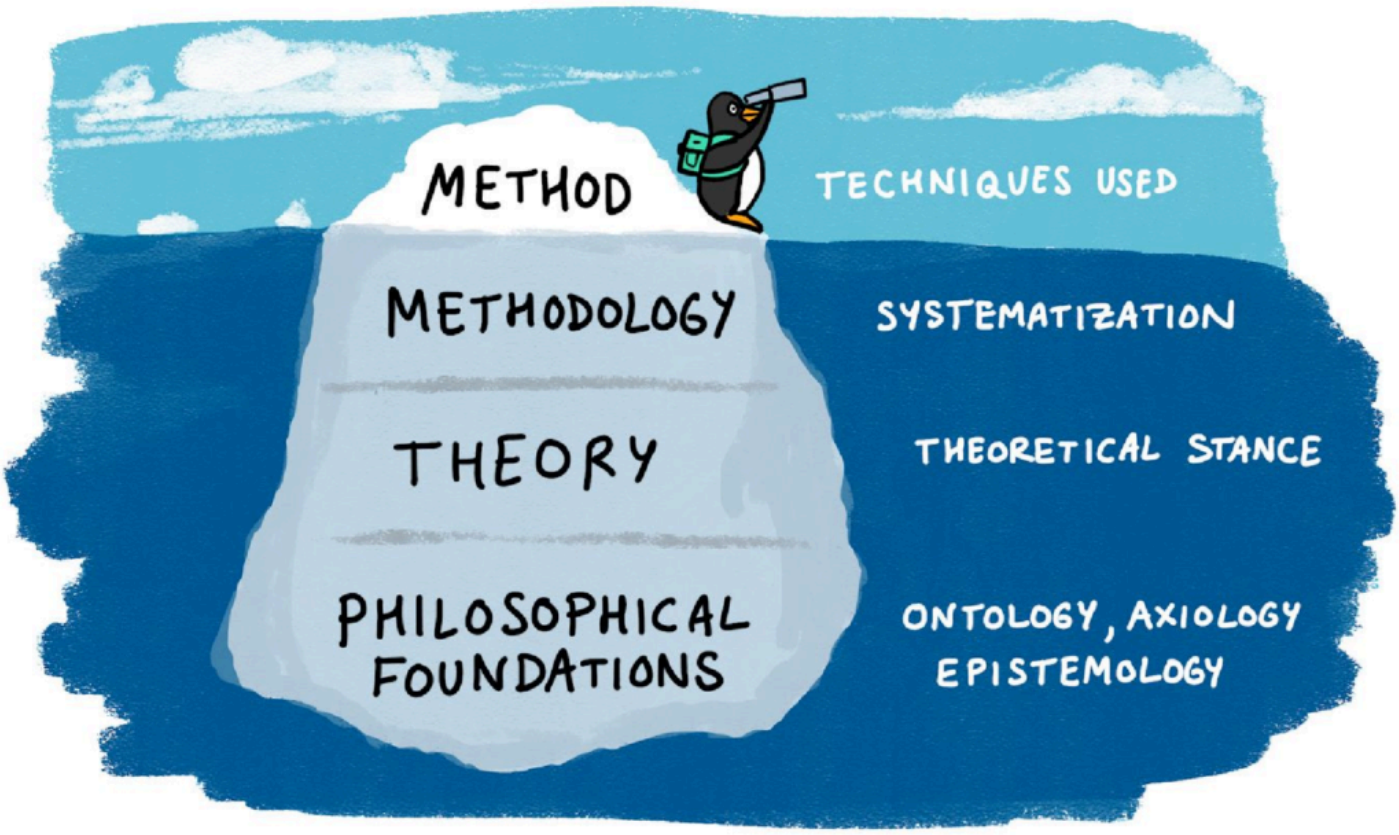


Figure 7.1. Conceptualizing research method, methodology, theory and philosophical foundations

Building your ice float

Although it may not seem like it right now, your project *will* develop a from a strong connection to previous theoretical and philosophical ideas about your topic. It's likely you already have some (perhaps unstated) philosophical or theoretical ideas that undergird your thinking on the topic. Moreover, the

philosophical questions we review here should inform how you understand different theories and practice modalities in social work, as they deal with the bedrock questions about science and human knowledge.

Before we can dive into philosophy, we need to recall out conversation from Chapter 1 about objective truth and subjective truths. Let's test your knowledge with a quick example. Is crime on the rise in the United States? A recent Five Thirty Eight article highlights the disparity between historical trends on crime that are at or near their lowest in the thirty years with broad perceptions by the public that crime is on the rise (Koerth & Thomson-DeVeaux, 2020).[1] Social workers skilled at research can marshal objective facts, much like the authors do, to demonstrate that people's perceptions are not based on a rational interpretation of the world. Of course, that is not where our work ends. Subjective facts might seek to decenter this narrative of ever-increasing crime, deconstruct is racist and oppressive origins, or simply document how that narrative shapes how individuals and communities conceptualize their world.

Objective does not mean right, and subjective does not mean wrong. Researchers must understand what kind of truth they are searching for so they can choose a theoretical framework, methodology, and research question that matches. As we discussed in Chapter 1, researchers seeking objective truth (one of the philosophical foundations at the bottom of Figure 7.1) often employ quantitative methods (one of the methods at the top of Figure 7.1). Similarly, researchers seeking subjective truths (again, at the bottom of Figure 7.1) often employ qualitative methods (at the top of Figure 7.1). This chapter is about the connective tissue, and by the time you are done reading, you should have a first draft of a theoretical and philosophical (a.k.a. paradigmatic) framework for your study.

Ontology: Assumptions about what is real & true

In section 1.2, we reviewed the two types of truth that social work researchers seek—**objective truth** and **subjective truths** —and linked these with the methods—quantitative and qualitative—that researchers use to study the world. If those ideas aren't fresh in your mind, you may want to navigate back to that section for an introduction.

These two types of truth rely on different assumptions about what is real in the social world—i.e., they have a different **ontology**. Ontology refers to the study of being (literally, it means "rational discourse about being"). In philosophy, basic questions about existence are typically posed as ontological, e.g.:

- What is there?
- What types of things are there?
- How can we describe existence?
- What kind of categories can things go into?
- Are the categories of existence hierarchical?

Objective vs. subjective ontologies

At first, it may seem silly to question whether the phenomena we encounter in the social world are real. Of course you exist, your thoughts exist, your computer exists, and your friends exist. You can see them with your eyes. This is the ontological framework of *realism*, which simply means that the concepts we talk about in science exist independent of observation (Burrell & Morgan, 1979).[2] Obviously, when we close our eyes, the universe does not disappear. You may be familiar with the philosophical conundrum: "If a tree falls in a forest and no one is around to hear it, does it make a sound?"

The natural sciences, like physics and biology, also generally rely on the assumption of realism. Lone trees falling make a sound. We assume that gravity and the rest of physics are there, even when no one is there to observe them. Mitochondria are easy to spot with a powerful microscope, and we can observe and theorize about their function in a cell. The gravitational force is invisible, but clearly apparent from observable facts, such as watching an apple fall from a tree. Of course, out theories about gravity have changed over the years. Improvements were made when observations could not be correctly explained using existing theories and new theories emerged that provided a better explanation of the data.

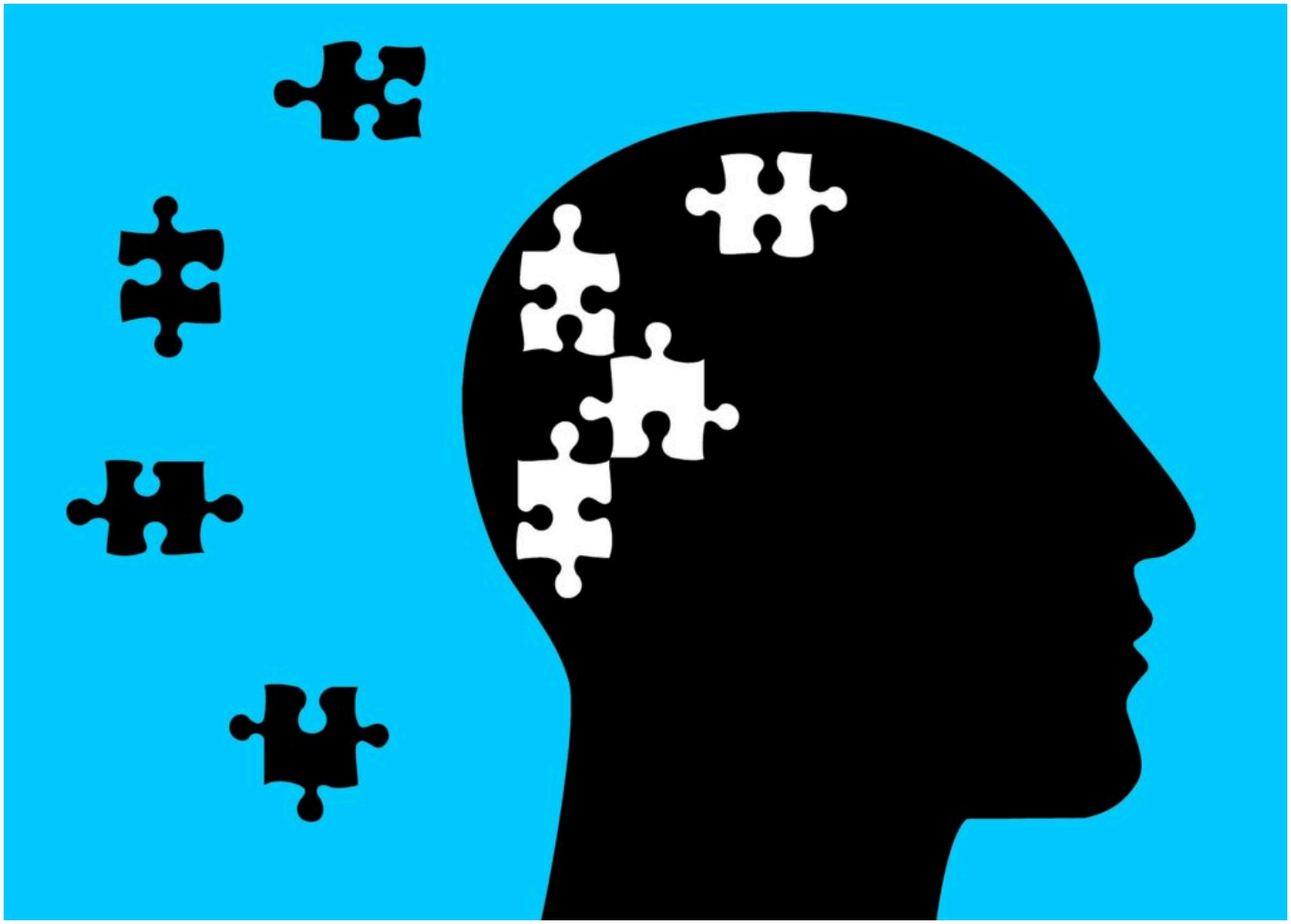
As we discussed in section 1.2, culture-bound syndromes are an excellent example of where you might come to question realism. Of course, from a Western perspective as researchers in the United States, we think that the Diagnostic and Statistical Manual (DSM) classification of mental health disorders is real and that these culture-bound syndromes are aberrations from the norm. But what about if you were a person from Korea experiencing Hwabyeong? Wouldn't you consider the Western diagnosis of somatization disorder to be incorrect or incomplete? This conflict raises the question–do either Hwabyeong or DSM diagnoses like post-traumatic stress disorder (PTSD) really exist at all…or are they just social constructs that only exist in our minds?

If your answer is "no, they do not exist," you are adopting the ontology of *anti-realism* (or *relativism*), or the idea that social concepts do not exist outside of human thought. Unlike the realists who seek a single, universal truth, the anti-realists perceive a sea of truths, created and shared within a social and cultural context. Unlike objective truth, which is true for all, subjective truths will vary based on who you are observing and the context in which you are observing them. The beliefs, opinions, and preferences of people are actually truths that social scientists measure and describe. Additionally, subjective truths do not exist independent of human observation because they are the product of the human mind. We negotiate what is true in the social world through language, arriving at a consensus and engaging in debate within our socio-cultural context.

These theoretical assumptions should sound familiar if you've studied social constructivism or symbolic interactionism in your other MSW courses, most likely in human behavior in the social environment (HBSE).[3] From an anti-realist perspective, what distinguishes the social sciences from natural sciences is human thought. When we try to conceptualize trauma from an anti-realist perspective, we must pay attention to the feelings, opinions, and stories in people's minds. In their most radical formulations, anti-realists propose that these feelings and stories are all that truly exist.

What happens when a situation is incorrectly interpreted? Certainly, who is correct about what is a bit subjective. It depends on who you ask. Even if you can determine whether a person is actually incorrect, *they* think they are right. Thus, what may not be objectively true for everyone is nevertheless true to the individual interpreting the situation. Furthermore, they act on the assumption that they are right. We all do. Much of our behaviors and interactions are a manifestation of our personal subjective truth. In this sense, even incorrect interpretations are truths, even though they are true only to one person or a group of misinformed people. This leads us to question whether the social concepts we think about really exist. For researchers using subjective ontologies, they might only exist in our minds; whereas, researchers who use objective ontologies which assume these concepts exist independent of thought.

How do we resolve this dichotomy? As social workers, we know that often times what appears to be an either/or situation is actually a both/and situation. Let's take the example of trauma. There is clearly an objective thing called trauma. We can draw out objective facts about trauma and how it interacts with other concepts in the social world such as family relationships and mental health. However, that understanding is always bound within a specific cultural and historical context. Moreover, each person's individual experience and conceptualization of trauma is also true. Much like a client who tells you their truth through their stories and reflections, when a participant in a research study tells you what their trauma means to them, it is real even though only they experience and know it that way. By using both objective and subjective analytic lenses, we can explore different aspects of trauma—what it means to everyone, always, everywhere, and what is means to one person or group of people, in a specific place and time.



Epistemology: Assumptions about how we know things

Having discussed what is true, we can proceed to the next natural question—how can we come to know what is real and true? This is **epistemology**. Epistemology is derived from the Ancient Greek epistēmē which refers to systematic or reliable knowledge (as opposed to doxa, or "belief"). Basically, it means "rational discourse about knowledge," and the focus is the study of knowledge and methods used to generate knowledge. Epistemology has a history as long as philosophy, and lies at the foundation of both scientific and philosophical knowledge.

Epistemological questions include:

- What is knowledge?
- How can we claim to know anything at all?
- What does it mean to know something?
- What makes a belief justified?
- What is the relationship between the knower and what can be known?

While these philosophical questions can seem far removed from real-world interaction, thinking about these kinds of questions in the context of research helps you target your inquiry by informing your methods and helping you revise your working question. Epistemology is closely connected to method as they are both concerned with how to create and validate knowledge. Research methods are essentially epistemologies – by following a certain process we support our claim to know about the things we have been researching. Inappropriate or poorly followed methods can undermine claims to have produced new knowledge or discovered a new truth. This can have implications for future studies that build on the data and/or conceptual framework used.

Research methods can be thought of as essentially stripped down, purpose-specific epistemologies. The knowledge claims that underlie the results of surveys, focus groups, and other common research designs ultimately rest on epistemological assumptions of their methods. Focus groups and other qualitative methods usually rely on subjective epistemological (and ontological) assumptions. Surveys and and other quantitative methods usually rely on objective epistemological assumptions. These epistemological assumptions often entail congruent subjective or objective ontological assumptions about the ultimate questions about reality.

Objective vs. subjective epistemologies

One key consideration here is the status of 'truth' within a particular epistemology or research method. If, for instance, some approaches emphasize subjective knowledge and deny the possibility of an objective truth, what does this mean for choosing a research method?

We began to answer this question in Chapter 1 when we described the scientific method and objective and subjective truths. Epistemological subjectivism focuses on what people think and feel about a situation, while epistemological objectivism focuses on objective facts irrelevant to our interpretation of a situation (Lin, 2015).[4]

While there are many important questions about epistemology to ask (e.g., "How can I be sure of what I know?" or "What can I not know?" see Willis, 2007[5] for more), from a pragmatic perspective most relevant epistemological question in the social sciences is whether truth is better accessed using numerical data or words and performances. Generally, scientists approaching research with an objective epistemology (and realist ontology) will use **quantitative methods** to arrive at scientific truth. Quantitative methods examine numerical data to precisely describe and predict elements of the social world. For example, while people can have different definitions for poverty, an objective measurement such as an annual income of "less than $25,100 for a family of four" provides a precise measurement that can be compared to incomes from all other people in any society from any time period, and refers to real quantities of money that exist in the world. Mathematical relationships are uniquely useful in that they allow comparisons across individuals as well as time and space. In this book, we will review the most common designs used in quantitative research: surveys and experiments. These types of studies

usually rely on the epistemological assumption that mathematics can represent the phenomena and relationships we observe in the social world.

Although mathematical relationships are useful, they are limited in what they can tell you. While you can learn use quantitative methods to measure individuals' experiences and thought processes, you will miss the story behind the numbers. To analyze stories scientifically, we need to examine their expression in interviews, journal entries, performances, and other cultural artifacts using **qualitative methods**. Because social science studies human interaction and the reality we all create and share in our heads, subjectivists focus on language and other ways we communicate our inner experience. Qualitative methods allow us to scientifically investigate language and other forms of expression—to pursue research questions that explore the words people write and speak. This is consistent with epistemological subjectivism's focus on individual and shared experiences, interpretations, and stories.

It is important to note that qualitative methods are entirely compatible with seeking objective truth. Approaching qualitative analysis with a more objective perspective, we look simply at what was said and examine its surface-level meaning. If a person says they brought their kids to school that day, then that is what is true. A researcher seeking subjective truth may focus on *how* the person says the words—their tone of voice, facial expressions, metaphors, and so forth. By focusing on these things, the researcher can understand what it meant to the person to say they dropped their kids off at school. Perhaps in describing dropping their children off at school, the person thought of their parents doing the same thing. In this way, subjective truths are deeper, more personalized, and difficult to generalize.

Putting it all together

As you might guess by the structure of the next two parts of this textbook, the distinction between quantitative and qualitative is important. Because of the distinct philosophical assumptions of objectivity and subjectivity, it will inform how you define the concepts in your research question, how you measure them, and how you gather and interpret your raw data. You certainly do not need to have a final answer right now! But stop for a minute and think about which approach feels right so far. In the next section, we will consider another set of philosophical assumptions that relate to ethics and the role of research in achieving social justice.

Key Takeaways

- Philosophers of science disagree on the basic tenets of what is true and how we come to know what is true.
- Researchers searching for objective truth will likely have a different theoretical framework, research design, and methods than researchers searching for subjective truths.
- These differences are due to different assumptions about what is real and true (ontology) and how we can come

to understand what is real and true (epistemology).

Exercises

Does an objective or subjective epistemological/ontological framework make the most sense for your research project?

- Are you more concerned with how people think and feel about your topic, their subjective truths—more specific to the time and place of your project?
- Or are you more concerned with objective truth, so that your results might generalize to populations beyond the ones in your study?

Using your answer to the above question, describe how either quantitative or qualitative methods make the most sense for your project.

7.2 Ethical and critical considerations

Learning Objectives

Learners will be able to…

- Apply feminist, anti-racist, and decolonization critiques of social science to your project
- Define axiology and describe the axiological assumptions of your project

So far, we have talked about knowledge as it exists in the world, but what about the process of research itself? Doesn't the researcher bring their own biases, perspectives, and experiences to the process? The critique of science as an enterprise dominated by the perspectives of white men from North America and Europe is one that has had a profound impact on how we view knowledge. Because scientists design research studies, create measures, and interpret results, there is always the risk that a scientist's objectivity slips and as a result, biases are expressed.

Consider this example from professional sports. The National Football League (NFL) has long downplayed the lifelong impact of concussions and traumatic brain injury. However, due to the racist science that existed when the issue was first addressed through a settlement in the 1990s, Black players

were assumed to have lower cognitive function and were thus any losses in cognitive function were less significant, resulting in a lower payout or additional barriers to an eventual payout (Dale, 2021).[6] It is hard to view this "race-norming" without taking into account the impact of the Bell Curve, a racist and methodologically flawed book that purported to support white intellectual superiority (Bell, 1995).[7] According to an Associated Press report:

> The NFL noted that the norms were developed in medicine "to stop bias in testing, not perpetrate it"...The binary race norms, when they are used in the testing, assumes that Black patients start with worse cognitive function than whites and other non-Blacks. That makes it harder for them to show a deficit and qualify for an award. [Two players], for instance, were denied awards but would have qualified had they been white, according to their lawsuit (Dale, 2021, para 10-13).

Part of the value in making the philosophical assumptions of your project explicit is that you can scan for sources of explicit or implicit bias you bring to the research process.



Whose truth does science establish?

Social work is concerned with the "isms" of oppression (ableism, ageism, cissexism, classism, heterosexism, racism, sexism, etc.), and so our approach to science must reconcile its history as both a tool of oppression and its exclusion of oppressed groups. Science grew out of the Enlightenment,

a philosophical movement which applied reason and empirical analysis to understanding the world. While the Enlightenment brought forth tremendous achievements, the critiques of Marxian, feminist, and other critical theorists complicated the Enlightenment understanding of science. For this section, I will focus on feminist critiques of science, building upon an entry in the Stanford Encyclopedia of Philosophy (Crasnow, 2020).[8]

In its original formulation, science was an individualistic endeavor. As we learned in Chapter 1, a basic statement of the scientific method is that a researcher studies existing theories on a topic, formulates a hypothesis about what might be true, and either confirms or disconfirms their hypothesis through experiment and rigorous observation. Over time, our theories become more accurate in their predictions and more comprehensive in their conclusions. Scientists put aside their preconceptions, look at the data, and build their theories based on objective rationality.

Yet, this cannot be perfectly true. Scientists are human, after all. As a profession historically dominated by white men, scientists have dismissed women and other minorities as being psychologically unfit for the scientific profession. While attitudes have improved, science, technology, engineering, mathematics (STEM) and related fields remain dominated by white men (Grogan, 2019).[9] Biases can persist in social work theory and research when social scientists do not have similar experiences to the populations they study.

Gender bias can influence the research questions scientists choose to answer. Feminist critiques of medical science drew attention to women's health issues, spurring research and changing standards of care. The focus on domestic violence in the empirical literature can also be seen as a result of feminist critique. Thus, critical theory helps us critique what is on the agenda for science. If science is to answer important questions, it must speak to the concerns of all people. Through the democratization in access to scientific knowledge and the means to produce it, science becomes a sister process of social development and social justice.

The goal of a diverse and participatory scientific community lies in contrast to much of what we understand to be "proper" scientific knowledge. Many of the older, classic social science theories were developed based on research which observed males or from university students in the United States or other Western nations. How these observations were made, what questions were asked, and how the data were interpreted were shaped by the same oppressive forces that existed in broader society, a process that continues into the present. In psychology, the concept of hysteria or hysterical women was believed to be caused by a wandering womb (Tasca et al., 2012).[10] Even today, there are gender biases in diagnoses of histrionic personality disorder and racial biases in psychotic disorders (Klonsky et al., 2002)[11] because the theories underlying them were created in a sexist and racist culture. In these ways, science can reinforce the truth of the white Western male perspective.

Finally, it is important to note that social science research is often conducted *on* populations rather than *with* populations. Historically, this has often meant Western men traveling to other countries and seeking to understand other cultures through a Western lens. Lacking cultural humility and failing to engage stakeholders, ethnocentric research of this sort has led to the view of non-Western cultures as

inferior. Moreover, the use of these populations as research subjects rather than co-equal participants in the research process privileges the researcher's knowledge over that from other groups or cultures. Researchers working with indigenous cultures, in particular, had a destructive habit of conducting research for a short time and then leaving, without regard for the impact their study had on the population. These critiques of Western science aim to decolonize social science and dismantle the racist ideas the oppress indigenous and non-Western peoples through research (Smith, 2013).[12]

The central concept in feminist, anti-racist, and decolonization critiques (among other critical frames) is epistemic injustice. **Epistemic injustice** happens when someone is treated unfairly in their capacity to know something or describe their experience of the world. As described by Fricker (2011),[13] the injustice emerges from the dismissal of knowledge from oppressed groups, discrimination against oppressed groups in scientific communities, and the resulting gap between what scientists can make sense of from their experience and the experiences of people with less power who have lived experience of the topic. We recommend this video from Edinburgh Law School which applies epistemic injustice to studying public health emergencies, disabilities, and refugee services.

Exercises

- Take a moment and reflect on how your life experiences may inform how you understand your topic. What do you already know? How might you be biased?
- Describe how previous or current studies and theories about your topic have been influenced by oppressive forces such as racism and sexism.



Self-determination and free will

When scientists observe social phenomena, they often take the perspective of *determinism*, meaning that what is seen is the result of processes that occurred earlier in time (i.e., cause and effect). As you will see in Chapter 9, this process is represented in the classical formulation of a research question which asks "what is the relationship between X (cause) and Y (effect)?" By framing a research question in such a way, the scientist is disregarding any reciprocal influence that Y has on X. Moreover, the scientist

also excludes human agency from the equation. It is simply that a cause will necessitate an effect. For example, a researcher might find that few people living in neighborhoods with higher rates of poverty graduate from high school, and thus conclude that poverty causes adolescents to drop out of school. This conclusion, however, does not address the story behind the numbers. Each person who is counted as graduating or dropping out has a unique story of why they made the choices they did. Perhaps they had a mentor or parent that helped them succeed. Perhaps they faced the choice between employment to support family members or continuing in school.

For this reason, determinism is critiqued as reductionistic in the social sciences because people have agency over their actions. This is unlike the natural sciences like physics. While a table isn't aware of the friction it has with the floor, parents and children are likely aware of the friction in their relationships and act based on how they interpret that conflict. The opposite of determinism is *free will*, that humans can choose how they act and their behavior and thoughts are not solely determined by what happened prior in a neat, cause-and-effect relationship. Researchers adopting a perspective of free will view the process of, continuing with our education example, seeking higher education as the result of a number of mutually influencing forces and the spontaneous and implicit processes of human thought. For these researchers, the picture painted by determinism is too simplistic.

A similar dichotomy can be found in the debate between *individualism* and *holism*. When you hear something like "the disease model of addiction leads to policies that pathologize and oppress people who use drugs," the speaker is making a methodologically holistic argument. They are making a claim that abstract social forces (the disease model, policies) can cause things to change. A methodological individualist would critique this argument by saying that the disease model of addiction doesn't actually cause anything by itself. From this perspective, it is the individuals, rather than any abstract social force, who oppress people who use drugs. The disease model itself doesn't cause anything to change; the individuals who follow the precepts of the disease model are the agents who actually oppress people in reality. To an individualist, all social phenomena are the result of individual human action and agency. To a holist, social forces can determine outcomes for individuals without individuals playing a causal role, undercutting free will and research projects that seek to maximize human agency.

Exercises

- Which assumption, determinism or free will, makes the most sense for your project and working question?
    - Is human action, or free will, central to how you understand your topic?
    - Or are humans more passive and what happens to them more determined by the social forces that influence their life?
- Reflect on how your project's assumptions may differ from your own assumptions about free will and determinism. For example, my beliefs about self-determination and free will always inform my social work practice. However, my working question and research project may rely on social theories that are deterministic

and do not address human agency.

Radical change

Another assumption scientists make is around the nature of the social world. Is it an orderly place that remains relatively stable over time? Or is it a place of constant change and conflict? The view of the social world as an orderly place can help a researcher describe how things fit together to create a cohesive whole. For example, systems theory can help you understand how different systems interact with and influence one another, drawing energy from one place to another through an interconnected network with a tendency towards homeostasis. This is a more *consensus*-focused and status-quo-oriented perspective. Yet, this view of the social world cannot adequately explain the radical shifts and revolutions that occur. It also leaves little room for human action and free will. In this more radical space, *change* consists of the fundamental assumptions about how the social world works.

For example, at the time of this writing, protests are taking place across the world to remember the killing of George Floyd by Minneapolis police and other victims of police violence and systematic racism. Public support of Black Lives Matter, an anti-racist activist group that focuses on police violence and criminal justice reform, has experienced a radical shift in public support in just two weeks since the killing, equivalent to the previous 21 months of advocacy and social movement organizing (Cohn & Quealy, 2020).[14] Abolition of police and prisons, once a fringe idea, has moved into the conversation about remaking the criminal justice system from the ground-up, centering its historic and current role as an oppressive system for Black Americans. Seemingly overnight, reducing the money spent on police and giving that money to social services became a moderate political position.

A researcher centering change may choose to understand this transformation or even incorporate radical anti-racist ideas into the design and methods of their study. For an example of how to do so, see this participatory action research study working with Black and Latino youth (Bautista et al., 2013).[15] Contrastingly, a researcher centering consensus and the status quo might focus on incremental changes what people currently think about the topic. For example, see this survey of social work student attitudes on poverty and race that seeks to understand the status quo of student attitudes and suggest small changes that might change things for the better (Constance-Huggins et al., 2020).[16] To be clear, both studies contribute to racial justice. However, you can see by examining the methods section of each article how the participatory action research article addresses power and values as a core part of their research design, qualitative ethnography and deep observation over many years, in ways that privilege the voice of people with the least power. In this way, it seeks to rectify the epistemic injustice of excluding and oversimplifying Black and Latino youth. Contrast this more radical approach with the

more traditional approach taken in the second article, in which they measured student attitudes using a survey developed by researchers.

Exercises

- Think about how participatory your study will be.
    - Traditional studies will be less participatory. You as the researcher will determine the research question, how to measure it, data collection, etc.
    - Radical studies will be more participatory. You as the researcher seek to undermine power imbalances at each stage of the research process.
- Pragmatically, more participatory studies take longer to complete and may be less suited to student projects that need to be completed in a short time frame.



Axiology: Assumptions about values

Axiology is the study of values and value judgements (literally "rational discourse about values [a xía]"). In philosophy this field is subdivided into ethics (the study of morality) and aesthetics (the study of beauty, taste and judgement). For the hard-nosed scientist, the relevance of axiology might not be obvious. After all, what difference do one's feelings make for the data collected? Don't we spend a long time trying to teach researchers to be objective and remove their values from the scientific method?

Like ontology and epistemology, the import of axiology is typically built into research projects and exists "below the surface". You might not consciously engage with values in a research project, but they are still there. Similarly, you might not hear many researchers refer to their axiological commitments but they might well talk about their values and ethics, their positionality, or a commitment to social justice.

Our values focus and motivate our research. These values could include a commitment to scientific rigor, or to always act ethically as a researcher. At a more general level we might ask: What matters? Why do research at all? How does it contribute to human wellbeing? Almost all research projects are grounded in trying to answer a question that matters or has consequences. Some research projects are even explicit in their intention to improve things rather than observe them. This is most closely associated with "critical" approaches.

Critical and radical views of science focus on how to spread knowledge and information in a way that combats oppression. These questions are central for creating research projects that fight against the objective structures of oppression—like unequal pay—and their subjective counterparts in the mind—like internalized sexism. For example, a more critical research project would fight not only against statutes of limitations for sexual assault but on how women have internalized rape culture as well. Its explicit goal would be to fight oppression and to inform practice on women's liberation. For this reason, creating change is baked into the research questions and methods used in more critical and radical research projects.

As part of studying radical change and oppression, we are likely employing a model of science that puts values front-and-center within a research project. All social work research is values-driven, as we are a values-driven profession. Historically, though, most social scientists have argued for values-free science. Scientists agree that science helps human progress, but they hold that researchers should remain as objective as possible—which means putting aside politics and personal values that might bias their results, similar to the cognitive biases we discussed in section 1.1. Over the course of last century, this perspective was challenged by scientists who approached research from an explicitly political and values-driven perspective. As we discussed earlier in this section, feminist critiques strive to understand how sexism biases research questions, samples, measures, and conclusions, while decolonization critiques try to de-center the Western perspective of science and truth.

Linking axiology, epistemology, and ontology

It is important to note that both values-central and values-neutral perspectives are useful in furthering social justice. Values-neutral science is helpful at *predicting* phenomena. Indeed, it matches well with objectivist ontologies and epistemologies. Let's examine a measure of depression, the Patient Health Questionnaire (PSQ-9). The authors of this measure spent years creating a measure that accurately and reliably measures the concept of depression. This measure is assumed to measure depression in any person, and scales like this are often translated into other languages (and subsequently validated) for more widespread use . The goal is to measure depression in a valid and reliable manner. We can use this objective measure to predict relationships with other risk and protective factors, such as substance use or poverty, as well as evaluate the impact of evidence-based treatments for depression like narrative therapy.

While measures like the PSQ-9 help with prediction, they do not allow you to *understand* an individual person's experience of depression. To do so, you need to listen to their stories and how they make sense of the world. The goal of understanding isn't to predict what will happen next, but to empathically connect with the person and truly understand what's happening from their perspective. Understanding fits best in subjectivist epistemologies and ontologies, as they allow for multiple truths (i.e. that multiple interpretations of the same situation are valid). Although all researchers addressing depression are working towards socially just ends, the values commitments researchers make as part of the research process influence them to adopt objective or subjective ontologies and epistemologies.

Exercises

What role will values play in your study?

- Are you looking to be as objective as possible, putting aside your own values?
- Or are you infusing values into each aspect of your research design?

Remember that although social work is a values-based profession, that does not mean that all social work research is values-informed. The majority of social work research is objective and tries to be value-neutral in how it approaches research.

Philosophical assumptions, as a whole

As you engage with theoretical and empirical information in social work, keep these philosophical assumptions in mind. They are useful shortcuts to understanding the deeper ideas and assumptions behind the construction of knowledge. See Table 7.1 below for a short reference list of the key

assumptions we covered in sections 7.1 and 7.2. The purpose of exploring these philosophical assumptions isn't to find out which is true and which is false. Instead, the goal is to identify the assumptions that fit with how you think about your working question and your personal worldview.

Table 7.1 Philosophical assumptions in social science research

Assumptions	Central conflicts
Ontology: assumptions about what is real	*Realism vs. anti-realism (a.k.a. relativism)*
Epistemology: assumptions about how we come to know what is real	*Objective truth vs. subjective truths* *Math vs. language/expression* *Prediction vs. understanding*
Assumptions about the researcher	*Researcher as unbiased vs. researcher shaped by oppression, culture, and history* *Researcher as neutral force vs. researcher as oppressive force*
Assumptions about human action	*Determinism vs. free will* *Holism vs. individualism*
Assumptions about the social world	*Orderly and consensus-focused vs. disorderly and conflict-focused*
Assumptions about the purpose of research	*Study the status quo vs. create radical change* *Values-neutral vs. values-informed*

Key Takeaways

- Feminist, anti-racist, and decolonization critiques of science highlight the often hidden oppressive ideas and structures in science.
- Even though social work is a values-based discipline, most social work research projects are values-neutral because those assumptions fit with the researcher's question.

Exercises

- Using your understanding of the conflicts in Table 7.1 and explored in sections 7.1 and 7.2, critique the following (deliberately problematic) statement:

"When a scientist observes the social world, he does so objectively."

7.3 Social work research paradigms

Learning Objectives

Learners will be able to...

- Distinguish between the three major research paradigms in social work and apply the assumptions upon which they are built to a student research project

In the previous two sections, we reviewed the three elements to the philosophical foundation of a research method: ontology, epistemology and axiology (Crotty, 1998; Guba & Lincoln, 1994; Heron & Reason, 1997).[17] In this section, you will explore how to apply these philosophical approaches to your research project. In the next section, we will do the same for theory. Keep in mind that it's easy for us as textbook authors to lay out each step (paradigm, theory, etc.) sequentially, but in reality, research projects are not linear. Researchers rarely proceed by choosing an ontology, epistemology and axiology separately and then deciding which theory and methods to apply. As we discussed in Chapter 2 when you started conceptualizing your project, you should choose something that interests you, is feasible to conduct, and does not pose unethical risks to others. Whatever part or parts your project you have figured out right now, you're right where you should be—in the middle of conceptualization.

How do scientific ideas change over time?

Much like your ideas develop over time as you learn more, so does the body of scientific knowledge. Kuhn's (1962)[18] *The Structure of Scientific Revolutions* is one of the most influential works on the philosophy of science, and is credited with introducing the idea of competing paradigms (or "disciplinary matrices") in research. Kuhn investigated the way that scientific practices evolve over time, arguing that we don't have a simple progression from "less knowledge" to "more knowledge" because the way that we approach inquiry is changing over time. This can happen gradually, but the process results in moments of change where our understanding of a phenomenon changes more radically (such as in the transition from Newtonian to Einsteinian physics; or from Lamarckian to Darwinian theories of evolution). For a social work practice example, Fleuridas & Krafcik (2019)[19] trace the development of the "four forces" of psychotherapy, from psychodynamics to behaviorism to humanism as well as the competition among emerging perspectives to establish itself as the fourth force to guide psychotherapeutic practice. But how did the problems in one paradigm inspire new paradigms? Kuhn presents us with a way of understanding the history of scientific development across all topics and disciplines.



A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.rampages.us/msw-research/?p=289

As you can see in this video from Matthew J. Brown (CC-BY), there are four stages in the cycle of science in Kuhn's approach. Firstly, a pre-paradigmatic state where competing approaches share no consensus. Secondly, the "normal" state where there is wide acceptance of a particular set of methods and assumptions. Thirdly, a state of crisis where anomalies that cannot be solved within the existing paradigm emerge and competing theories to address them follow. Fourthly, a revolutionary phase where some new paradigmatic approach becomes dominant and supplants the old. Shnieder (2009)[20] suggests that the Kuhnian phases are characterized by different kinds of scientific activity.

Newer approaches often build upon rather than replace older ones, but they also overlap and can exist within a state of competition. Scientists working within a particular paradigm often share methods, assumptions and values. In addition to supporting specific methods, research paradigms also influence things like the ambition and nature of research, the researcher-participant relationship and how the role of the researcher is understood.

Paradigm vs. theory

The terms '*paradigm*' and '*theory*' are often used interchangeably in social science. There is not a

consensus among social scientists as to whether these are identical or distinct concepts. With that said, in this text, we will make a clear distinction between the two ideas because thinking about each concept separately is more useful for our purposes.

We define **paradigm** a set of common philosophical (ontological, epistemological, and axiological) assumptions that inform research. The four paradigms we describe in this section refer to patterns in how groups of researchers resolve philosophical questions. Some assumptions naturally make sense together, and paradigms grow out of researchers with shared assumptions about what is important and how to study it. Paradigms are like "analytic lenses" and a provide framework on top of which we can build theoretical and empirical knowledge (Kuhn, 1962).[21] Consider this video of an interview with world-famous physicist Richard Feynman in which he explains why "when you explain a 'why,' you have to be in some framework that you allow something to be true. Otherwise, you are perpetually asking why." In order to answer basic physics question like "what is happening when two magnets attract?" or a social work research question like "what is the impact of this therapeutic intervention on depression," you must understand the assumptions you are making about social science and the social world. Paradigmatic assumptions about objective and subjective truth support methodological choices like whether to conduct interviews or send out surveys, for example.

While paradigms are broad philosophical assumptions, **theory** is more specific, and refers to a set of concepts and relationships scientists use to explain the social world. Theories are more concrete, while paradigms are more abstract. Look back to Figure 7.1 at the beginning of this chapter. Theory helps you identify the concepts and relationships that align with your paradigmatic understanding of the problem. Moreover, theory informs how you will measure the concepts in your research question and the design of your project.

For both theories and paradigms, Kuhn's observation of scientific paradigms, crises, and revolutions is instructive for understanding the history of science. Researchers inherit institutions, norms, and ideas that are marked by the battlegrounds of theoretical and paradigmatic debates that stretch back hundreds of years. We have necessarily simplified this history into four paradigms: positivism, interpretivism, critical, and pragmatism. Our framework and explanation are inspired by the framework of Guba and Lincoln (1990)[22] and Burrell and Morgan (1979).[23] while also incorporating pragmatism as a way of resolving paradigmatic questions. Most of social work research and theory can be classified as belonging to one of these four paradigms, though this classification system represents only one of many useful approaches to analyzing social science research paradigms.

Building on our discussion in section 7.1 on objective vs. subjective epistemologies and ontologies, we will start with the difference between positivism and interpretivism. Afterward, we will link our discussion of axiology in section 7.2 with the critical paradigm. Finally, we will situate pragmatism as a way to resolve paradigmatic questions strategically. The difference between positivism and interpretivism is a good place to start, since the critical paradigm and pragmatism build on their philosophical insights.

It's important to think of paradigms less as distinct categories and more as a spectrum along which

projects might fall. For example, some projects may be somewhat positivist, somewhat interpretivist, and a little critical. No project fits perfectly into one paradigm. Additionally, there is no paradigm that is more correct than the other. Each paradigm uses assumptions that are logically consistent, and when combined, are a useful approach to understanding the social world using science. The purpose of this section is to acquaint you with what research projects in each paradigm look like and how they are grounded in philosophical assumptions about social science.

You should read this section to situate yourself in terms of what paradigm feels most "at home" to both you as a person and to your project. You may find, as I have, that your research projects are more conventional and less radical than what feels most like home to you, personally. In a research project, however, students should start with their working question rather than their heart. Use the paradigm that fits with *your question* the best, rather than which paradigm you think fits *you* the best.



Positivism: Researcher as "expert"

Positivism has its roots in the scientific revolution of the Enlightenment. Positivism is based on the idea

that we can come to know facts about the natural world through our experiences of it. The processes that support this are the logical and analytic classification and systemization of these experiences. Through this process of empirical analysis, Positivists aim to arrive at descriptions of law-like relationships and mechanisms that govern the world we experience.

Positivists have traditionally claimed that the only authentic knowledge we have of the world is empirical and scientific. Essentially, positivism downplays any gap between our experiences of the world and the way the world really is; instead, positivism determines objective "facts" through the correct methodological combination of observation and analysis. Data collection methods typically include quantitative measurement, which is supposed to overcome the individual biases of the researcher.

Positivism aspires to high standards of validity and reliability supported by evidence, and has been applied extensively in both physical and social sciences. Its goal is familiar to all students of science: iteratively expanding the evidence base of what we know is true. We can know our observations and analysis describe real world phenomena because researchers separate themselves and objectively observe the world, placing a deep epistemological separation between "the knower" and "what is known" and reducing the possibility of bias. We can all see the logic in separating yourself as much as possible from your study so as not to bias it, even if we know we cannot do so perfectly.

However, the criticism often made of positivism with regard to human and social sciences (e.g. education, psychology, sociology) is that positivism is scientistic; which is to say that it overlooks differences between the *objects* in the natural world (tables, atoms, cells, etc.) and the *subjects* in the social work (self-aware people living in a complex socio-historical context). In pursuit of the generalizable truth of "hard" science, it fails to adequately explain the many aspects of human experience don't conform to this way of collecting data. Furthermore, by viewing science as an idealized pursuit of pure knowledge, positivists may ignore the many ways in which power structures our access to scientific knowledge, the tools to create it, and the capital to participate in the scientific community.

Kivunja & Kuyini (2017)[24] describe the essential features of positivism as:

- A belief that theory is universal and law-like generalizations can be made across contexts
- The assumption that context is not important
- The belief that truth or knowledge is 'out there to be discovered' by research
- The belief that cause and effect are distinguishable and analytically separable
- The belief that results of inquiry can be quantified
- The belief that theory can be used to predict and to control outcomes
- The belief that research should follow the scientific method of investigation
- Rests on formulation and testing of hypotheses
- Employs empirical or analytical approaches
- Pursues an objective search for facts
- Believes in ability to observe knowledge
- The researcher's ultimate aim is to establish a comprehensive universal theory, to account for

human and social behavior
- Application of the scientific method

Many quantitative researchers now identify as postpositivist. Postpositivism retains the idea that truth should be considered objective, but asserts that our experiences of such truths are necessarily imperfect because they are ameliorated by our values and experiences. Understanding how postpositivism has updated itself in light of the developments in other research paradigms is instructive for developing your own paradigmatic framework. Epistemologically, postpositivists operate on the assumption that human knowledge is based not on the assessments from an objective individual, but rather upon human conjectures. As human knowledge is thus unavoidably conjectural and uncertain, though assertions about what is true and why it is true can be modified or withdrawn in the light of further investigation. However, postpositivism is not a form of relativism, and generally retains the idea of objective truth.

These epistemological assumptions are based on ontological assumptions that an objective reality exists, but contra positivists, they believe reality can be known only imperfectly and probabilistically. While positivists believe that research is or can be value-free or value-neutral, postpositivists take the position that bias is undesired but inevitable, and therefore the investigator must work to detect and try to correct it. Postpositivists work to understand how their axiology (i.e., values and beliefs) may have influenced their research, including through their choice of measures, populations, questions, and definitions, as well as through their interpretation and analysis of their work. Methodologically, they use mixed methods and both quantitative and qualitative methods, accepting the problematic nature of "objective" truths and seeking to find ways to come to a better, yet ultimately imperfect understanding of what is true. A popular form of postpositivism is critical realism, which lies between positivism and interpretivism.

Is positivism right for your project?

Positivism is concerned with understanding what is true for everybody. Social workers whose working question fits best with the positivist paradigm will want to produce data that are generalizable and can speak to larger populations. For this reason, positivistic researchers favor quantitative methods–probability sampling, experimental or survey design, and multiple, and well-established instruments to measure key concepts.

A positivist orientation to research is appropriate when your research question asks for generalizable truths. For example, your working question may look something like: does my agency's housing intervention lead to fewer periods of homelessness for our clients? It is necessary to study such a relationship quantitatively and objectively. When social workers speak about social problems impacting societies and individuals, they reference positivist research, including experiments and surveys of the general populations. Positivist research is exceptionally good at producing cause-and-effect

explanations that apply across many different situations and groups of people. There are many good reasons why positivism is the dominant research paradigm in the social sciences.

Critiques of positivism stem from two major issues. First and foremost, positivism may not fit the messy, contradictory, and circular world of human relationships. A positivistic approach does not allow the researcher to understand another person's subjective mental state in detail. This is because the positivist orientation focuses on quantifiable, generalizable data—and therefore encompasses only a small fraction of what may be true in any given situation. This critique is emblematic of the interpretivist paradigm, which we will describe next.

In the section after that, we will describe the critical paradigm, which critiques the positivist paradigm (and the interpretivist paradigm) for focusing too little on social change, values, and oppression. Positivists assume they know what is true, but they often do not incorporate the knowledge and experiences of oppressed people, even when those community members are directly impacted by the research. Positivism has been critiqued as ethnocentrist, patriarchal, and classist (Kincheloe & Tobin, 2009).[25] This leads them to do research *on*, rather than *with* populations by excluding them from the conceptualization, design, and impact of a project, a topic we discussed in section 2.4. It also leads them to ignore the historical and cultural context that is important to understanding the social world. The result can be a one-dimensional and reductionist view of reality.

Exercises

- From your literature search, identify an empirical article that uses quantitative methods to answer a research question similar to your working question or about your research topic.
- Review the assumptions of the positivist research paradigm.
- Discuss in a few sentences how the author's conclusions are based on some of these paradigmatic assumptions. How might a researcher operating from a different paradigm (e.g., interpretivism, critical) critique these assumptions as well as the conclusions of this study?



Interpretivism: Researcher as "empathizer"

Positivism is focused on generalizable truth. **Interpretivism**, by contrast, develops from the idea that we want to understand the truths of individuals, how they interpret and experience the world, their thought processes, and the social structures that emerge from sharing those interpretations through

language and behavior. The process of interpretation (or social construction) is guided by the empathy of the researcher to understand the meaning behind what other people say.

Historically, interpretivism grew out of a specific critique of positivism: that knowledge in the human and social sciences cannot conform to the model of natural science because there are features of human experience that cannot objectively be "known". The tools we use to understand objects that have no self-awareness may not be well-attuned to subjective experiences like emotions, understandings, values, feelings, socio-cultural factors, historical influences, and other meaningful aspects of social life. Instead of finding a single generalizable "truth," the interpretivist researcher aims to generate understanding and often adopts a relativist position.

While positivists seek "the truth," the social constructionist framework argues that "truth" varies. Truth differs based on who you ask, and people change what they believe is true based on social interactions. These subjective truths also exist within social and historical contexts, and our understanding of truth varies across communities and time periods. This is because we, according to this paradigm, create reality ourselves through our social interactions and our interpretations of those interactions. Key to the interpretivist perspective is the idea that social context and interaction frame our realities.

Researchers operating within this framework take keen interest in how people come to socially agree, or disagree, about what is real and true. Consider how people, depending on their social and geographical context, ascribe different meanings to certain hand gestures. When a person raises their middle finger, those of us in Western cultures will probably think that this person isn't very happy (not to mention the person at whom the middle finger is being directed!). In other societies around the world, a thumbs-up gesture, rather than a middle finger, signifies discontent (Wong, 2007).[26] The fact that these hand gestures have different meanings across cultures aptly demonstrates that those meanings are socially and collectively constructed. What, then, is the "truth" of the middle finger or thumbs up? As we've seen in this section, the truth depends on the intention of the person making the gesture, the interpretation of the person receiving it, and the social context in which the action occurred.

Qualitative methods are preferred as ways to investigate these phenomena. Data collected might be unstructured (or "messy") and correspondingly a range of techniques for approaching data collection have been developed. Interpretivism acknowledges that it is impossible to remove cultural and individual influence from research, often instead making a virtue of the positionality of the researcher and the socio-cultural context of a study.

One common objection positivists levy against interpretivists is that interpretivism tends to emphasize the subjective over the objective. If the starting point for an investigation is that we can't fully and objectively know the world, how can we do research into this without everything being a matter of opinion? For the positivist, this risk for confirmation bias as well as invalid and unreliable measures makes interpretivist research unscientific. Clearly, we disagree with this assessment, and you should, too. Positivism and interpretivism have different ontologies and epistemologies with contrasting notions of rigor and validity (for more information on assumptions about measurement, see Chapter 11 for quantitative validity and reliability and Chapter 20 for qualitative rigor). Nevertheless, both

paradigms apply the values and concepts of the scientific method through systematic investigation of the social world, even if their assumptions lead them to do so in different ways. Interpretivist research often embraces a relativist epistemology, bringing together different perspectives in search of a trustworthy and authentic understanding or narrative.

Kivunja & Kuyini (2017)[27] describe the essential features of interpretivism as:

- The belief that truths are multiple and socially constructed
- The acceptance that there is inevitable interaction between the researcher and his or her research participants
- The acceptance that context is vital for knowledge and knowing
- The belief that knowledge can be value laden and the researcher's values need to be made explicit
- The need to understand specific cases and contexts rather deriving universal laws that apply to everyone, everywhere.
- The belief that causes and effects are mutually interdependent, and that causality may be circular or contradictory
- The belief that contextual factors need to be taken into consideration in any systematic pursuit of understanding

One important clarification: it's important to think of the interpretivist perspective as not just about individual interpretations but the social life of interpretations. While individuals may construct their own realities, groups—from a small one such as a married couple to large ones such as nations—often agree on notions of what is true and what "is" and what "is not." In other words, the meanings that we construct have power beyond the individuals who create them. Therefore, the ways that people and communities act based on such meanings is of as much interest to interpretivists as how they were created in the first place. Theories like social constructionism, phenomenology, and symbolic interactionism are often used in concert with interpretivism.

Is interpretivism right for your project?

An interpretivist orientation to research is appropriate when your working question asks about subjective truths. The cause-and-effect relationships that interpretivist studies produce are specific to the time and place in which the study happened, rather than a generalizable objective truth. More pragmatically, if you picture yourself having a conversation with participants like an interview or focus group, then interpretivism is likely going to be a major influence for your study.

Positivists critique the interpretivist paradigm as non-scientific. They view the interpretivist focus on subjectivity and values as sources of bias. Positivists and interpretivists differ on the degree to which social phenomena are like natural phenomena. Positivists believe that the assumptions of the social

sciences and natural sciences are the same, while interpretivists strongly believe that social sciences differ from the natural sciences because their subjects are social creatures.

Similarly, the critical paradigm finds fault with the interpretivist focus on the status quo rather than social change. Although interpretivists often proceed from a feminist or other standpoint theory, the focus is less on liberation than on understanding the present from multiple perspectives. Other critical theorists may object to the consensus orientation of interpretivist research. By searching for commonalities between people's stories, they may erase the uniqueness of each individual's story. For example, while interpretivists may arrive at a consensus definition of what the experience of "coming out" is like for people who identify as lesbian, gay, bisexual, transgender, or queer, it cannot represent the diversity of each person's unique "coming out" experience and what it meant to them. For example, see Rosario and colleagues' (2009)[28] critique the literature on lesbians "coming out" because previous studies did not addressing how appearing, behaving, or identifying as a *butch* or *femme* impacted the experience of "coming out" for lesbians.

Exercises

- From your literature search, identify an empirical article that uses qualitative methods to answer a research question similar to your working question or about your research topic.
- Review the assumptions of the interpretivist research paradigm.
- Discuss in a few sentences how the author's conclusions are based on some of these paradigmatic assumptions. How might a researcher operating from a different paradigm (like positivism or the critical paradigm) critique the conclusions of this study?



Critical paradigm: Researcher as "activist"

As we've discussed a bit in the preceding sections, the **critical paradigm** focuses on power, inequality, and social change. Although some rather diverse perspectives are included here, the critical paradigm, in general, includes ideas developed by early social theorists, such as Max Horkheimer (Calhoun et al., 2007),[29] and later works developed by feminist scholars, such as Nancy Fraser (1989).[30] Unlike the positivist paradigm, the critical paradigm assumes that social science can never be truly objective or value-free. Furthermore, this paradigm operates from the perspective that scientific investigation should be conducted with the express goal of social change. Researchers in the critical paradigm foreground axiology, positionality and values . In contrast with the detached, "objective" observations associated with the positivist researcher, critical approaches make explicit the intention for research to act as a transformative or emancipatory force within and beyond the study.

Researchers in the critical paradigm might start with the knowledge that systems are biased against certain groups, such as women or ethnic minorities, building upon previous theory and empirical data. Moreover, their research projects are designed not only to collect data, but to impact the participants as well as the systems being studied. The critical paradigm applies its study of power and inequality to change those power imbalances as part of the research process itself. If this sounds familiar to you, you may remember hearing similar ideas when discussing social conflict theory in your human behavior in the social environment (HBSE) class.[31] Because of this focus on social change, the critical paradigm is a natural home for social work research. However, we fall far short of adopting this approach widely in our profession's research efforts.

Is the critical paradigm right for your project?

Every social work research project impacts social justice in some way. What distinguishes critical research is how it integrates an analysis of power into the research process itself. Critical research is appropriate for projects that are activist in orientation. For example, critical research projects should have working questions that explicitly seek to raise the consciousness of an oppressed group or collaborate equitably with community members and clients to addresses issues of concern. Because of their transformative potential, critical research projects can be incredibly rewarding to complete. However, partnerships take a long time to develop and social change can evolve slowly on an issue, making critical research projects a more challenging fit for student research projects which must be completed under a tight deadline with few resources.

Positivists critique the critical paradigm on multiple fronts. First and foremost, the focus on oppression and values as part of the research process is seen as likely to bias the research process, most problematically, towards confirmation bias. If you start out with the assumption that oppression exists and must be dealt with, then you are likely to find that regardless of whether it is truly there or not. Similarly, positivists may fault critical researchers for focusing on how the world *should* be, rather than how it truly *is*. In this, they may focus too much on theoretical and abstract inquiry and less on traditional experimentation and empirical inquiry. Finally, the goal of social transformation is seen as inherently unscientific, as science is not a political practice.

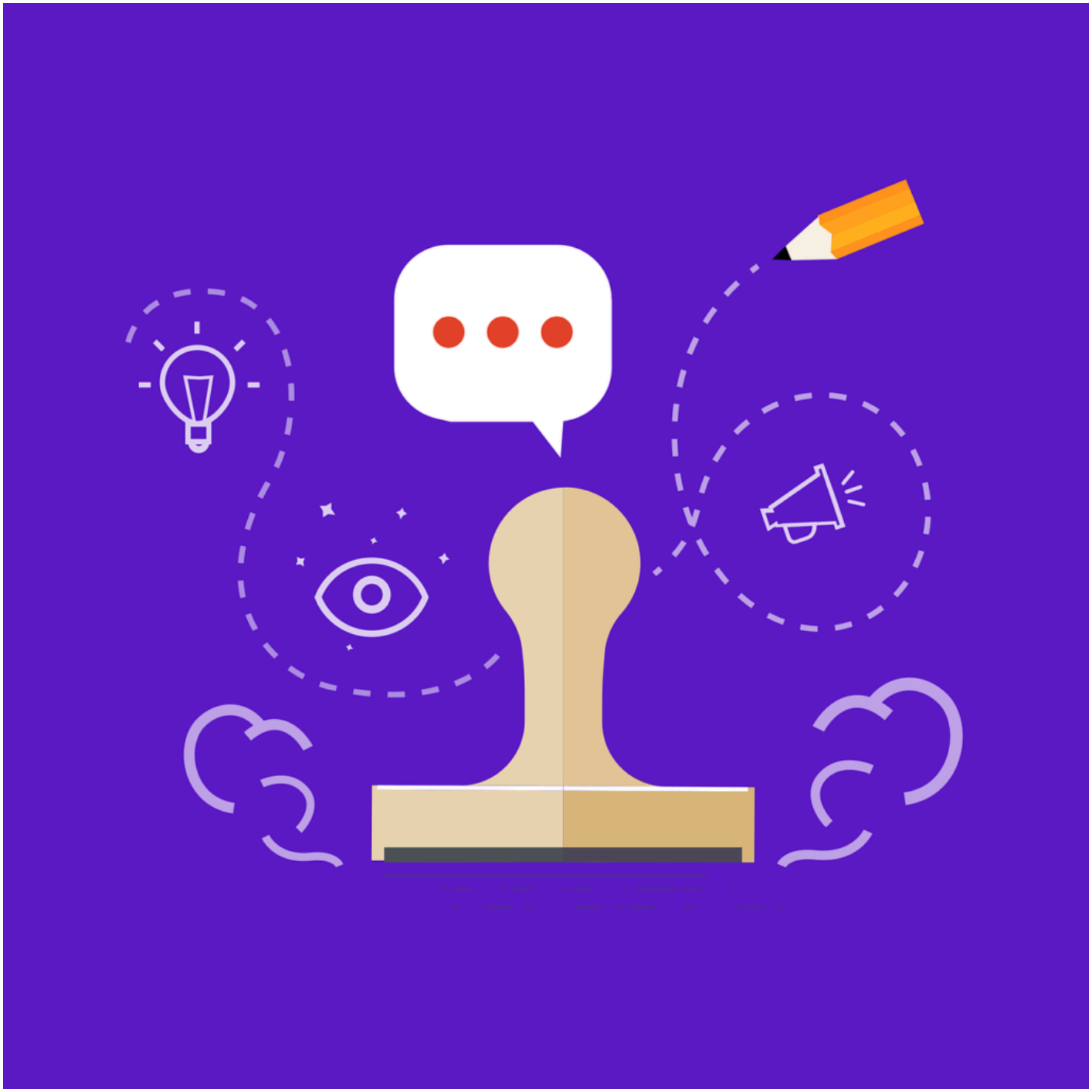
Interpretivists often find common cause with critical researchers. Feminist studies, for example, may explore the perspectives of women while centering gender-based oppression as part of the research process. In interpretivist research, the focus is less on radical change as part of the research process and more on small, incremental changes based on the results and conclusions drawn from the research project. Additionally, some critical researchers' focus on individuality of experience is in stark contrast to the consensus-orientation of interpretivists. Interpretivists seek to understand people's true selves. Some critical theorists argue that people have multiple selves or no self at all.

Exercises

- From your literature search, identify an article relevant to your working question or broad research topic that uses a critical perspective. You should look for articles where the authors are clear that they are applying a critical approach to research like feminism, anti-racism, Marxism and critical theory, decolonization, anti-oppressive practice, or other social justice-focused theoretical perspectives. To target your search further, include keywords in your queries to research methods commonly used in the critical paradigm like participatory action research and community-based participatory research. If you have trouble identifying an article for this exercise, consult your professor for some help. These articles may be more challenging to find, but reviewing one is necessary to get a feel for what research in this paradigm is like.
- Review the assumptions of the critical research paradigm.

- Discuss in a few sentences how the author's conclusions are based on some of these paradigmatic assumptions. How might a researcher operating from different assumptions (like values-neutrality or researcher as neutral and unbiased) critique the conclusions of this study?

Feeling a bit confused? Here is a clear and short blog post on paradigms in social science that might explain things further.



Pragmatism: Researcher as "strategist"

> "Essentially, all models are wrong but some are useful." (Box, 1976)[32]

Pragmatism is a research paradigm that suspends questions of philosophical 'truth' and focuses more on how different philosophies, theories, and methods can be used strategically to provide a multidimensional view of a topic. Researchers employing pragmatism will mix elements of positivist,

interpretivist, and critical research depending on the purpose of a particular project and the practical constraints faced by the researcher and their research context. We favor this approach for student projects because it avoids getting bogged down in choosing the "right" paradigm and instead focuses on the assumptions that help you answer your question, given the limitations of your research context. Student research projects are completed quickly and moving in the direction of pragmatism can be a route to successfully completing a project. Your project is a representation of what you think is feasible, ethical, and important enough for you to study.

The crucial consideration for the pragmatist is whether the outcomes of research have any real-world application, rather than whether they are "true." The methods, theories, and philosophies chosen by pragmatic researchers are guided by their working question. There are no distinctively pragmatic research methods since this approach is about making judicious use whichever methods fit best with the problem under investigation. Pragmatic approaches may be less likely to prioritize ontological, epistemological or axiological consistency when combining different research methods. Instead, the emphasis is on solving a pressing problem and adapting to the limitations and opportunities in the researchers' context.

Adopt a multi-paradigmatic perspective

Believe it or not, there is a long literature of acrimonious conflict between scientists from positivist, interpretivist, and critical camps (see Heineman-Pieper et al., 2002[33] for a longer discussion). Pragmatism is an old idea, but it is appealing precisely because it attempts to resolve the problem of multiple incompatible philosophical assumptions in social science. To a pragmatist, there is no "correct" paradigm. All paradigms rely on assumptions about the social world that are the subject of philosophical debate. Each paradigm is an incomplete understanding of the world, and it requires a scientific community using all of them to gain a comprehensive view of the social world. This multi-paradigmatic perspective is a unique gift of social work research, as our emphasis on empathy and social change makes us more critical of positivism, the dominant paradigm in social science.

We offered the metaphors of expert, empathizer, activist, and strategist for each paradigm. It's important not to take these labels too seriously. For example, some may view that scientists should be experts or that activists are biased and unscientific. Nevertheless, we hope that these metaphors give you a sense of what it *feels* like to conduct research within each paradigm.

One of the unique aspects of paradigmatic thinking is that often where you think you are most at home may actually be the opposite of where your research project is. For example, in my graduate and doctoral education, I thought I was a critical researcher. In fact, I thought I was a radical researcher focused on social change and transformation. Yet, often times when I sit down to conceptualize and start a research project, I find myself squarely in the positivist paradigm, thinking through neat cause-and-effect relationships that can be mathematically measured. There is nothing wrong with that! Your

task for your research project is to find the paradigm that *best* matches your research question. Think through what you really want to study and how you think about the topic, then use assumptions of that paradigm to guide your inquiry.

Another important lesson is that no research project fits perfectly in one paradigm or another. Instead, there is a spectrum along which studies are, to varying degrees, interpretivist, positivist, and critical. For example, all social work research is a bit activist in that our research projects are designed to inform action for change on behalf of clients and systems. However, some projects will focus on the conclusions and implications of projects informing social change (i.e., positivist and interpretivist projects) while others will partner with community members and design research projects collaboratively in a way that leads to social change (i.e. critical projects). In section 7.5, we will describe a pragmatic approach to research design guided by your paradigmatic and theoretical framework.

Key Takeaways

- Social work research falls, to some degree, in each of the four paradigms: positivism, interpretivism, critical, and pragmatist.
- Adopting a pragmatic, multi-paradigmatic approach to research makes sense for student researchers, as it directs students to use the philosophical assumptions and methodological approaches that best match their research question and research context.
- Research in all paradigms is necessary to come to a comprehensive understanding of a topic, and social workers must be able to understand and apply knowledge from each research paradigm.

Exercises

- Describe which paradigm best fits your perspective on the world and which best fits with your project.
- Identify any similarities and differences in your personal assumptions and the assumption your research project relies upon. For example, are you a more critical and radical thinker but have chosen a more "expert" role for yourself in your research project?

7.4 Developing your theoretical framework

Learning Objectives

Learners will be able to...

- Differentiate between theories that explain specific parts of the social world versus those that are more broad and sweeping in their conclusions
- Identify the theoretical perspectives that are relevant to your project and inform your thinking about it
- Define key concepts in your working question and develop a theoretical framework for how you understand your topic.

Much like paradigms, theories provide a way of looking at the world and of understanding human interaction. Paradigms are grounded in big assumptions about the world—what is real, how do we create knowledge—whereas theories describe more specific phenomena. Well, we are still oversimplifying a bit. Some theories try to explain the whole world, while others only try to explain a small part. Some theories can be grouped together based on common ideas but retain their own individual and unique features. Our goal is to help you find a theoretical framework that helps you understand your topic more deeply and answer your working question.

Theories: Big and small

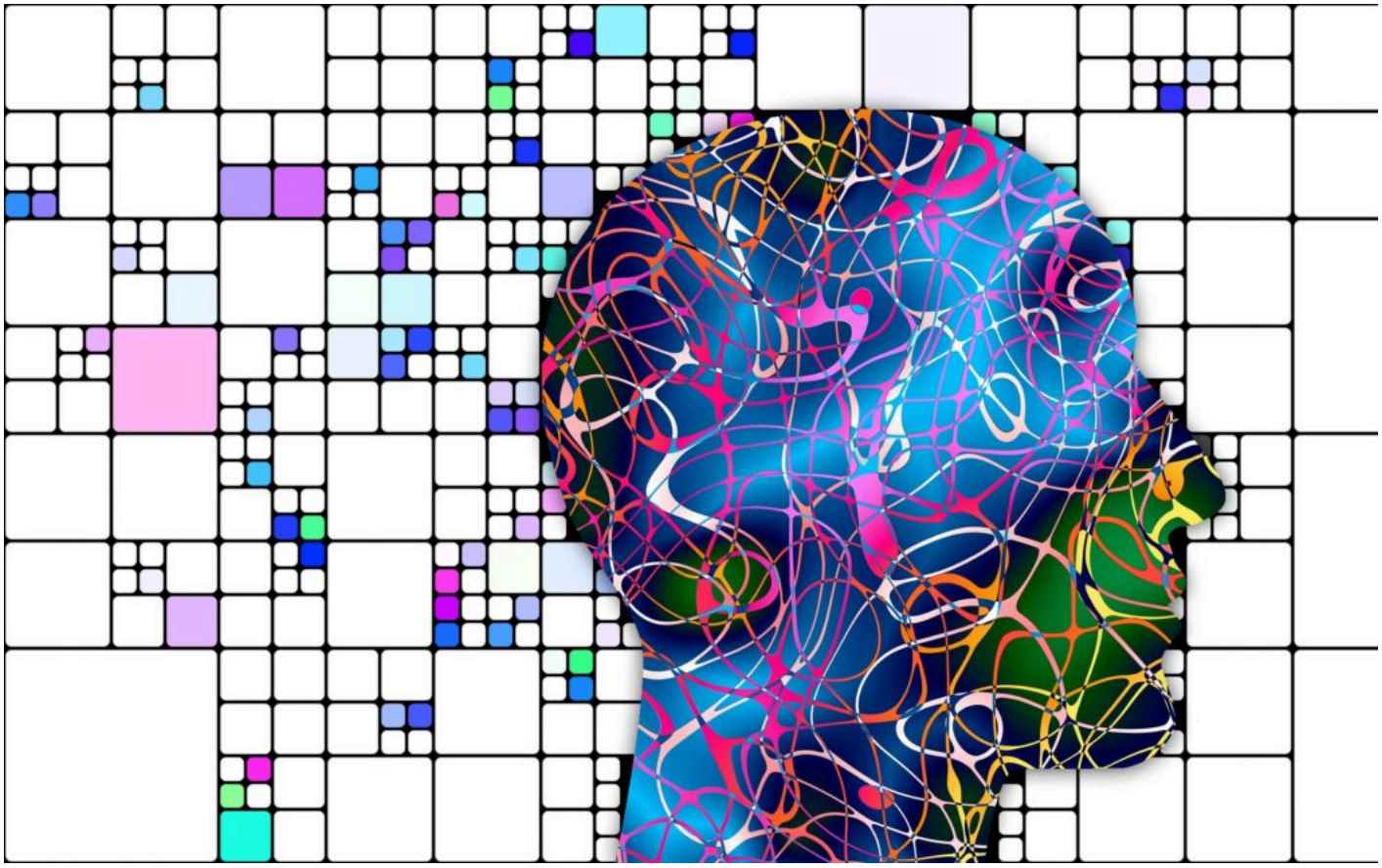
In your human behavior and the social environment (HBSE) class, you were introduced to the major theoretical perspectives that are commonly used in social work. These are what we like to call big-T 'T'heories. When you read about systems theory, you are actually reading a synthesis of decades of distinct, overlapping, and conflicting theories that can be broadly classified within systems theory. For example, within systems theory, some approaches focus more on family systems while others focus on environmental systems, though the core concepts remain similar.

Different theorists define concepts in their own way, and as a result, their theories may explore different relationships with those concepts. For example, Deci and Ryan's (1985)[34] self-determination theory discusses motivation and establishes that it is contingent on meeting one's needs for autonomy, competency, and relatedness. By contrast, ecological self-determination theory, as written by Abery & Stancliffe (1996),[35] argues that self-determination is the amount of control exercised by an individual over aspects of their lives they deem important across the micro, meso, and macro levels. If self-determination were an important concept in your study, you would need to figure out which of the many theories related to self-determination helps you address your working question.

Theories can provide a broad perspective on the key concepts and relationships in the world or more specific and applied concepts and perspectives. Table 7.2 summarizes two commonly used lists of big-T Theoretical perspectives in social work. See if you can locate some of the theories that might inform your project.

Table 7.2: Broad theoretical perspectives in social work

Payne's (2014)[36] practice theories	**Hutchison's (2014)[37] theoretical perspectives**
Psychodynamic	Systems
Crisis and task-centered	Conflict
Cognitive-behavioral	Exchange and choice
Systems/ecological	Social constructionist
Macro practice/social development/social pedagogy	Psychodynamic
Strengths/solution/narrative	Developmental
Humanistic/existential/spiritual	Social behavioral
Critical	Humanistic
Feminist	
Anti-discriminatory/multi-cultural sensitivity	



Competing theoretical explanations

Within each area of specialization in social work, there are many other theories that aim to explain more specific types of interactions. For example, within the study of sexual harassment, different theories posit different explanations for why harassment occurs.

One theory, first developed by criminologists, is called routine activities theory. It posits that sexual harassment is most likely to occur when a workplace lacks unified groups and when potentially vulnerable targets and motivated offenders are both present (DeCoster, Estes, & Mueller, 1999).[38]

Other theories of sexual harassment, called relational theories, suggest that one's existing relationships are the key to understanding why and how workplace sexual harassment occurs and how people will respond when it does occur (Morgan, 1999).[39] Relational theories focus on the power that different social relationships provide (e.g., married people who have supportive partners at home might be more likely than those who lack support at home to report sexual harassment when it occurs).

Finally, feminist theories of sexual harassment take a different stance. These theories posit that the organization of our current gender system, wherein those who are the most masculine have the most power, best explains the occurrence of workplace sexual harassment (MacKinnon, 1979).[40] As you might

imagine, which theory a researcher uses to examine the topic of sexual harassment will shape the questions asked about harassment. It will also shape the explanations the researcher provides for why harassment occurs.

For a graduate student beginning their study of a new topic, it may be intimidating to learn that there are so many theories beyond what you've learned in your theory classes. What's worse is that there is no central database of theories on your topic. However, as you review the literature in your area, you will learn more about the theories scientists have created to explain how your topic works in the real world. There are other good sources for theories, in addition to journal articles. Books often contain works of theoretical and philosophical importance that are beyond the scope of an academic journal. Do a search in your university library for books on your topic, and you are likely to find theorists talking about how to make sense of your topic. You don't necessarily have to agree with the prevailing theories about your topic, but you do need to be aware of them so you can apply theoretical ideas to your project.

Applying big-T theories to your topic

The key to applying theories to your topic is learning the *key concepts* associated with that theory and the *relationships* between those concepts, or *propositions*. Again, your HBSE class should have prepared you with some of the most important concepts from the theoretical perspectives listed in Table 7.2. For example, the conflict perspective sees the world as divided into dominant and oppressed groups who engage in conflict over resources. If you were applying these theoretical ideas to your project, you would need to identify which groups in your project are considered dominant or oppressed groups, and which resources they were struggling over. This is a very general example. Challenge yourself to find small-t theories about your topic that will help you understand it in much greater detail and specificity. If you have chosen a topic that is relevant to your life and future practice, you will be doing valuable work shaping your ideas towards social work practice.

Integrating theory into your project can be easy, or it can take a bit more effort. Some people have a strong and explicit theoretical perspective that they carry with them at all times. For me, you'll probably see my work drawing from exchange and choice, social constructionist, and critical theory. Maybe you have theoretical perspectives you naturally employ, like Afrocentric theory or person-centered practice. If so, that's a great place to start since you might already be using that theory (even subconsciously) to inform your understanding of your topic. But if you aren't aware of whether you are using a theoretical perspective when you think about your topic, try writing a paragraph off the top of your head or talking with a friend explaining what you think about that topic. Try matching it with some of the ideas from the broad theoretical perspectives from Table 7.2. This can ground you as you search for more specific theories. Some studies are designed to test whether theories apply the real world while others are designed to create new theories or variations on existing theories. Consider which feels more appropriate for your project and what you want to know.

Another way to easily identify the theories associated with your topic is to look at the concepts in your working question. Are these concepts commonly found in any of the theoretical perspectives in Table 7.2? Take a look at the Payne and Hutchison texts and see if any of those look like the concepts and relationships in your working question or if any of them match with how you think about your topic. Even if they don't possess the exact same wording, similar theories can help serve as a starting point to finding other theories that can inform your project. Remember, HBSE textbooks will give you not only the broad statements of theories but also sources from specific theorists and sub-theories that might be more applicable to your topic. Skim the references and suggestions for further reading once you find something that applies well.

Exercises

Choose a theoretical perspective from Hutchison, Payne, or another theory textbook that is relevant to your project. Using their textbooks or other reputable sources, identify :

- At least five important concepts from the theory
- What relationships the theory establishes between these important concepts (e.g., as x increases, the y decreases)
- How you can use this theory to better understand the concepts and variables in your project?

Developing your own theoretical framework

Hutchison's and Payne's frameworks are helpful for surveying the whole body of literature relevant to social work, which is why they are so widely used. They are one framework, or way of thinking, about all of the theories social workers will encounter that are relevant to practice. Social work researchers should delve further and develop a theoretical or conceptual framework of their own based on their reading of the literature. In Chapter 8, we will develop your theoretical framework further, identifying the cause-and-effect relationships that answer your working question. Developing a theoretical framework is also instructive for revising and clarifying your working question and identifying concepts that serve as keywords for additional literature searching. The greater clarity you have with your theoretical perspective, the easier each subsequent step in the research process will be.

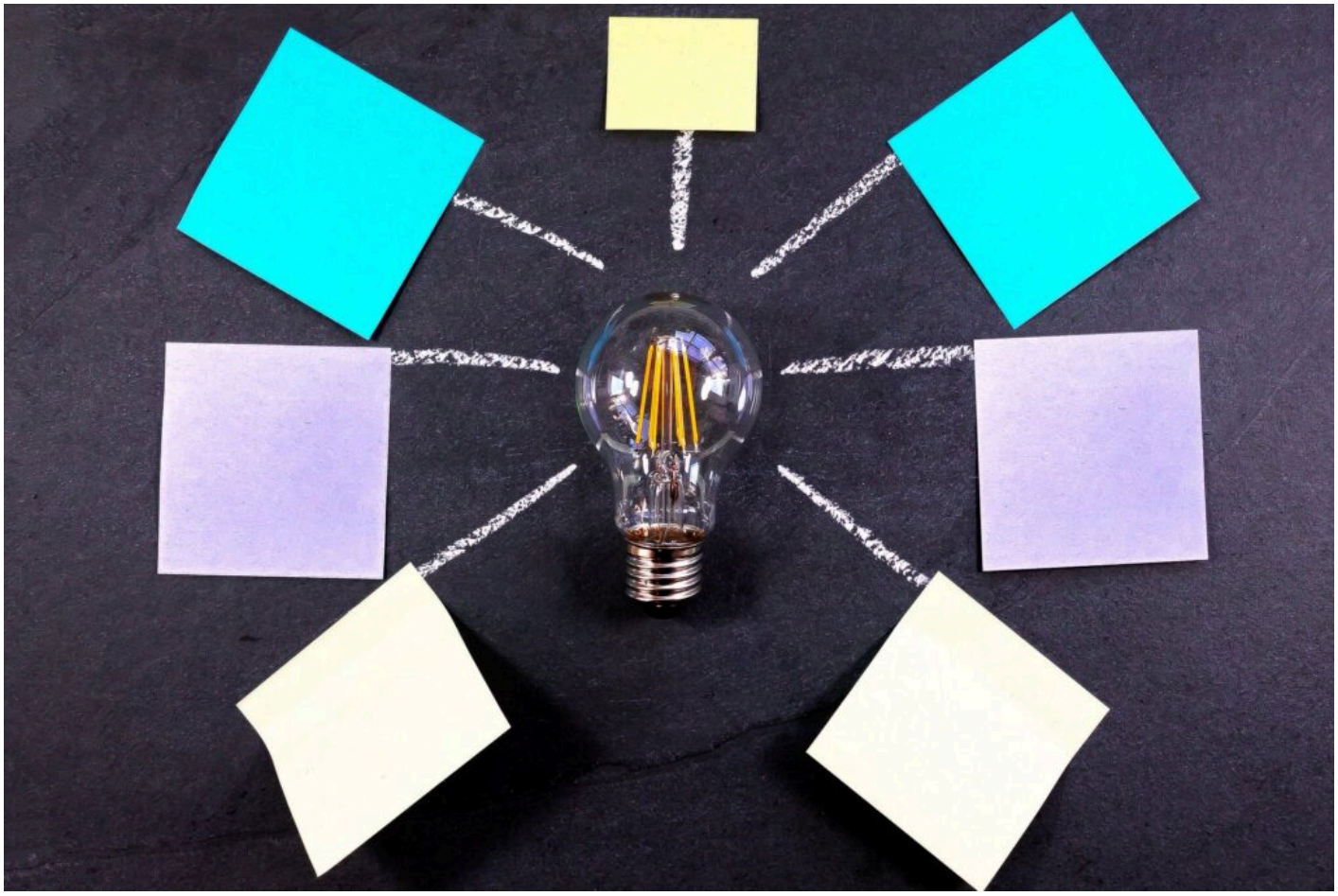
Getting acquainted with the important theoretical concepts in a new area can be challenging. While social work education provides a broad overview of social theory, you will find much greater fulfillment out of reading about the theories related to your topic area. We discussed some strategies for finding theoretical information in Chapter 3 as part of literature searching. To extend that conversation a bit, some strategies for searching for theories in the literature include:

- Using keywords like “theory,” “conceptual,” or “framework” in queries to better target the search at sources that talk about theory.
    - Consider searching for these keywords in the title or abstract, specifically
- Looking at the references and cited by links within theoretical articles and textbooks
- Looking at books, edited volumes, and textbooks that discuss theory
- Talking with a scholar on your topic, or asking a professor if they can help connect you to someone
- Looking at how researchers use theory in their research projects
    - Nice authors are clear about how they use theory to inform their research project, usually in the introduction and discussion section.
- Starting with a Big-T Theory and looking for sub-theories or specific theorists that directly address your topic area
    - For example, from the broad umbrella of systems theory, you might pick out family systems theory if you want to understand the effectiveness of a family counseling program.

It’s important to remember that knowledge arises within disciplines, and that disciplines have different theoretical frameworks for explaining the same topic. While it is certainly important for the social work perspective to be a part of your analysis, social workers benefit from searching across disciplines to come to a more comprehensive understanding of the topic. Reaching across disciplines can provide uncommon insights during conceptualization, and once the study is completed, a multidisciplinary researcher will be able to share results in a way that speaks to a variety of audiences. A study by An and colleagues (2015)[41] uses game theory from the discipline of economics to understand problems in the Temporary Assistance for Needy Families (TANF) program. In order to receive TANF benefits, mothers must cooperate with paternity and child support requirements unless they have “good cause,” as in cases of domestic violence, in which providing that information would put the mother at greater risk of violence. Game theory can help us understand how TANF recipients and caseworkers respond to the incentives in their environment, and highlight why the design of the “good cause” waiver program may not achieve its intended outcome of increasing access to benefits for survivors of family abuse.

Of course, there are natural limits on the depth with which student researchers can and should engage in a search for theory about their topic. At minimum, you should be able to draw connections across studies and be able to assess the relative importance of each theory within the literature. Just because you found one article applying your theory (like game theory, in our example above) does not mean it is important or often used in the domestic violence literature. Indeed, it would be much more common in the family violence literature to find psychological theories of trauma, feminist theories of power and control, and similar theoretical perspectives used to inform research projects rather than game theory, which is equally applicable to survivors of family violence as workers and bosses at a corporation. Consider using the Cited By feature to identify articles, books, and other sources of theoretical information that are seminal or well-cited in the literature. Similarly, by using the name of a theory in the keywords of a search query (along with keywords related to your topic), you can get

a sense of how often the theory is used in your topic area. You should have a sense of what theories are commonly used to analyze your topic, even if you end up choosing a different one to inform your project.



Theories that are not cited or used as often are still immensely valuable. As we saw before with TANF and "good cause" waivers, using theories from other disciplines can produce uncommon insights and help you make a new contribution to the social work literature. Given the privileged position that the social work curriculum places on theories developed by white men, students may want to explore Afrocentricity as a social work practice theory (Pellebon, 2007)[42] or abolitionist social work (Jacobs et al., 2021)[43] when deciding on a theoretical framework for their research project that addresses concepts of racial justice. Start with your working question, and explain how each theory helps you answer your question. Some explanations are going to feel right, and some concepts will feel more salient to you than others. Keep in mind that this is an iterative process. Your theoretical framework will likely change as you continue to conceptualize your research project, revise your research question, and design your study.

By trying on many different theoretical explanations for your topic area, you can better clarify your own theoretical framework. Some of you may be fortunate enough to find theories that match perfectly

with how you think about your topic, are used often in the literature, and are therefore relatively straightforward to apply. However, many of you may find that a combination of theoretical perspectives is most helpful for you to investigate your project. For example, maybe the group counseling program for which you are evaluating client outcomes draws from both motivational interviewing and cognitive behavioral therapy. In order to understand the change happening in the client population, you would need to know each theory separately as well as how they work in tandem with one another. Because theoretical explanations and even the definitions of concepts are debated by scientists, it may be helpful to find a specific social scientist or group of scientists whose perspective on the topic you find matches with your understanding of the topic. Of course, it is also perfectly acceptable to develop your own theoretical framework, though you should be able to articulate how your framework fills a gap within the literature.

If you are adapting theoretical perspectives in your study, it is important to clarify the original authors' definitions of each concept. Jabareen (2009)[44] offers that conceptual frameworks are not merely collections of concepts but, rather, constructs in which each concept plays an integral role.[45] A **conceptual framework** is a network of linked concepts that together provide a comprehensive understanding of a phenomenon. Each concept in a conceptual framework plays an ontological or epistemological role in the framework, and it is important to assess whether the concepts and relationships in your framework make sense together. As your framework takes shape, you will find yourself integrating and grouping together concepts, thinking about the most important or least important concepts, and how each concept is causally related to others.

Much like paradigm, theory plays a supporting role for the conceptualization of your research project. Recall the ice float from Figure 7.1. Theoretical explanations support the design and methods you use to answer your research question. In student projects that lack a theoretical framework, I often see the biases and errors in reasoning that we discussed in Chapter 1 that get in the way of good social science. That's because theories mark which concepts are important, provide a framework for understanding them, and measure their interrelationships. If you are missing this foundation, you will operate on informal observation, messages from authority, and other forms of unsystematic and unscientific thinking we reviewed in Chapter 1.

Theory-informed inquiry is incredibly helpful for identifying key concepts and how to measure them in your research project, but there is a risk in aligning research too closely with theory. The theory-ladenness of facts and observations produced by social science research means that we may be making our ideas real through research. This is a potential source of confirmation bias in social science. Moreover, as Tan (2016)[46] demonstrates, social science often proceeds by adopting as true the perspective of Western and Global North countries, and cross-cultural research is often when ethnocentric and biased ideas are most visible. In her example, a researcher from the West studying teacher-centric classrooms in China that rely partially on rote memorization may view them as less advanced than student-centered classrooms developed in a Western country simply because of Western philosophical assumptions about the importance of individualism and self-determination.

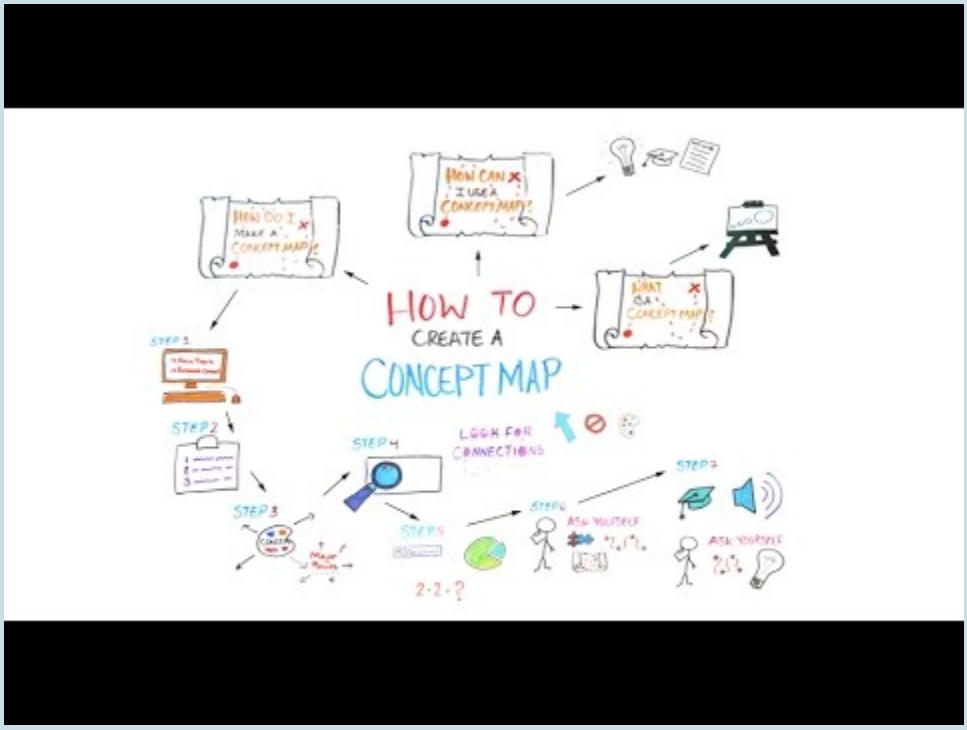
Developing a clear theoretical framework is a way to guard against biased research, and it will establish a firm foundation on which you will develop the design and methods for your study.

Key Takeaways

- Just as empirical evidence is important for conceptualizing a research project, so too are the key concepts and relationships identified by social work theory.
- Using theory your theory textbook will provide you with a sense of the broad theoretical perspectives in social work that might be relevant to your project.
- Try to find small-t theories that are more specific to your topic area and relevant to your working question.

Exercises

In Chapter 2, you developed a concept map for your proposal. Take a moment to revisit your concept map now as your theoretical framework is taking shape. Make any updates to the key concepts and relationships in your concept map.
. If you need a refresher, we have embedded a short how-to video from the University of Guelph Library (CC-BY-NC-SA 4.0) that we also used in Chapter 2.



A YouTube element has been excluded from this version of the text. You can view it online here: *https://pressbooks.rampages.us/msw-research/?p=289*

7.5 Designing your project using theory and paradigm

Learning Objectives

Learners will be able to…

- Apply the assumptions of each paradigm to your project
- Summarize what aspects of your project stem from positivist, interpretivist, or critical assumptions

In the previous sections, we reviewed the major paradigms and theories in social work research. In this section, we will provide an example of how to apply theory and paradigm in research. This process is depicted in Figure 7.2 below with some quick summary questions for each stage. Some questions in the figure below have example answers like designs (i.e., experimental, survey) and data analysis approaches (i.e., discourse analysis). These examples are arbitrary. There are a lot of options that are not listed. So, don't feel like you have to memorize them or use them in your study.

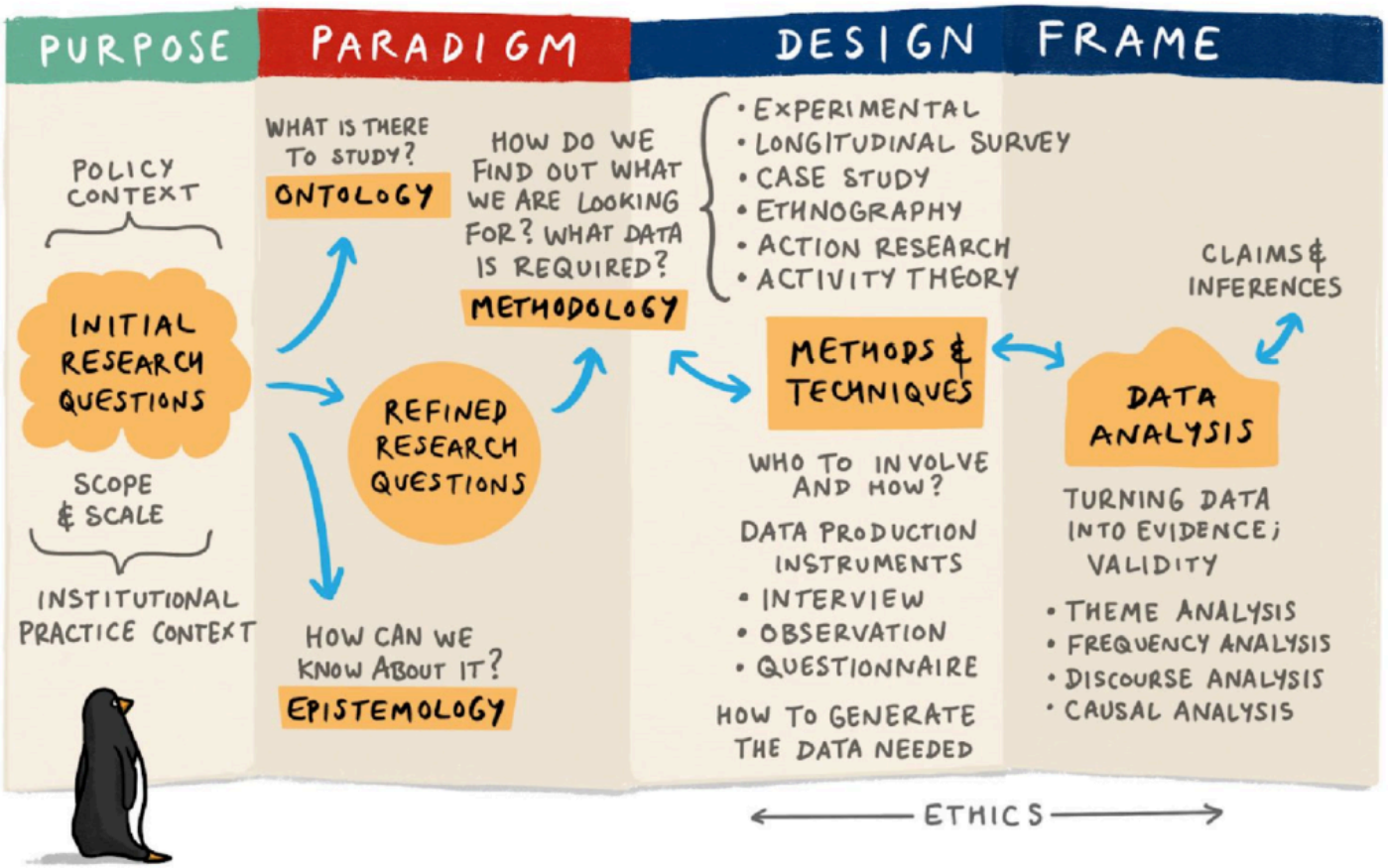


Figure 7.2 The research design process

This diagram (taken from an archived Open University (UK) course entitled E89-Educational Inquiry) shows one way to visualize the research design process. While research is far from linear, in general, this is how research projects progress sequentially. Researchers begin with a working question, and through

engaging with the literature, develop and refine those questions into research questions (a process we will finalize in Chapter 9). But in order to get to the part where you gather your sample, measure your participants, and analyze your data, you need to start with paradigm. Based on your work in section 7.3, you should have a sense of which paradigm or paradigms are best suited to answering your question. The approach taken will often reflect the nature of the research question; the kind of data it is possible to collect; and work previously done in the area under consideration. When evaluating paradigm and theory, it is important to look at what other authors have done previously and the framework used by studies that are similar to the one you are thinking of conducting.

Once you situate your project in a research paradigm, it becomes possible to start making concrete choices about methods. Depending on the project, this will involve choices about things like:

- What is my final research question?
- What are the key variables and concepts under investigation, and how will I measure them?
- How do I find a representative sample of people who experience the topic I'm studying?
- What design is most appropriate for my research question?
- How will I collect and analyze data?
- How do I determine whether my results describe real patterns in the world or are the result of bias or error?

The data collection phase can begin once these decisions are made. It can be very tempting to start collecting data as soon as possible in the research process as this gives a sense of progress. However, it is usually worth getting things exactly right before collecting data as an error found in your approach further down the line can be harder to correct or recalibrate around.

Designing a study using paradigm and theory: An example

Paradigm and theory have the potential to turn some people off since there is a lot of abstract terminology and thinking about real-world social work practice contexts. In this section, I'll use an example from my own research, and I hope it will illustrate a few things. First, it will show that paradigms are really just philosophical statements about things you already understand and think about normally. It will also show that no project neatly sits in one paradigm and that a social work researcher should use whichever paradigm or combination of paradigms suit their question the best. Finally, I hope it is one example of how to be a pragmatist and strategically use the strengths of different theories and paradigms to answering a research question. We will pick up the discussion of mixed methods in the next chapter.

Thinking as an expert: Positivism

In my undergraduate research methods class, I used an open textbook much like this one and wanted to study whether it improved student learning. You can read a copy of the article we wrote on based on our study. We'll learn more about the specifics of experiments and evaluation research in Chapter 13, but you know enough to understand what evaluating an intervention might look like. My first thought was to conduct an experiment, which placed me firmly within the positivist or "expert" paradigm.

Experiments focus on isolating the relationship between cause and effect. For my study, this meant studying an open textbook (the cause, or intervention) and final grades (the effect, or outcome). Notice that my position as "expert" lets me assume many things in this process. First, it assumes that I can distill the many dimensions of student learning into one number—the final grade. Second, as the "expert," I've determined what the intervention is: indeed, I created the book I was studying, and applied a theory from experts in the field that explains how and why it should impact student learning.

Theory is part of applying all paradigms, but I'll discuss its impact within positivism first. Theories grounded in positivism help explain why one thing causes another. More specifically, these theories isolate a causal relationship between two (or more) concepts while holding constant the effects of other variables that might confound the relationship between the key variables. That is why experimental design is so common in positivist research. The researcher isolates the environment from anything that might impact or bias the cause and effect relationship they want to investigate.

But in order for one thing to lead to change in something else, there must be some logical, rational reason why it would do so. In open education, there are a few hypotheses (though no full-fledged theories) on why students might perform better using open textbooks. The most common is the *access hypothesis*, which states that students who cannot afford expensive textbooks or wouldn't buy them anyway can access open textbooks because they are free, which will improve their grades. It's important to note that I held this theory prior to starting the experiment, as in positivist research you spell out your hypotheses in advance and design an experiment to support or refute that hypothesis.

Notice that the hypothesis here applies not only to the people in my experiment, but to any student in higher education. Positivism seeks generalizable truth, or what is true for everyone. The results of my study should provide evidence that *anyone* who uses an open textbook would achieve similar outcomes. Of course, there were a number of limitations as it was difficult to tightly control the study. I could not randomly assign students or prevent them from sharing resources with one another, for example. So, while this study had many positivist elements, it was far from a perfect positivist study because I was forced to adapt to the pragmatic limitations of my research context (e.g., I cannot randomly assign students to classes) that made it difficult to establish an objective, generalizable truth.

Thinking like an empathizer: Interpretivism

One of the things that did not sit right with me about the study was the reliance on final grades to signify everything that was going on with students. I added another quantitative measure that measured research knowledge, but this was still too simplistic. I wanted to understand how students used the book and what they thought about it. I could create survey questions that ask about these things, but to get at the subjective truths here, I thought it best to use focus groups in which students would talk to one another with a researcher moderating the discussion and guiding it using predetermined questions. You will learn more about focus groups in Chapter 18.

Researchers spoke with small groups of students during the last class of the semester. They prompted people to talk about aspects of the textbook they liked and didn't like, compare it to textbooks from other classes, describe how they used it, and so forth. It was this focus on *understanding* and subjective experience that brought us into the interpretivist paradigm. Alongside other researchers, I created the focus group questions but encouraged researchers who moderated the focus groups to allow the conversation to flow organically.

We originally started out with the assumption, for which there is support in the literature, that students would be angry with the high-cost textbook that we used prior to the free one, and this cost shock might play a role in students' negative attitudes about research. But unlike the hypotheses in positivism, these are merely a place to start and are open to revision throughout the research process. This is because the researchers are not the experts, the participants are! Just like your clients are the experts on their lives, so were the students in my study. Our job as researchers was to create a group in which they would reveal their informed thoughts about the issue, coming to consensus around a few key themes.



When we initially analyzed the focus groups, we uncovered themes that seemed to fit the data. But the overall picture was murky. How were themes related to each other? And how could we distill these themes and relationships into something meaningful? We went back to the data again. We could do this because there isn't one truth, as in positivism, but multiple truths and multiple ways of interpreting the data. When we looked again, we focused on some of the effects of having a textbook customized to the course. It was that customization process that helped make the language more approachable, engaging, and relevant to social work practice.

Ultimately, our data revealed differences in how students perceived a free textbook versus a free textbook that is customized to the class. When we went to interpret this finding, the *remix* hypothesis of open textbook was helpful in understanding that relationship. It states that the more faculty incorporate editing and creating into the course, the better student learning will be. Our study helped flesh out that theory by discussing the customization process and how students made sense of a customized resource.

In this way, theoretical analysis operates differently in interpretivist research. While positivist research tests existing theories, interpretivist research creates theories based on the stories of research participants. However, it is difficult to say if this theory was totally emergent in the dataset or if my prior knowledge of the remix hypothesis influenced my thinking about the data. Interpretivist researchers are encouraged to put a box around their prior experiences and beliefs, acknowledging them, but trying to

approach the data with fresh eyes. Interpretivists know that this is never perfectly possible, though, as we are always influenced by our previous experiences when interpreting data and conducting scientific research projects.

Thinking like an activist: Critical

Although adding focus groups helped ease my concern about reducing student learning down to just final grades by providing a more rich set of conversations to analyze. However, my role as researcher and "expert" was still an important part of the analysis. As someone who has been out of school for a while, and indeed has taught this course for years, I have lost touch with what it is like to be a student taking research methods for the first time. How could I accurately interpret or understand what students were saying? Perhaps I would overlook things that reflected poorly on my teaching or my book. I brought other faculty researchers on board to help me analyze the data, but this still didn't feel like enough.

By luck, an undergraduate student approached me about wanting to work together on a research project. I asked her if she would like to collaborate on evaluating the textbook with me. Over the next year, she assisted me with conceptualizing the project, creating research questions, as well as conducting and analyzing the focus groups. Not only would she provide an "insider" perspective on coding the data, steeped in her lived experience as a student, but she would serve as a check on my power through the process.

Including people from the group you are measuring as part of your research team is a common component of critical research. Ultimately, critical theorists would find my study to be inadequate in many ways. I still developed the research question, created the intervention, and wrote up the results for publication, which privileges my voice and role as "expert." Instead, critical theorists would emphasize the role of students (community members) in identifying research questions, choosing the best intervention to used, and so forth. But collaborating with students as part of a research team did address some of the power imbalances in the research process.

Critical research projects also aim to have an impact on the people and systems involved in research. No students or researchers had profound personal realizations as a result of my study, nor did it lessen the impact of oppressive structures in society. I can claim some small victory that my department switched to using my textbook after the study was complete (changing a system), though this was likely the result of factors other than the study (my advocacy for open textbooks).

Social work research is almost always designed to create change for people or systems. To that end, every social work project is at least somewhat critical. However, the additional steps of conducting research *with* people rather than *on* people reveal a depth to the critical paradigm. By bringing students on board the research team, study had student perspectives represented in conceptualization, data

collection, and analysis. That said, there was much to critique about this study from a critical perspective. I retained a lot of the power in the research process, and students did not have the ability to determine the research question or purpose of the project. For example, students might likely have said that textbook costs and the quality of their research methods textbook were less important than student debt, racism, or other potential issues experienced by students in my class. Instead of a ground-up research process based in community engagement, my research included *some* important participation by students on project created and led by faculty.

Conceptualization is an iterative process

I hope this conversation was useful in applying paradigms to a research project. While my example discusses education research, the same would apply for social work research about social welfare programs, clinical interventions, or other topics. Paradigm and theory are covered at the beginning of the conceptualization of your project because these assumptions will structure the rest of your project. Each of the research steps that occur after this chapter (e.g., forming a question, choosing a design) rely upon philosophical and theoretical assumptions. As you continue conceptualizing your project over the next few weeks, you may find yourself shifting between paradigms. That is normal, as conceptualization is not a linear process. As you move through the next steps of conceptualizing and designing a project, you'll find philosophies and theories that best match how you want to study your topic.

Viewing theoretical and empirical arguments through this lens is one of the true gifts of the social work approach to research. The multi-paradigmatic perspective is a hallmark of social work research and one that helps us contribute something unique on research teams and in practice.

Key Takeaways

- Multi-paradigmatic research is a distinguishing hallmark of social work research. Understanding the limitations and strengths of each paradigm will help you justify your research approach and strategically choose elements from one or more paradigms to answer your question.
- Paradigmatic assumptions help you understand the "blind spots" in your research project and how to adjust and address these areas. Keep in mind, it is not necessary to address all of your blind spots, as all projects have limitations.

Exercises

- Sketch out which paradigm applies best to your project. Second, building on your answer to the exercise in section 7.3, identify how the theory you chose and the paradigm in which you find yourself are consistent or are in conflict with one another. For example, if you are using systems theory in a positivist framework, you might talk about how they both rely on a deterministic approach to human behavior with a focus on the status-quo and social order.

Media Attributions

- joshua-coleman-_yVRLC75Ma8-unsplash © JOSHUA COLEMAN
- Figure 1. Conceptualising Research Method, Methodology, Theory and Philosophical Foundations © Global OER Graduate Network is licensed under a CC BY (Attribution) license
- mental-health-3337026_1920 © Tumisu
- ignorance-1993615_1920 © Rilsonav
- puppet-5926178_1280 © Mohamed Hassan
- hold-544519_1920 © johnhain
- executive-2051419_1920 © Gerd Altmann
- compassion-857765_1920 © John Hain is licensed under a CC0 (Creative Commons Zero) license
- Climate Camp UK 2007 © Independent Media Centre Ireland is licensed under a CC BY-NC (Attribution NonCommercial) license
- strategy-4496456_1280 © Megan Rexazin
- chaos-3098693_1920 © geralt
- post-it-4129907_1920 © Stux is licensed under a CC0 (Creative Commons Zero) license
- Figure 7.2 The research design process © Global OER Graduate Network is licensed under a CC BY (Attribution) license
- hands-1697896_1920 © Geralt

Notes

1. Koerth, M. & Thomson-DeVeaux, A. (2020, August 3). Many Americans are convinced crime is rising in the U.S. They're wrong. *FiveThirtyEight*. Retrieved from: https://fivethirtyeight.com/features/many-americans-are-convinced-crime-is-rising-in-the-u-s-theyre-wrong
2. Burrell, G. & Morgan, G. (1979). *Sociological paradigms and organizational analysis*. Routledge.
3. Here are links to two HBSE open textbooks, if you are unfamiliar with social work theories. https://uark.pressbooks.pub/hbse1/ and https://uark.pressbooks.pub/

humanbehaviorandthesocialenvironment2/

4. Lin, C. T. (2016). A critique of epistemic subjectivity. *Philosophia*, 44(3), 915-920.
5. Wills, J. W. (2007). *World views, paradigms and the practice of social science research.* Thousand Oaks, CA: Sage.
6. Dale, M. (2021, June 2). NFL pledges to half 'race-norming,' review Black claims. *Associated Press*. Retrieved from: https://apnews.com/article/pa-state-wire-race-and-ethnicity-health-nfl-sports-205b304c0c3724532d74fc54e58b4d1d
7. Bell, D. A. (1995). Who's afraid of critical race theory. *University of Illinois Law Review*, 1995(4), 893-910.
8. Crasnow, S. (2020). Feminist perspectives on science. In E. N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2020 Edition). Retrieved from: https://plato.stanford.edu/entries/feminist-science/
9. Grogan, K.E. (2019) How the entire scientific community can confront gender bias in the workplace. *Nature Ecology & Evolution*, 3, 3–6. doi:10.1038/s41559-018-0747-4
10. Tasca, C., Rapetti, M., Carta, M. G., & Fadda, B. (2012). Women and hysteria in the history of mental health. *Clinical practice and epidemiology in mental health: Clinical practice & epidemiology in mental health*, 8, 110-119.
11. Klonsky, E. D., Jane, J. S., Turkheimer, E., & Oltmanns, T. F. (2002). Gender role and personality disorders. *Journal of personality disorders*, 16(5), 464-476.
12. Smith, L. T. (2013). *Decolonizing methodologies: Research and indigenous peoples*. Zed Books Ltd.
13. Fricker, M. (2011). *Epistemic injustice: Power and the ethics of knowing*. Oxford University Press.
14. Cohn, N. & Quealy, K. (2020, June 10). How public opinion has moved on Black Lives Matter. *The New York Times*. Retrieved from: https://www.nytimes.com/interactive/2020/06/10/upshot/black-lives-matter-attitudes.html
15. Bautista, M., Bertrand, M., Morrell, E., Scorza, D. A., & Matthews, C. (2013). Participatory action research and city youth: Methodological insights from the Council of Youth Research. *Teachers College Record*, 115(10), 1-23.
16. Constance-Huggins, M., Davis, A., & Yang, J. (2020). Race Still Matters: The Relationship Between Racial and Poverty Attitudes Among Social Work Students. *Advances in Social Work*, 20(1), 132-151.
17. Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London: SAGE.; Guba E., & Lincoln, Y., (1994). Competing paradigms in qualitative research (pp. 105-118). In Denzin, N. & Lincoln, Y (eds.) *Handbook on qualitative research*. Thousand Oaks, Ca: Sage.; Heron, J. & Reason, P. (1997). A participatory inquiry paradigm. Qualitative Inquiry. 3(3), 274-294.
18. Kuhn, T. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.
19. Fleuridas, C., & Krafcik, D. (2019). Beyond four forces: The evolution of psychotherapy. *Sage Open*, 9(1), 2158244018824492.
20. Shneider, A. M. (2009). Four stages of a scientific discipline; four types of scientist. *Trends in Biochemical Sciences* 34 (5), 217-233. https://doi.org/10.1016/j.tibs.2009.02.00
21. Burrell, G. & Morgan, G. (1979). *Sociological paradigms and organizational analysis*. Routledge. Guba, E. (ed.) (1990). *The paradigm dialog*. SAGE.
22. Routledge. Guba, E. (ed.) (1990). *The paradigm dialog*. SAGE.
23. Burrell, G. & Morgan, G. (1979). *Sociological paradigms and organizational analysis*. Here is a summary of Burrell & Morgan from Babson College, and our classification collapses radical humanism and radical structuralism into the critical paradigm, following Guba and Lincoln's three-paradigm framework. We feel this approach is more parsimonious and easier for students to understand on an introductory level.
24. Kivuna, C. & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education*, 6(5), 26-41. https://eric.ed.gov/?id=EJ1154775
25. Kincheloe, J. L. & Tobin, K. (2009). The much exaggerated death of positivism. *Cultural studies of science education*, 4, 513-528.
26. For more about how the meanings of hand gestures vary by region, you might read the following blog entry: Wong, W. (2007). *The top 10 hand gestures you'd better get right*. Retrieved from: http://www.languagetrainers.co.uk/blog/2007/09/24/top-10-hand-gestures
27. Kivuna, C. & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education*, 6(5), 26-41. https://eric.ed.gov/?id=EJ1154775
28. Rosario, M., Schrimshaw, E. W., Hunter, J., & Levy-Warren, A. (2009). The coming-out process of young lesbian and bisexual women: Are there butch/femme differences in sexual identity development?. *Archives of sexual*

behavior, 38(1), 34-49.

29. Calhoun, C., Gerteis, J., Moody, J., Pfaff, S., & Virk, I. (Eds.). (2007). *Classical sociological theory* (2nd ed.). Malden, MA: Blackwell.
30. Fraser, N. (1989). *Unruly practices: Power, discourse, and gender in contemporary social theory*. Minneapolis, MN: University of Minnesota Press.
31. Here are links to two HBSE open textbooks, if you are unfamiliar with social work theories and would like more background. https://uark.pressbooks.pub/hbse1/ and https://uark.pressbooks.pub/humanbehaviorandthesocialenvironment2/
32. Box, G. E. P.. (1976). Science and statistics. *Journal of the American Statistical Association*, *71*(356), 791.
33. Heineman-Pieper, J., Tyson, K., & Pieper, M. H. (2002). Doing good science without sacrificing good values: Why the heuristic paradigm is the best choice for social work. *Families in Society*, 83(1), 15-28.
34. Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of research in personality*, *19*(2), 109-134.
35. Abery, B., & Stancliffe, R. (1996). The ecology of self-determination. in *Self-determination across the life span: Independence and choice for people with disabilities* (pp. 111-145.) Baltimore, MD: Paul H. Brookes Publishing Company
36. Payne, M. (2014). *Modern social work theory*. Oxford University Press.
37. Hutchison, E. D. (2014). *Dimensions of human behavior: Person and environment*. Sage Publications.
38. DeCoster, S., Estes, S. B., & Mueller, C. W. (1999). Routine activities and sexual harassment in the workplace. *Work and Occupations*, *26*, 21–49.
39. Morgan, P. A. (1999). Risking relationships: Understanding the litigation choices of sexually harassed women. *The Law and Society Review*, *33*, 201–226.
40. MacKinnon, C. (1979). *Sexual harassment of working women: A case of sex discrimination*. New Haven, CT: Yale University Press.
41. An, S., Yoo, J., & Nackerud, L. G. (2015). Using game theory to understand screening for domestic violence under the TANF family violence option. *Advances in Social Work*, *16*(2), 338-357.
42. Pellebon, D. A. (2007). An analysis of Afrocentricity as theory for social work practice. *Advances in Social Work*, *8*(1), 169-183.
43. Jacobs, L. A., Kim, M. E., Whitfield, D. L., Gartner, R. E., Panichelli, M., Kattari, S. K., ... & Mountz, S. E. (2021). Defund the police: Moving towards an anti-carceral social work. *Journal of Progressive Human Services*, *32*(1), 37-62.
44. Jabareen, Y. (2009). Building a conceptual framework: philosophy, definitions, and procedure. *International journal of qualitative methods*, *8*(4), 49-62.
45. Jabareen distinguishes between theoretical and conceptual frameworks. We agree with this distinction, but feel that this additional detail is not needed here.
46. Tan, C. (2016). Investigator bias and theory-ladenness in cross-cultural research: Insights from Wittgenstein. *Current Issues in Comparative Education*, *18*(1), 83-95.

8. Reasoning and causality

Chapter Outline

1. Inductive and deductive reasoning (15 minute read)
2. Nomothetic causal relationships (17 minute read)
3. Idiographic causal relationships (12 minute read)
4. Mixed methods research (8 minute read)

Content warning: examples in this chapter include references to sexual harassment, domestic violence, gender-based violence, the child welfare system, substance use disorders, neonatal abstinence syndrome, child abuse, racism, and sexism.

8.1 Inductive and deductive reasoning

Learning Objectives

Learners will be able to...

- Describe inductive and deductive reasoning and provide examples of each
- Identify how inductive and deductive reasoning are complementary

Congratulations! You survived the chapter on theories and paradigms. My experience has been that many students have a difficult time thinking about theories and paradigms because they perceive them as "intangible" and thereby hard to connect to social work research. I even had one student who said she got frustrated just reading the word "philosophy."

Rest assured, you do not need to become a theorist or philosopher to be an effective social worker or researcher. However, you should have a good sense of what theory or theories will be relevant to your project, as well as how this theory, along with your working question, fit within the three broad research paradigms we reviewed. If you don't have a good idea about those at this point, it may be a good opportunity to pause and read more about the theories related to your topic area.

Theories structure and inform social work research. The converse is also true: research can structure

and inform theory. The reciprocal relationship between theory and research often becomes evident to students when they consider the relationships between theory and research in inductive and deductive approaches to research. In both cases, theory is crucial. But the relationship between theory and research differs for each approach.

While inductive and deductive approaches to research are quite different, they can also be complementary. Let's start by looking at each one and how they differ from one another. Then we'll move on to thinking about how they complement one another.

Inductive reasoning

A researcher using **inductive reasoning** begins by collecting data that is relevant to their topic of interest. Once a substantial amount of data have been collected, the researcher will then step back from data collection to get a bird's eye view of their data. At this stage, the researcher looks for patterns in the data, working to develop a theory that could explain those patterns. Thus, when researchers take an inductive approach, they start with a particular set of observations and move to a more general set of propositions about those experiences. In other words, they move from data to theory, or from the specific to the general. Figure 8.1 outlines the steps involved with an inductive approach to research.

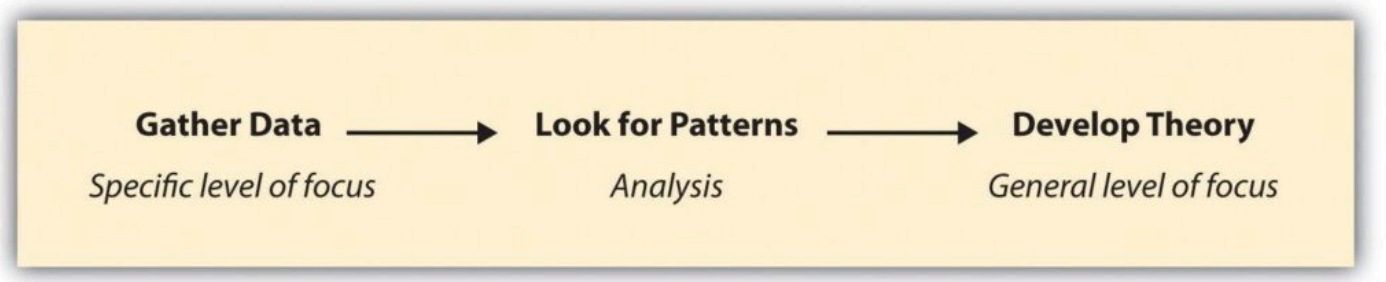


Figure 8.1 Inductive reasoning

There are many good examples of inductive research, but we'll look at just a few here. One fascinating study in which the researchers took an inductive approach is Katherine Allen, Christine Kaestle, and Abbie Goldberg's (2011)[1] study of how boys and young men learn about menstruation. To understand this process, Allen and her colleagues analyzed the written narratives of 23 young cisgender men in which the men described how they learned about menstruation, what they thought of it when they first learned about it, and what they think of it now. By looking for patterns across all 23 cisgender men's narratives, the researchers were able to develop a general theory of how boys and young men learn about this aspect of girls' and women's biology. They conclude that sisters play an important role

in boys' early understanding of menstruation, that menstruation makes boys feel somewhat separated from girls, and that as they enter young adulthood and form romantic relationships, young men develop more mature attitudes about menstruation. Note how this study began with the data—men's narratives of learning about menstruation—and worked to develop a theory.

In another inductive study, Kristin Ferguson and colleagues (Ferguson, Kim, & McCoy, 2011)[2] analyzed empirical data to better understand how to meet the needs of young people who are homeless. The authors analyzed focus group data from 20 youth at a homeless shelter. From these data they developed a set of recommendations for those interested in applied interventions that serve homeless youth. The researchers also developed hypotheses for others who might wish to conduct further investigation of the topic. Though Ferguson and her colleagues did not test their hypotheses, their study ends where most deductive investigations begin: with a theory and a hypothesis derived from that theory. Section 8.4 discusses the use of mixed methods research as a way for researchers to test hypotheses created in a previous component of the same research project.

You will notice from both of these examples that inductive reasoning is most commonly found in studies using qualitative methods, such as focus groups and interviews. Because inductive reasoning involves the creation of a new theory, researchers need very nuanced data on how the key concepts in their working question operate in the real world. Qualitative data is often drawn from lengthy interactions and observations with the individuals and phenomena under examination. For this reason, inductive reasoning is most often associated with qualitative methods, though it is used in both quantitative and qualitative research.

Deductive reasoning

If inductive reasoning is about creating theories from raw data, **deductive reasoning** is about testing theories using data. Researchers using deductive reasoning take the steps described earlier for inductive research and reverse their order. They start with a compelling social theory, create a **hypothesis** about how the world should work, collect raw data, and analyze whether their hypothesis was confirmed or not. That is, deductive approaches move from a more general level (theory) to a more specific (data); whereas inductive approaches move from the specific (data) to general (theory).

A deductive approach to research is the one that people typically associate with scientific investigation. Students in English-dominant countries that may be confused by inductive vs. deductive research can rest part of the blame on Sir Arthur Conan Doyle, creator of the Sherlock Holmes character. As Craig Vasey points out in his breezy introduction to logic book chapter, Sherlock Holmes more often used inductive rather than deductive reasoning (despite claiming to use the powers of deduction to solve crimes). By noticing subtle details in how people act, behave, and dress, Holmes finds patterns that others miss. Using those patterns, he creates a theory of how the crime occurred, dramatically revealed to the authorities just in time to arrest the suspect. Indeed, it is these flashes of *insight* into the patterns

of data that make Holmes such a keen inductive reasoner. In social work practice, rather than detective work, inductive reasoning is supported by the intuitions and practice wisdom of social workers, just as Holmes' reasoning is sharpened by his experience as a detective.

So, if deductive reasoning isn't Sherlock Holmes' observation and pattern-finding, how does it work? It starts with what you have already done in Chapters 3 and 4, reading and evaluating what others have done to study your topic. It continued with Chapter 5, discovering what theories already try to explain how the concepts in your working question operate in the real world. Tapping into this foundation of knowledge on their topic, the researcher studies what others have done, reads existing theories of whatever phenomenon they are studying, and then tests hypotheses that emerge from those theories. Figure 8.2 outlines the steps involved with a deductive approach to research.

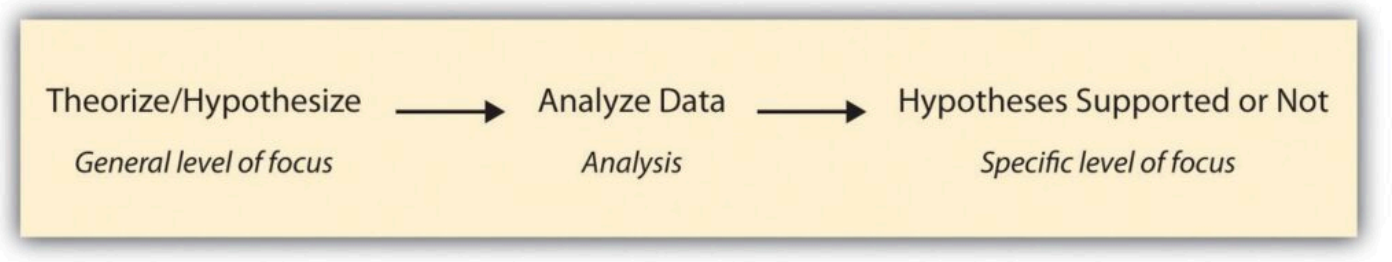


Figure 8.2 Deductive reasoning

While not all researchers follow a deductive approach, many do. We'll now take a look at a couple excellentrecent examples of deductive research.

In a study of US law enforcement responses to hate crimes, Ryan King and colleagues (King, Messner, & Baller, 2009)[3] hypothesized that law enforcement's response would be less vigorous in areas of the country that had a stronger history of racial violence. The authors developed their hypothesis from prior research and theories on the topic. They tested the hypothesis by analyzing data on states' lynching histories and hate crime responses. Overall, the authors found support for their hypothesis and illustrated an important application of critical race theory.

In another recent deductive study, Melissa Milkie and Catharine Warner (2011)[4] studied the effects of different classroom environments on first graders' mental health. Based on prior research and theory, Milkie and Warner hypothesized that negative classroom features, such as a lack of basic supplies and heat, would be associated with emotional and behavioral problems in children. One might associate this research with Maslow's hierarchy of needs or systems theory. The researchers found support for their hypothesis, demonstrating that policymakers should be paying more attention to the mental health outcomes of children's school experiences, just as they track academic outcomes (American Sociological Association, 2011).[5]

Complementary approaches

While inductive and deductive approaches to research seem quite different, they can actually be rather complementary. In some cases, researchers will plan for their study to include multiple components, one inductive and the other deductive. In other cases, a researcher might begin a study with the plan to conduct either inductive or deductive research, but then discovers along the way that the other approach is needed to help illuminate findings. Here is an example of each such case.

Dr. Amy Blackstone (n.d.), author of Principles of sociological inquiry: Qualitative and quantitative methods, relates a story about her **mixed methods research** on sexual harassment.

> We began the study knowing that we would like to take both a deductive and an inductive approach in our work. We therefore administered a quantitative survey, the responses to which we could analyze in order to test hypotheses, and also conducted qualitative interviews with a number of the survey participants. The survey data were well suited to a deductive approach; we could analyze those data to test hypotheses that were generated based on theories of harassment. The interview data were well suited to an inductive approach; we looked for patterns across the interviews and then tried to make sense of those patterns by theorizing about them.
>
> For one paper (Uggen & Blackstone, 2004)[6], we began with a prominent feminist theory of the sexual harassment of adult women and developed a set of hypotheses outlining how we expected the theory to apply in the case of younger women's and men's harassment experiences. We then tested our hypotheses by analyzing the survey data. In general, we found support for the theory that posited that the current gender system, in which heteronormative men wield the most power in the workplace, explained workplace sexual harassment—not just of adult women but of younger women and men as well. In a more recent paper (Blackstone, Houle, & Uggen, 2006),[7] we did not hypothesize about what we might find but instead inductively analyzed interview data, looking for patterns that might tell us something about how or whether workers' perceptions of harassment change as they age and gain workplace experience. From this analysis, we determined that workers' perceptions of harassment did indeed shift as they gained experience and that their later definitions of harassment were more stringent than those they held during adolescence. Overall, our desire to understand young workers' harassment experiences fully—in terms of their objective workplace experiences, their perceptions of those experiences, and their stories of their experiences—led us to adopt both deductive and inductive approaches in the work. (Blackstone, n.d., p. 21)[8]

Researchers may not always set out to employ both approaches in their work but sometimes find that their use of one approach leads them to the other. One such example is described eloquently in Russell Schutt's *Investigating the Social World* (2006).[9] As Schutt describes, researchers Sherman and Berk (1984)[10] conducted an experiment to test two competing theories of the effects of punishment

on deterring deviance (in this case, domestic violence).Specifically, Sherman and Berk hypothesized that *deterrence theory* (see Williams, 2005[11] for more information on that theory) would provide a better explanation of the effects of arresting accused batterers than *labeling theory*. Deterrence theory predicts that arresting an accused spouse batterer will *reduce* future incidents of violence. Conversely, labeling theory predicts that arresting accused spouse batterers will *increase* future incidents (see Policastro & Payne, 2013[12] for more information on that theory). Figure 8.3 summarizes the two competing theories and the hypotheses Sherman and Berk set out to test.

Theory	Prediction
Deterrence Theory	Arrest → ↓ Incidents of domestic violence
Labeling Theory	Arrest → ↑ Incidents of domestic violence

Figure 8.3 Predicting the effects of arrest on future spouse battery: Two different theories

Sherman and Berk found, after conducting an experiment with the help of local police in one city, that arrest did in fact deter future incidents of violence, thus supporting their hypothesis that deterrence theory would better predict the effect of arrest. After conducting this research, they and other researchers went on to conduct similar experiments in six additional cities (Berk, Campbell, Klap, & Western, 1992; Pate & Hamilton, 1992; Sherman & Smith, 1992).[13]hat the original Sherman and Berk study, along with the follow-up studies, show us is that we might start with a deductive approach to research, but then, if confronted by new data we must make sense of, we may move to an inductive approach. We will expand on these possibilities in section 8.4 when we discuss mixed methods research.

Research from these follow-up studies were mixed. In some cases, arrest deterred future incidents of violence. In other cases, it did not. This left the researchers with new data that they needed to explain. The researchers therefore took an inductive approach in an effort to make sense of their latest empirical observations. The new studies revealed that arrest seemed to have a deterrent effect for those who were married and employed, but that it led to increased offenses for those who were unmarried and unemployed. Researchers thus turned to control theory, which posits that having some stake in conformity through the social ties provided by marriage and employment, as the better explanation (see Davis et al., 2000[14] for more information on this theory).

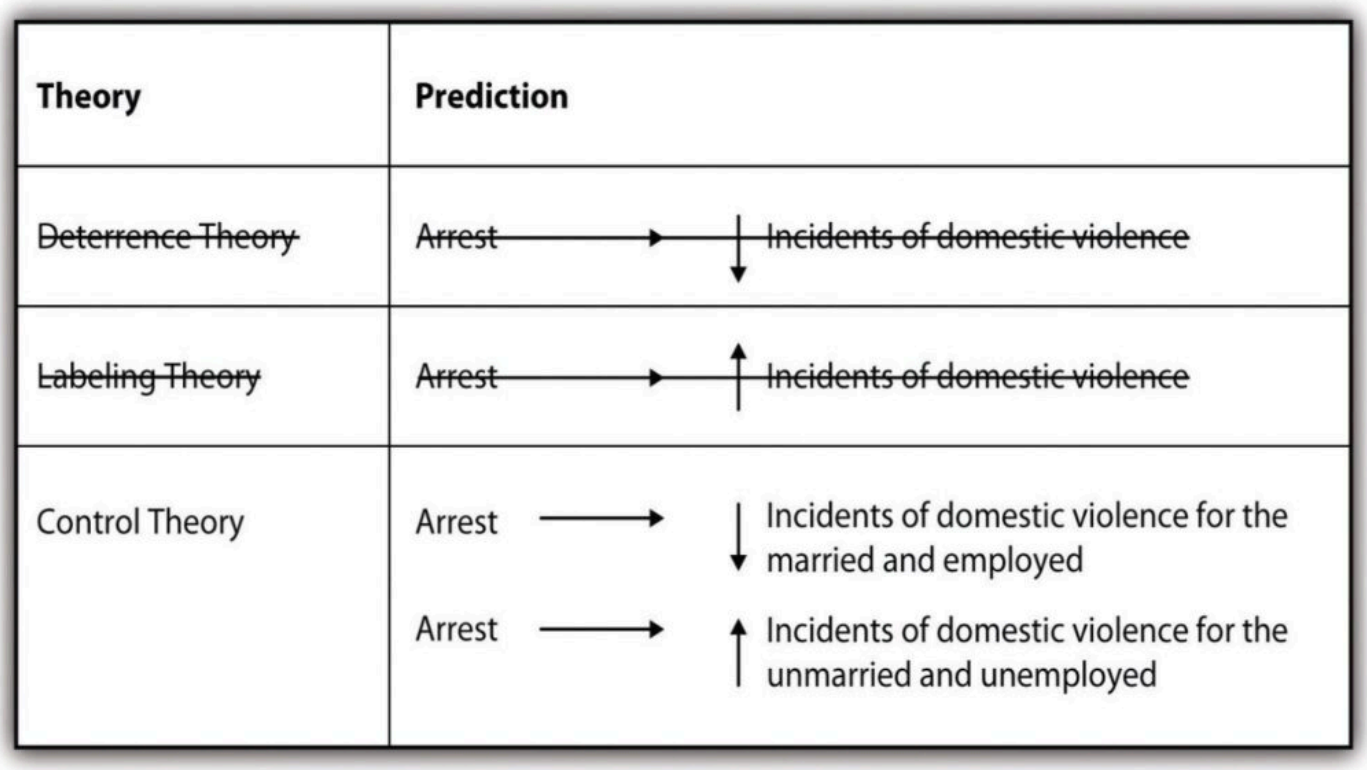


Figure 8.4 Predicting the effects of arrest on future spouse battery: A third theory

What the original Sherman and Berk study, along with the follow-up studies, show us is that we might start with a deductive approach to research, but then, if confronted by new data we must make sense of, we may move to an inductive approach. We will expand on these possibilities in section 8.4 when we discuss mixed methods research.

Ethical and critical considerations

Deductive and inductive reasoning, just like other components of the research process comes with ethical and cultural considerations for researchers. Specifically, deductive research is limited by existing theory. Because scientific inquiry has been shaped by oppressive forces such as sexism, racism, and colonialism, what is considered theory is largely based in Western, white-male-dominant culture. Thus, researchers doing deductive research may artificially limit themselves to ideas that were derived from this context. Non-Western researchers, international social workers, and practitioners working with non-dominant groups may find deductive reasoning of limited help if theories do not adequately describe other cultures.

While these flaws in deductive research may make inductive reasoning seem more appealing, on closer inspection you'll find similar issues apply. A researcher using inductive reasoning applies their intuition

and lived experience when analyzing participant data. They will take note of particular themes, conceptualize their definition, and frame the project using their unique psychology. Since everyone's internal world is shaped by their cultural and environmental context, inductive reasoning conducted by Western researchers may unintentionally reinforcing lines of inquiry that derive from cultural oppression.

Inductive reasoning is also shaped by those invited to provide the data to be analyzed. For example, I recently worked with a student who wanted to understand the impact of child welfare supervision on children born dependent on opiates and methamphetamine. Due to the potential harm that could come from interviewing families and children who are in foster care or under child welfare supervision, the researcher decided to use inductive reasoning and to only interview child welfare workers.

Talking to practitioners is a good idea for feasibility, as they are less vulnerable than clients. However, any theory that emerges out of these observations will be substantially limited, as it would be devoid of the perspectives of parents, children, and other community members who could provide a more comprehensive picture of the impact of child welfare involvement on children. Notice that each of these groups has less power than child welfare workers in the service relationship. Attending to which groups were used to inform the creation of a theory and the power of those groups is an important critical consideration for social work researchers.

As you can see, when researchers apply theory to research they must wrestle with the history and hierarchy around knowledge creation in that area. In deductive studies, the researcher is positioned as the expert, similar to the positivist paradigm presented in Chapter 5. We've discussed a few of the limitations on the knowledge of researchers in this subsection, but the position of the "researcher as expert" is inherently problematic. However, it should also not be taken to an extreme. A researcher who approaches inductive inquiry as a naïve learner is also inherently problematic. Just as competence in social work practice requires a baseline of knowledge prior to entering practice, so does competence in social work research. Because a truly naïve intellectual position is impossible—we all have preexisting ways we view the world and are not fully aware of how they may impact our thoughts—researchers should be well-read in the topic area of their research study but humble enough to know that there is always much more to learn.

Key Takeaways

- Inductive reasoning begins with a set of empirical observations, seeking patterns in those observations, and then theorizing about those patterns.
- Deductive reasoning begins with a theory, developing hypotheses from that theory, and then collecting and analyzing data to test the truth of those hypotheses.
- Inductive and deductive reasoning can be employed together for a more complete understanding of the

research topic.
- Though researchers don't always set out to use both inductive and deductive reasoning in their work, they sometimes find that new questions arise in the course of an investigation that can best be answered by employing both approaches.

Exercises

- Identify one theory and how it helps you understand your topic and working question.

I encourage you to find a specific theory from your topic area, rather than relying only on the broad theoretical perspectives like systems theory or the strengths perspective. Those broad theoretical perspectives are okay...but I promise that searching for theories about your topic will help you conceptualize and design your research project.

- Using the theory you identified, describe what you expect the answer to be to your working question.

8.2 Nomothetic causal explanations

Learning Objectives

Learners will be able to...

- Define and provide an example of idiographic causal relationships
- Describe the role of causality in quantitative research as compared to qualitative research
- Identify, define, and describe each of the main criteria for nomothetic causal relationships
- Describe the difference between and provide examples of independent, dependent, and control variables
- Define hypothesis, state a clear hypothesis, and discuss the respective roles of quantitative and qualitative research when it comes to hypotheses

Causality refers to the idea that one event, behavior, or belief will result in the occurrence of another, subsequent event, behavior, or belief. In other words, it is about cause and effect. It seems simple, but you may be surprised to learn there is more than one way to explain how one thing causes another. How can that be? How could there be many ways to understand causality?

Think back to our discussion in Section 5.3 on paradigms [insert chapter link plus link to section 1.2]. You'll remember the positivist paradigm as the one that believes in objectivity. Positivists look for

causal explanations that are universally true for *everyone*, *everywhere* because they seek objective truth. Interpretivists, on the other hand, look for causal explanations that are true for individuals or groups in a specific time and place because they seek subjective truths. Remember that for interpretivists, there is not one singular truth that is true for everyone, but many truths created and shared by others.

"Are you trying to generalize or nah?"

One of my favorite classroom moments occurred in the early days of my teaching career. Students were providing peer feedback on their working questions. I overheard one group who was helping someone rephrase their research question. A student asked, "Are you trying to generalize or nah?" Teaching is full of fun moments like that one. Answering that one question can help you understand how to conceptualize and design your research project.

Nomothetic causal explanations are incredibly powerful. They allow scientists to make predictions about what will happen in the future, with a certain margin of error. Moreover, they allow scientists to **generalize**—that is, make claims about a large population based on a smaller sample of people or items. Generalizing is important. We clearly do not have time to ask everyone their opinion on a topic or test a new intervention on every person. We need a type of causal explanation that helps us predict and estimate truth in all situations.

Generally, nomothetic causal relationships work best for explanatory research projects [INSERT SECTION LINK]. They also tend to use quantitative research: by boiling things down to numbers, one can use the universal language of mathematics to use statistics to explore those relationships. On the other hand, descriptive and exploratory projects often fit better with idiographic causality. These projects do not usually try to generalize, but instead investigate what is true for individuals, small groups, or communities at a specific point in time. You will learn about this type of causality in the next section. Here, we will assume you have an explanatory working question. For example, you may want to know about the risk and protective factors for a specific diagnosis or how a specific therapy impacts client outcomes.

What do nomothetic causal explanations look like?

Nomothetic causal explanations express relationships between **variables**. The term variable has a scientific definition. This one from Gillespie & Wagner (2018) "a logical grouping of attributes that can be observed and measured and is expected to vary from person to person in a population" (p. 9).[15] More practically, variables are the key concepts in your working question. You know, the things you plan to observe when you actually do your research project, conduct your surveys, complete your interviews, etc. These things have two key properties. First, they *vary*, as in they do not remain constant. "Age"

varies by number. "Gender" varies by category. But they both vary. Second, they have *attributes*. So the variable "health professions" has attributes or categories, such as social worker, nurse, counselor, etc.

It's also worth reviewing what is *not* a variable. Well, things that don't change (or vary) aren't variables. If you planned to do a study on how gender impacts earnings but your study only contained women, that concept would not *vary*. Instead, it would be a *constant*. Another common mistake I see in students' explanatory questions is mistaking an attribute for a variable. "Men" is not a variable. "Gender" is a variable. "Virginia" is not a variable. The variable is the "state or territory" in which someone or something is physically located.

When one variable causes another, we have what researchers call independent and dependent variables. For example, in a study investigating the impact of spanking on aggressive behavior, spanking would be the independent variable and aggressive behavior would be the dependent variable. An **independent variable** is the cause, and a **dependent variable** is the effect. Why are they called that? Dependent variables *depend* on independent variables. If all of that gets confusing, just remember the graphical relationship in Figure 8.5.

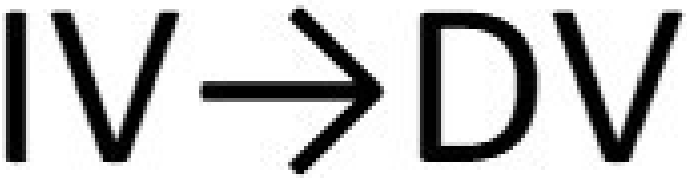


Figure 8.5 Visual representation of a nomothetic causal relationship

Exercises

Write out your working question, as it exists now. As we said previously in the subsection, we assume you have an explanatory research question for learning this section.

- Write out a diagram similar to Figure 8.5.
- Put your independent variable on the left and the dependent variable on the right.

Check:

- Can your variables vary?
- Do they have different attributes or categories that vary from person to person?

- How does the theory you identified in section 8.1 help you understand this causal relationship?

If the theory you've identified isn't much help to you or seems unrelated, it's a good indication that you need to read more literature about the theories related to your topic.

For some students, your working question may not be specific enough to list an independent or dependent variable clearly. You may have "risk factors" in place of an independent variable, for example. Or "effects" as a dependent variable. If that applies to your research question, get specific for a minute even if you have to revise this later. Think about which specific risk factors or effects you are interested in. Consider a few options for your independent and dependent variable and create diagrams similar to Figure 8.5.

Finally, you are likely to revisit your working question so you may have to come back to this exercise to clarify the causal relationship you want to investigate.

For a ten-cent word like "nomothetic," these causal relationships should look pretty basic to you. They should look like "x causes y." Indeed, you may be looking at your causal explanation and thinking, "wow, there are so many other things I'm missing in here." In fact, maybe my dependent variable sometimes causes changes in my independent variable! For example, a working question asking about poverty and education might ask how poverty makes it more difficult to graduate college or how high college debt impacts income inequality after graduation. Nomothetic causal relationships are slices of reality. They boil things down to two (or often more) key variables and assert a one-way causal explanation between them. This is by design, as they are trying to generalize across all people to all situations. The more complicated, circular, and often contradictory causal explanations are idiographic, which we will cover in the next section of this chapter.

Developing a hypothesis

A **hypothesis** is a statement describing a researcher's expectation regarding what they anticipate finding. Hypotheses in quantitative research are a nomothetic causal relationship that the researcher expects to determine is true or false. A hypothesis is written to describe the expected relationship between the independent and dependent variables. In other words, write the answer to your working question using your variables. That's your hypothesis! Make sure you haven't introduced new variables into your hypothesis that are not in your research question. If you have, write out your hypothesis as in Figure 8.5.

A good hypothesis should be *testable* using social science research methods. That is, you can use a social science research project (like a survey or experiment) to test whether it is true or not. A good hypothesis is also *specific* about the relationship it explores. For example, a student project that hypothesizes, "families involved with child welfare agencies will benefit from Early Intervention programs," is not specific about what benefits it plans to investigate. For this student, I advised her to take a look at the empirical literature and theory about Early Intervention and see what outcomes are associated

with these programs. This way, she could more clearly state the dependent variable in her hypothesis, perhaps looking at reunification, attachment, or developmental milestone achievement in children and families under child welfare supervision.

Your hypothesis should be an informed prediction based on a theory or model of the social world. For example, you may hypothesize that treating mental health clients with warmth and positive regard is likely to help them achieve their therapeutic goals. That hypothesis would be based on the humanistic practice models of Carl Rogers. Using previous theories to generate hypotheses is an example of deductive research. If Rogers' theory of unconditional positive regard is accurate, a study comparing clinicians who used it versus those who did not would show more favorable treatment outcomes for clients receiving unconditional positive regard.

Let's consider a couple of examples. In research on sexual harassment (Uggen & Blackstone, 2004),[16] one might hypothesize, based on feminist theories of sexual harassment, that more females than males will experience specific sexually harassing behaviors. What is the causal relationship being predicted here? Which is the independent and which is the dependent variable? In this case, researchers hypothesized that a person's sex (independent variable) would predict their likelihood to experience sexual harassment (dependent variable).

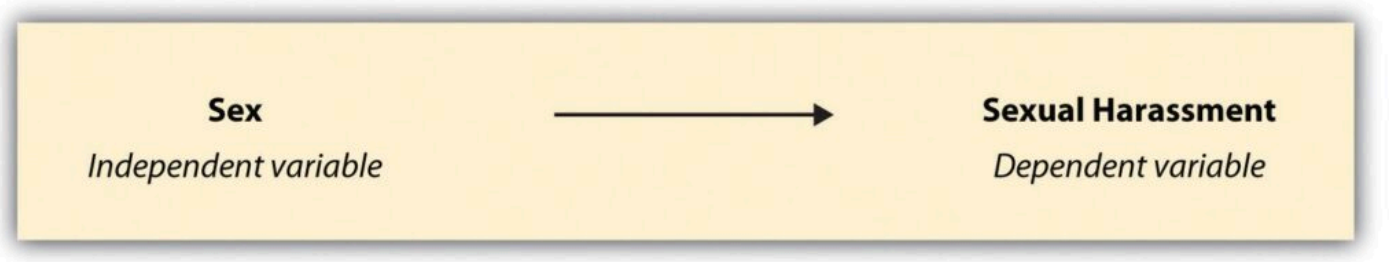


Figure 8.6 Hypothesis describing the expected relationship between sex and sexual harassment

Sometimes researchers will hypothesize that a relationship will take a specific direction. As a result, an increase or decrease in one area might be said to cause an increase or decrease in another. For example, you might choose to study the relationship between age and support for legalization of marijuana. Perhaps you've taken a sociology class and, based on the theories you've read, you hypothesize that age is negatively related to support for marijuana legalization.[17] What have you just hypothesized?

You have hypothesized that as people get older, the likelihood of their supporting marijuana legalization decreases. Thus, as age (your independent variable) moves in one direction (up), support for marijuana legalization (your dependent variable) moves in another direction (down). So, a **direct relationship** (or positive correlation) involve two variables going in the same direction and an **inverse relationship** (or negative correlation) involve two variables going in opposite directions. If writing hypotheses feels

tricky, it is sometimes helpful to draw them out and depict each of the two hypotheses we have just discussed.

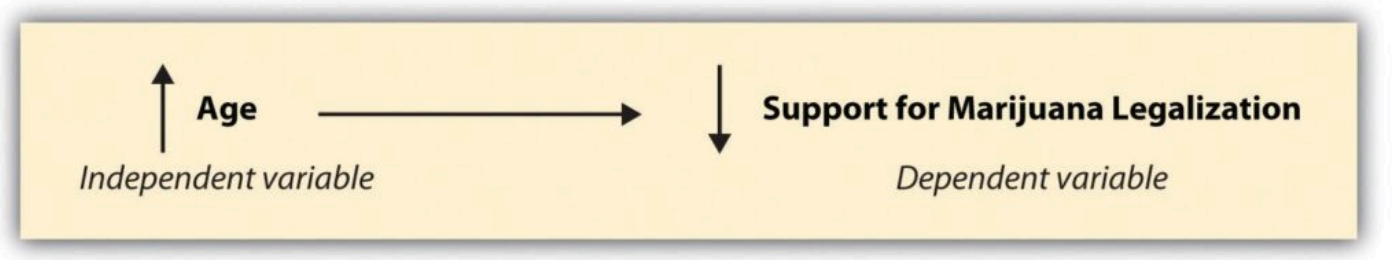


Figure 8.7 Hypothesis describing the expected direction of relationship between age and support for marijuana legalization

It's important to note that once a study starts, it is unethical to change your hypothesis to match the data you find. For example, what happens if you conduct a study to test the hypothesis from Figure 8.7 on support for marijuana legalization, but you find no relationship between age and support for legalization? It means that your hypothesis was incorrect, but that's still valuable information. It would challenge what the existing literature says on your topic, demonstrating that more research needs to be done to figure out the factors that impact support for marijuana legalization. Don't be embarrassed by negative results, and definitely don't change your hypothesis to make it appear correct all along!

Criteria for establishing a nomothetic causal relationship

Let's say you conduct your study and you find evidence that supports your hypothesis, as age increases, support for marijuana legalization decreases. Success! Causal explanation complete, right? Not quite.

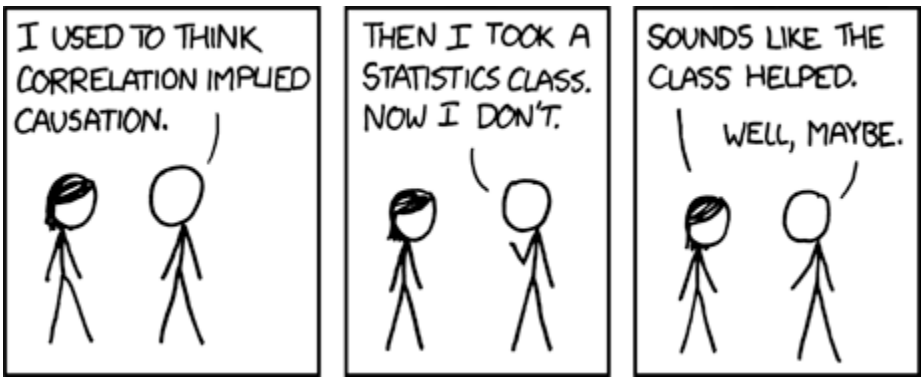
You've only established one of the criteria for causality. The criteria for causality must include all of the following: covariation, plausibility, temporality, and nonspuriousness. In our example from Figure 8.7, we have established only one criteria—covariation. When variables **covary**, they vary together. Both age and support for marijuana legalization vary in our study. Our sample contains people of varying ages and varying levels of support for marijuana legalization. If, for example, we only included 16-year-olds in our study, age would be a *constant*, not a variable.

Just because there might be some correlation between two variables does not mean that a causal

relationship between the two is really plausible. **Plausibility** means that in order to make the claim that one event, behavior, or belief causes another, the claim has to make sense. It makes sense that people from previous generations would have different attitudes towards marijuana than younger generations. People who grew up in the time of Reefer Madness or the hippies may hold different views than those raised in an era of legalized medicinal and recreational use of marijuana. Plausibility is of course helped by basing your causal explanation in existing theoretical and empirical findings.

Once we've established that there is a plausible relationship between the two variables, we also need to establish whether the cause occurred before the effect, the criterion of **temporality**. A person's age is a quality that appears long before any opinions on drug policy, so temporally the cause comes before the effect. It wouldn't make any sense to say that support for marijuana legalization makes a person's age increase. Even if you could predict someone's age based on their support for marijuana legalization, you couldn't say someone's age was *caused* by their support for legalization of marijuana.

Finally, scientists must establish nonspuriousness. A **spurious relationship** is one in which an association between two variables appears to be causal but can in fact be explained by some third variable. This third variable is often called a **confound** or confounding variable because it clouds and confuses the relationship between your independent and dependent variable, making it difficult to discern the true causal relationship is.



Take a look at the causal explanation here. Does it meet all of the criteria for nomothetic causality?

Continuing with our example, we could point to the fact that older adults are less likely to have used marijuana recreationally. Maybe it is actually recreational use of marijuana that leads people to be more open to legalization, not their age. In this case, our confounding variable would be recreational marijuana use. Perhaps the relationship between age and attitudes towards legalization is a spurious relationship that is accounted for by previous use. This is also referred to as the *third variable problem*, where a seemingly true causal relationship is actually caused by a third variable not in the hypothesis. In this example, the relationship between age and support for legalization could be more about having tried marijuana than the age of the person.

Quantitative researchers are sensitive to the effects of potentially spurious relationships. As a result, they will often measure these third variables in their study, so they can control for their effects in their statistical analysis. These are called **control variables**, and they refer to potentially confounding variables whose effects are controlled for mathematically in the data analysis process. Control variables can be a bit confusing, and we will discuss them more in Chapter 10, but think about it as an argument between you, the researcher, and a critic.

> Researcher: "The older a person is, the less likely they are to support marijuana legalization."
>
> Critic: "Actually, it's more about whether a person has used marijuana before. That is what truly determines whether someone supports marijuana legalization."
>
> Researcher: "Well, I measured previous marijuana use in my study and mathematically controlled for its effects in my analysis. Age explains most of the variation in attitudes towards marijuana legalization."

Let's consider a few additional, real-world examples of spuriousness. Did you know, for example, that high rates of ice cream sales have been shown to cause drowning? Of course, that's not really true, but there is a positive relationship between the two. In this case, the third variable that causes both high ice cream sales and increased deaths by drowning is time of year, as the summer season sees increases in both (Babbie, 2010).[18]

Here's another good one: it is true that as the salaries of Presbyterian ministers in Massachusetts rise, so too does the price of rum in Havana, Cuba. Well, duh, you might be saying to yourself. Everyone knows how much ministers in Massachusetts love their rum, right? Not so fast. Both salaries and rum prices have increased, true, but so has the price of just about everything else (Huff & Geis, 1993).[19]

Finally, research shows that the more firefighters present at a fire, the more damage is done at the scene. What this statement leaves out, of course, is that as the size of a fire increases so too does the amount of damage caused as does the number of firefighters called on to help (Frankfort-Nachmias & Leon-Guerrero, 2011).[20] In each of these examples, it is the presence of a confounding variable that explains the apparent relationship between the two original variables.

In sum, the following criteria must be met for a nomothetic causal relationship:

- The two variables must vary together.
- The relationship must be plausible.
- The cause must precede the effect in time.
- The relationship must be nonspurious (not due to a confounding variable).

The hypothetico-dedutive method

The primary way that researchers in the positivist paradigm use theories is sometimes called the **hypothetico-deductive method** (although this term is much more likely to be used by philosophers of science than by scientists themselves). Researchers choose an existing theory. Then, they make a prediction about some new phenomenon that should be observed if the theory is correct. Again, this prediction is called a hypothesis. The researchers then conduct an empirical study to test the hypothesis. Finally, they reevaluate the theory in light of the new results and revise it if necessary.

This process is usually conceptualized as a cycle because the researchers can then derive a new hypothesis from the revised theory, conduct a new empirical study to test the hypothesis, and so on. As Figure 8.8 shows, this approach meshes nicely with the process of conducting a research project—creating a more detailed model of "theoretically motivated" or "theory-driven" research. Together, they form a model of theoretically motivated research.

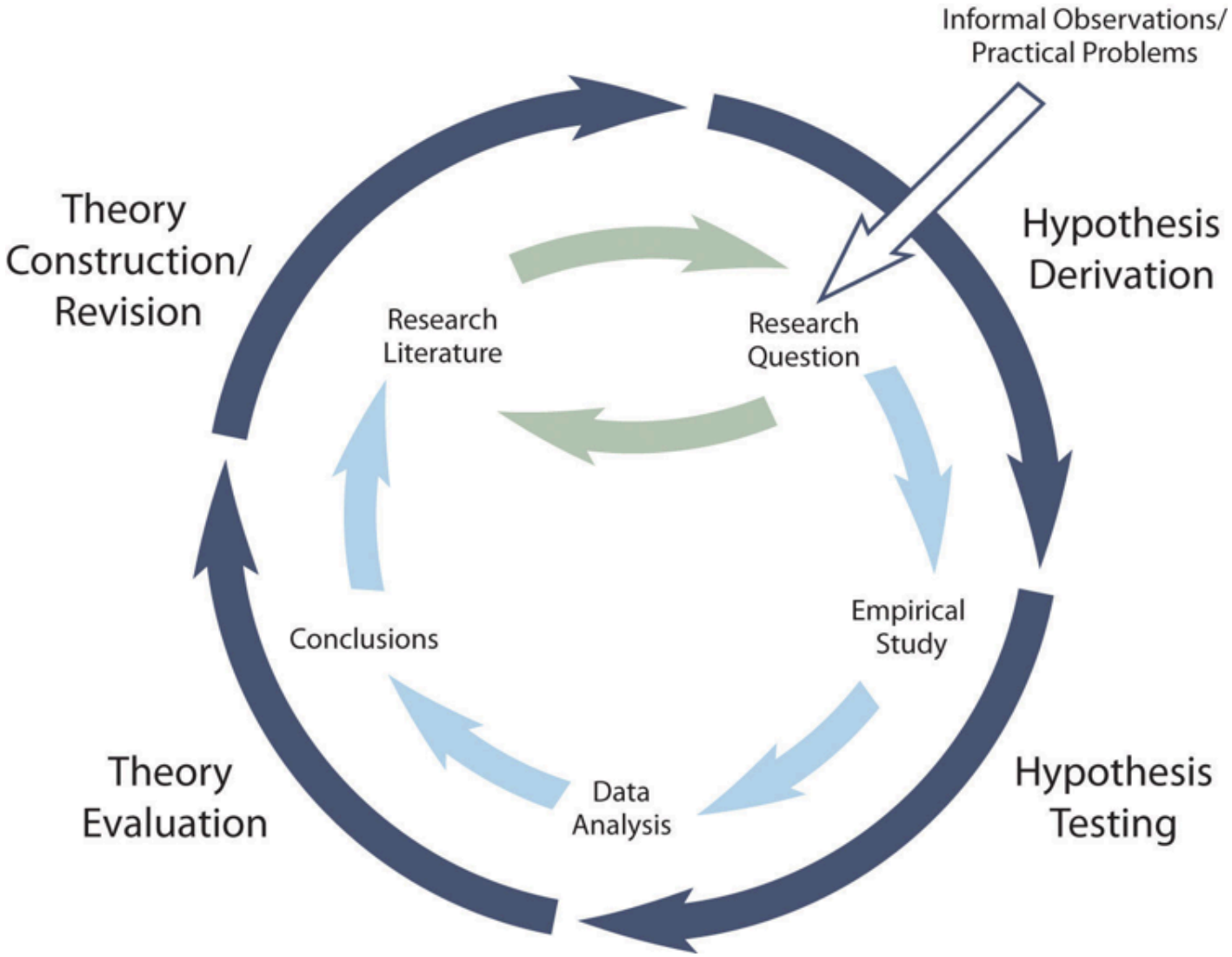


Figure 8.8 Hypothetico-deductive method combined with the process of conducting a research project

Keep in mind the hypothetico-deductive method is only one way of using social theory to inform social science research. It starts with describing one or more existing theories, deriving a hypothesis from one of those theories, testing your hypothesis in a new study, and finally reevaluating the theory based on the results data analyses. This format works well when there is an existing theory that addresses the research question—especially if the resulting hypothesis is surprising or conflicts with a hypothesis derived from a different theory.

But what if your research question is more interpretive? What if it is less about theory-testing and more about theory-building? This is what our next chapter covers: the process of inductively deriving theory from people's stories and experiences. This process looks different than that depicted in Figure 8.8. It

still starts with your research question and answering that question by conducting a research study. But instead of testing a hypothesis you created based on a theory, you will create a theory of your own that explain the data you collected. This format works well for qualitative research questions and for research questions that existing theories do not address.

Key Takeaways

- In positivist and quantitative studies, the goal is often to understand the more general causes of some phenomenon rather than the idiosyncrasies of one particular instance, as in an idiographic causal relationship.
- Nomothetic causal explanations focus on objectivity, prediction, and generalization.
- Criteria for nomothetic causal relationships require the relationship be plausible and nonspurious; and that the cause must precede the effect in time.
- In a nomothetic causal relationship, the independent variable causes changes in the dependent variable.
- Hypotheses are statements, drawn from theory, which describe a researcher's expectation about a relationship between two or more variables.

Exercises

- Write out your working question and hypothesis.
- Defend your hypothesis in a short paragraph, using arguments based on the theory you identified in section 8.1.
- Review the criteria for a nomothetic causal relationship. Critique your short paragraph about your hypothesis using these criteria.
- Are there potentially confounding variables, issues with time order, or other problems you can identify in your reasoning?

8.3 Idiographic causal relationships

Learning Objectives

Learners will be able to...

- Define and provide an example of an idiographic causal explanation
- Differentiate between idiographic and nomothetic causal relationships
- Link idiographic and nomothetic causal relationships with the process of theory building and theory testing

- Describe how idiographic and nomothetic causal explanations can be complementary

We began the previous section with a definition of causality, or the idea that "one event, behavior, or belief will result in the occurrence of another, subsequent event, behavior, or belief." Then, we described one kind of causality: a simple cause-and-effect relationship supported by existing theory and research on the topic, also known as a nomothetic causal relationship. But what if there is not a lot of literature on your topic? What if your question is more exploratory than explanatory? Then, you need a different kind of causal explanation, one that accounts for the complexity of human interactions.

How can we build causal relationships if we are just describing or exploring a topic? Recall the definitions of **exploratory research**, **descriptive research**, and **explanatory research** from Chapter 2. Wouldn't we need to do explanatory research to build any kind of causal explanation? Explanatory research attempts to establish nomothetic causal relationships: an independent variable is demonstrated to cause change in a dependent variable. Exploratory and descriptive qualitative research contains some causal relationships, but they are actually descriptions of the causal relationships established by the study participants.

What do idiographic causal explanations look like?

An **idiographic causal relationship** tries to identify the many, interrelated causes that account for the phenomenon the researcher is investigating. So, if idiographic causal explanations do not look like Figure 8.5, 8.6, or 8.7 what do they look like? Instead of saying "x causes y," your participants will describe their experiences with "x," which they will tell you was caused and influenced by a variety of other factors, as interpreted through their unique perspective, time, and environment. As we stated before, idiographic causal explanations are messy. Your job as a social science researcher is to accurately describe the patterns in what your participants tell you.

Let's think about this using an example. If I asked you why you decided to become a social worker, what might you say? For me, I would say that I wanted to be a mental health clinician since I was in high school. I was interested in how people thought, and I was privileged enough to have psychology courses at my local high school. I thought I wanted to be a psychologist, but at my second internship in my undergraduate program, my supervisors advised me to become a social worker because the license provided greater authority for independent practice and flexibility for career change. Once I found out social workers were like psychologists who also raised trouble about social justice, I was hooked.

That's not a simple explanation at all! But it's definitely a causal explanation. It is my individual, subjective truth of a complex process. If we were to ask multiple social workers the same question, we might find out that many social workers begin their careers based on factors like personal experience

with a disability or social injustice, positive experiences with social workers, or a desire to help others. No one factor is the "most important factor," like with nomothetic causal relationships. Instead, a complex web of factors, contingent on context, emerge when you interpret what people tell you about their lives.

Understanding "why?"

In creating an idiographic explanation, you are still asking "why?" But the answer is going to be more complex. Those complexities are described in Table 8.1 as well as this short video comparing nomothetic and idiographic relationships.

Table 8.1: Comparing nomothetic and idiographic causal relationships

	Nomothetic causal relationships	Idiographic causal relationships
Paradigm	Positivist	Interpretivist
Purpose of research	Prediction & generalization	Understanding & particularity
Reasoning	Deductive	Inductive
Purpose of research	Explanatory	Exploratory or descriptive
Research methods	Quantitative	Qualitative
Causality	Simple: cause and effect	Complex: context-dependent, sometimes circular or contradictory
Role of theory	Theory testing	Theory building

Remember our question from the last section, "Are you trying to generalize or nah?" If you answered nah (or no, like a normal person), you are trying to establish an idiographic causal explanation. The purpose of that explanation isn't to predict the future or generalize to larger populations, but to describe the here-and-now as it is experienced by individuals within small groups and communities. Idiographic explanations are focused less on what is generally experienced by all people but more on the particularities of what specific individuals in a unique time and place experience.

Researchers seeking idiographic causal relationships are not trying to generalize or predict, so they have no need to reduce phenomena to mathematics. In fact, only examining things that can be counted can rob a causal relationship of its meaning and context. Instead, the goal of idiographic causal relationships is understanding, rather than prediction. Idiographic causal relationships are formed by interpreting people's stories and experiences. Usually, these are expressed through words. Not all qualitative studies use word data, as some can use interpretations of visual or performance art. However, the vast majority of qualitative studies do use word data, like the transcripts from interviews

and focus groups or documents like journal entries or meeting notes. Your participants are the experts on their lives—much like in social work practice—and as in practice, people's experiences are embedded in their cultural, historical, and environmental context.

Idiographic causal explanations are powerful because they can describe the complicated and interconnected nature of human life. Nomothetic causal explanations, by comparison, are simplistic. Think about if someone asked you why you wanted to be a social worker. Your story might include a couple of vignettes from your education and early employment. It might include personal experience with the social welfare system or family traditions. Maybe you decided on a whim to enroll in a social work course during your graduate program. The impact of each of these events on your career is unique to you.

Idiographic causal explanations are concerned with individual stories, their idiosyncrasies, and the patterns that emerge when you collect and analyze multiple people's stories. This is the inductive reasoning we discussed at the beginning of this chapter. Often, idiographic causal explanations begin by collecting a lot of qualitative data, whether though interviews, focus groups, or looking at available documents or cultural artifacts. Next, the researcher looks for patterns in the data and arrives at a tentative theory for how the key ideas in people's stories are causally related.

Unlike nomothetic causal relationships, there are no formal criteria (e.g., covariation) for establishing causality in idiographic causal relationships. In fact, some criteria like temporality and nonspuriousness may be violated. For example, if an adolescent client says, "It's hard for me to tell whether my depression began before my drinking, but both got worse when I was expelled from my first high school," they are recognizing that it may not so simple that one thing causes another. Sometimes, there is a reciprocal relationship where one variable (depression) impacts another (alcohol abuse), which then feeds back into the first variable (depression) and into other variables as well (school). Other criteria, such as covariation and plausibility, still make sense, as the relationships you highlight as part of your idiographic causal explanation should still be plausible and its elements should vary together.

Theory building and theory testing

As we learned in the previous section, nomothetic causal explanations are created by researchers applying deductive reasoning to their topic and creating hypotheses using social science theories. Much of what we think of as social science is based on this hypothetico-deductive method, but this leaves out the other half of the equation. Where do theories come from? Are they all just revisions of one another? How do any new ideas enter social science?

Through inductive reasoning and idiographic causal explanations!

Let's consider a social work example. If you plan to study domestic and sexual violence, you will likely encounter the Power and Control Wheel, also known as the Duluth Model (Figure 8.9). The wheel

is a model designed to depict the process of domestic violence. The wheel was developed based on qualitative focus groups conducted by sexual and domestic violence advocates in Duluth, MN. This video explains more about [the Duluth Model of domestic abuse.]

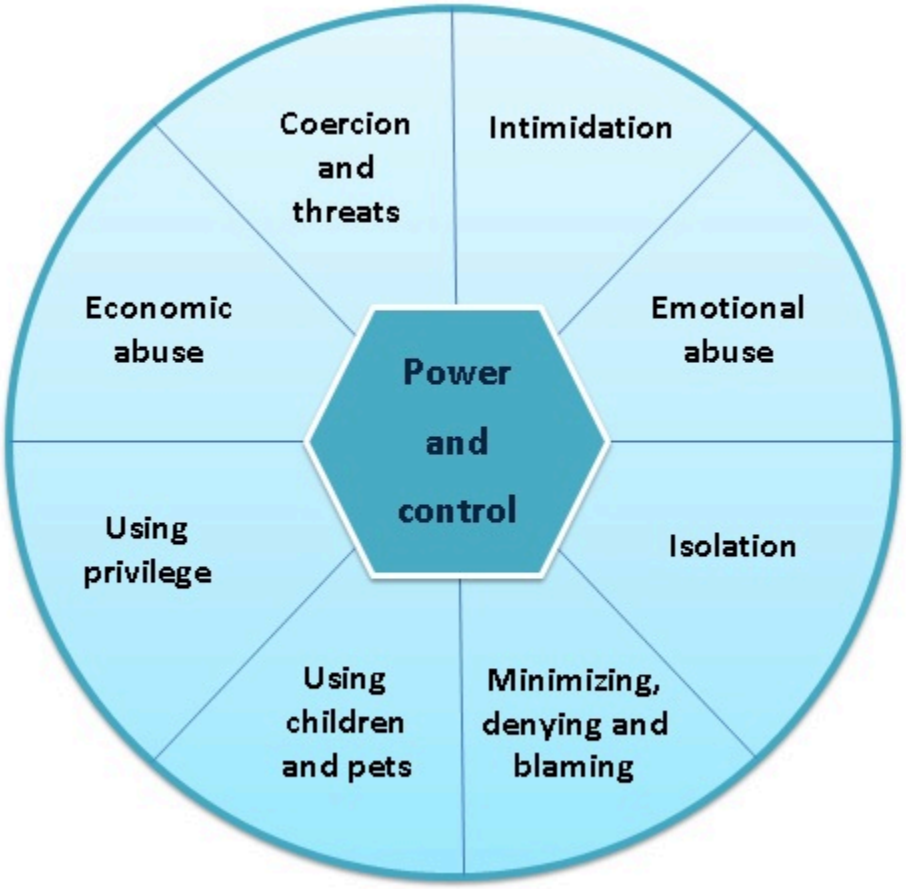


Figure 8.9 The Power and Control Wheel

The Power and Control Wheel is an example of what an idiographic causal relationship looks like. By contrast, look back at the previous section's Figure 8.5, 8.6, and 8.7 on nomothetic causal relationships between independent and dependent variables. See how much more complex idiographic causal explanations are?! They are complex, but not difficult to understand. At the center of domestic abuse is power and control, and while not every abuser would say that is what they were doing, that is the understanding of the survivors who informed this theoretical model. Their power and control is maintained through a variety of abusive tactics from social isolation to use of privilege to avoid consequences.

What about the role of hypotheses in idiographic causal explanations? In nomothetic causal explanations, researchers create hypotheses using existing theory and then test them for accuracy. Hypotheses in idiographic causality are much more tentative, and are probably best considered as

"hunches" about what they think might be true. Importantly, they might indicate the researcher's prior knowledge and biases before the project begins, but the goal of idiographic research is to let your participants guide you rather than existing social work knowledge. Continuing with our Duluth Model example, advocates likely had some tentative hypotheses about what was important in a relationship with domestic violence. After all, they worked with this population for years prior to the creation of the model. However, it was the stories of the participants in these focus groups that led the Power and Control Wheel explanation for domestic abuse.

As qualitative inquiry unfolds, hypotheses and hunches are likely to emerge and shift as researchers learn from what their participants share. Because the participants are the experts in idiographic causal relationships, a researcher should be open to emerging topics and shift their research questions and hypotheses accordingly. This is in contrast to hypotheses in quantitative research, which remain constant throughout the study and are shown to be true or false.

Over time, as more qualitative studies are done and patterns emerge across different studies and locations, more sophisticated theories emerge that explain phenomena across multiple contexts. Once a theory is developed from qualitative studies, a quantitative researcher can seek to test that theory. For example, a quantitative researcher may hypothesize that men who hold traditional gender roles are more likely to engage in domestic violence. That would make sense based on the Power and Control Wheel model, as the category of "using male privilege" speaks to this relationship. In this way, qualitatively-derived theory can inspire a hypothesis for a quantitative research project, as we will explore in the next section.

Complementary approaches

If idiographic and nomothetic still seem like obscure philosophy terms, let's consider another example. Imagine you are working for a community-based non-profit agency serving people with disabilities. You are putting together a report to lobby the state government for additional funding for community support programs. As part of that lobbying, you are likely to rely on both nomothetic and idiographic causal relationships.

If you looked at nomothetic causal relationships, you might learn how previous studies have shown that, in general, community-based programs like yours are linked with better health and employment outcomes for people with disabilities. Nomothetic causal explanations seek to establish that community-based programs are better for *everyone* with disabilities, including people in your community.

If you looked at idiographic causal explanations, you would use stories and experiences of people in community-based programs. These individual stories are full of detail about the lived experience of being in a community-based program. You might use one story from a client in your lobbying campaign,

so policymakers can understand the lived experience of what it's like to be a person with a disability in this program. For example, a client who said "I feel at home when I'm at this agency because they treat me like a family member," or "this is the agency that helped me get my first paycheck," can communicate richer, more complex causal relationships.

Neither kind of causal explanation is better than the other. A decision to seek idiographic causal explanations means that you will attempt to explain or describe your phenomenon exhaustively, attending to cultural context and subjective interpretations. A decision to seek nomothetic causal explanations, on the other hand, means that you will try to explain what is true for everyone and predict what will be true in the future. In short, idiographic explanations have greater depth, and nomothetic explanations have greater breadth.

Most importantly, social workers understand the value of both approaches to understanding the social world. A social worker helping a client with substance abuse issues seeks idiographic explanations when they ask about that client's life story, investigate their unique physical environment, or probe how their family relationships. At the same time, a social worker also uses nomothetic explanations to guide their interventions. Nomothetic explanations may help guide them to minimize risk factors and maximize protective factors or use an evidence-based therapy, relying on knowledge about what *in general* helps people with substance abuse issues.

So, which approach speaks to you? Are you interested in learning about (a) a few people's experiences in a great deal of depth, or (b) a lot of people's experiences more superficially, while also hoping your findings can be generalized to a greater number of people? The answer to this question will drive your research question and project. These approaches provide different types of information and both types are valuable.

Key Takeaways

- Idiographic causal explanations focus on subjectivity, context, and meaning.
- Idiographic causal explanations are best suited to exploratory research questions and qualitative methods.
- Idiographic causal explanations are used to create new theories in social science.

Exercises

- Explore the literature on the theory you identified in section 8.1.
- Read about the origins of your theory. Who developed it and from what data?
- See if you can find a figure like Figure 8.9 in an article or book chapter that depicts the key concepts in your theory and how those concepts are related to one another causally. Write out a short statement on the causal

relationships contained in the figure.

8.4 Mixed methods research

Learning Objectives

Learners will be able to...

- Define sequence and emphasis and describe how they work in qualitative research
- List five reasons why researchers use mixed methods

As we discussed in the previous sections, while we contrast idiographic vs. nomothetic causality or inductive vs. deductive reasoning, the truth is that researchers combine both of these approaches when they conduct research. While these processes can occur in any kind of study, mixed methods research is an excellent example of how researchers use both approaches to logic and reasoning to improve understanding of a given topic.

So far in this textbook, we have talked about quantitative and qualitative methods as an either/or choice–you can choose quantitative methods or qualitative methods. However, researchers often use both quantitative methods inside of their research projects. This is called **mixed methods research**.

For example, I recently completed a study with administrators of state-level services for people with intellectual and developmental disabilities. They implemented a program called self-direction, which allows people with disabilities greater self-determination over their supports. In this study, my research partners and I used a mixed methods approach to describe the implementation of self-direction across the United States. We distributed a short, electronic questionnaire and conducted phone interviews with program administrators. While we could have just sent out a questionnaire that asked states to provide basic information on their program (size, qualifications, services offered, etc.), that would not provide us much information about some of the issues administrators faced during program implementation. Similarly, we could have interviewed program administrators without the questionnaire, but then we wouldn't know enough about the programs to ask good questions. Instead, we chose to use both qualitative and quantitative methods to provide a more comprehensive picture of program implementation.

Sequence and emphasis

There are many different mixed methods designs, each with their own strengths and limitations (see Creswell & Clarke, 2017[21] for a more thorough introduction). However, a more simplified synthesis of mixed methods approaches is provided by Engel and Schutt (2016)[22] using two key terms. **Sequence** refers to the order that each method is used. Researchers can use both methods at the same time or *concurrently*. Or, they can use one and then the other, or *sequentially*.

For our study of self-direction, we used a sequential design by sending out a questionnaire first, conducting some analysis, and then conducting the interview. We used the quantitative questionnaire to gather basic information about the programs before we began the interviews, so our questions were specific to the features of each program. If we wanted to use a concurrent design for some reason, we could have asked quantitative questions during the interview. However, we felt this would waste the administrators' time looking up information and would break up rhythm of the interviews.

The other key term in mixed methods research is **emphasis**. In our mixed methods study, the qualitative data was the most important data. The quantitative data was mainly used to provide background information for the qualitative interviews, and our study write up focused mostly on the qualitative information. Thus, qualitative methods were *prioritized* in our study. Of course, many other studies emphasize quantitative methods over qualitative methods. In these studies, qualitative data is used mainly to provide context for the quantitative findings.

For example, demonstrating quantitatively that a particular therapy works is important. By adding a qualitative component, researchers could find out how the participants experienced the intervention, how clients understood the therapy's effects, and the meaning the therapy had on their lives. This data would add depth and context to the findings and allow researchers to improve the therapeutic technique in the future.

A similar practice is when researchers use qualitative methods to solicit feedback on a quantitative scale or measure. The experiences of individuals allow researchers to refine the measure before they conduct the quantitative component of their study. Finally, it is possible that researchers are equally interested in qualitative and quantitative information. In studies of *equal emphasis*, researchers consider both methods as the focus of the research project.

Why researchers use mixed methods

Mixed methods research is more than just sticking an open-ended question at the end of a quantitative survey. Mixed methods researchers use mixed methods for both pragmatic and synergistic reasons. That is, they use both methods because it makes sense with their research questions and because they will get the answers they want by combining the two approaches.

Mixed methods also allow you to use both inductive and deductive reasoning. As we've discussed, qualitative research follows inductive logic, moving from data to empirical generalizations or theory. In a mixed methods study, a researcher could use the results from a qualitative component to create a theory that could be tested in a subsequent quantitative component. The quantitative component would use deductive logic, using the theory derived from qualitative data to create and test a hypothesis. In this way, mixed methods use the strengths of both inductive and deductive reasoning. Quantitative allows the researcher to test existing ideas. Qualitative allows the researcher to create new ideas.

With these two concepts in mind, we can start to see why researchers use mixed methods in the real world. I mentioned previously that our research project used a sequential design because we wanted to use our quantitative data to shape what qualitative questions we asked our participants. Mixed methods are often used this way, to initiate ideas with one method to study with another. For example, researchers could begin a mixed methods project by using qualitative methods to interview or conduct a focus group with participants. Based on their responses, the researchers could then formulate a survey to give out to a larger group of people to see how common the themes from the focus groups were. This is the inverse of what we did in our project, which was to use a quantitative survey to inform a more detailed qualitative interview.

In addition to providing information for subsequent investigation, using both quantitative and qualitative information provides additional context for the data. For example, in our questionnaire for the study on self-direction, we asked participants to list what services people could purchase. The qualitative data followed up on that answer by asking whether the administrators had added or taken away any services, how they decided that these services would be covered and not others, and what problems that arose around providing these services. With that information, we could analyze what services were offered, why they were offered, and how administrators made those decisions. In this way, we learned the lived experience of program administrators, not just the basic information about their programs.

Finally, another purpose of mixed methods research is to corroborate data from both quantitative and qualitative sources. Ideally, your qualitative and quantitative results should support each other. For example, if interviews with participants showed a relationship between two concepts, that relationship should also be present in the qualitative data you collected. Differences between quantitative and qualitative data require an explanation. Perhaps there are outliers or extreme cases that pushed your data in one direction, for example.

In summary, these are a few of the many reasons researchers use mixed methods. They are summarized below:

1. Triangulation, or convergence on the same phenomenon to improve validity
2. Complementarity, which aims to get at related but different facets of a phenomenon
3. Development, or the use of results from one phase or a study to develop another phase
4. Initiation, or the intentional analysis of inconsistent qualitative and quantitative findings to derive

new insights
5. Expansion, or using multiple components to extend the scope of a study (Burnett, 2012, p. 77).[23]

A word of caution

The use of mixed methods has many advantages. However, undergraduate researchers should approach mixed methods with caution. Conducting a mixed methods study may mean doubling or even tripling your work. You must conceptualize a component using quantitative methods, another using qualitative methods, and think about how they fit together. This may mean creating a questionnaire, then writing an interview guide, and thinking through how the data on each measure relate to one another—more work than using one quantitative or qualitative method alone. Similarly, in sequential studies, the researcher must collect and analyze data from one component and then conceptualize and conduct the second component. This may also impact how long a project may take. Before beginning a mixed methods project, you should have a clear vision for what the project will entail and how each methodology will contribute to that vision. Always remember that you should make your project feasible enough for you to conduct with the time, money, and other resources you have at your disposal right now.

Key Takeaways

- Mixed methods studies vary in sequence and emphasis.
- Mixed methods allow the research to corroborate findings, provide context, follow up on ideas, and use the strengths of each method.

Exercises

- Look at the literature on your topic, and see if you can find a study that uses mixed methods.
- Describe the sequence and importance that the researchers places on the quantitative and qualitative components.
- Identify why the researchers used mixed methods and how the project would have been different had researchers used only one (qualitative or quantitative) component.

Media Attributions

- Inductive reasoning © Blackstone, A. is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- Figure 6.2: Deductive reasoning © Blackstone, A. is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- 40 © Blackstone, A. is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- 46 © DeCarlo, M. is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- correlation © Munroe, R. is licensed under a CC BY-NC (Attribution NonCommercial) license
- 4.4 © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, & Dana C. Leighton is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- Power_and_control_wheel © Carole Henson is licensed under a CC BY-SA (Attribution ShareAlike) license

Notes

1. Allen, K. R., Kaestle, C. E., & Goldberg, A. E. (2011). More than just a punctuation mark: How boys and young men learn about menstruation. *Journal of Family Issues, 32*, 129–156.
2. Ferguson, K. M., Kim, M. A., & McCoy, S. (2011). Enhancing empowerment and leadership among homeless youth in agency and community settings: A grounded theory approach. *Child and Adolescent Social Work Journal*, 28, 1–22
3. King, R. D., Messner, S. F., & Baller, R. D. (2009). Contemporary hate crimes, law enforcement, and the legacy of racial violence. *American Sociological Review*, 74, 291–315.
4. Milkie, M. A., & Warner, C. H. (2011). Classroom learning environments and the mental health of first grade children. *Journal of Health and Social Behavior*, 52, 4–22.
5. The American Sociological Association wrote a press release on Milkie and Warner's findings: American Sociological Association. (2011). Study: Negative classroom environment adversely affects children's mental health. Retrieved from: https://www.sciencedaily.com/releases/2011/03/110309073717.htm
6. Uggen, C., & Blackstone, A. (2004). Sexual harassment as a gendered expression of power. *American Sociological Review*, 69, 64–92.
7. Blackstone, A., Houle, J., & Uggen, C. "At the time I thought it was great": Age, experience, and workers' perceptions of sexual harassment. Presented at the 2006 meetings of the American Sociological Association.
8. Blackstone, A. (2012). Inductive or deductive? Two different approaches. *Principles of sociological inquiry: Qualitative and quantitative methods*. Saylor Foundation.
9. Schutt, R. K. (2006). *Investigating the social world: The process and practice of research*. Thousand Oaks, CA: Pine Forge Press.
10. Sherman, L. W., & Berk, R. A. (1984). The specific deterrent effects of arrest for domestic assault. *American Sociological Review*, 49, 261–272.
11. Williams, K. R. (2005). Arrest and intimate partner violence: Toward a more complete application of deterrence theory. *Aggression and Violent Behavior*, 10(6), 660-679.

12. Policastro, C., & Payne, B. K. (2013). The blameworthy victim: Domestic violence myths and the criminalization of victimhood. *Journal of Aggression, Maltreatment & Trauma*, 22(4), 329-347.
13. Berk, R., Campbell, A., Klap, R., & Western, B. (1992). The deterrent effect of arrest in incidents of domestic violence: A Bayesian analysis of four field experiments. American Sociological Review, 57, 698–708; Pate, A., & Hamilton, E. (1992). Formal and informal deterrents to domestic violence: The Dade county spouse assault experiment. American Sociological Review, 57, 691–697; Sherman, L., & Smith, D. (1992). Crime, punishment, and stake in conformity: Legal and informal control of domestic violence. American Sociological Review, 57, 680–690.
14. Taylor, B. G., Davis, R. C., & Maxwell, C. D. (2001). The effects of a group batterer treatment program: A randomized experiment in Brooklyn. Justice Quarterly, 18(1), 171-201.
15. Wagner III, W. E., & Gillespie, B. J. (2018). *Using and interpreting statistics in the social, behavioral, and health sciences*. SAGE Publications.
16. Uggen, C., & Blackstone, A. (2004). Sexual harassment as a gendered expression of power. *American Sociological Review*, 69, 64–92.
17. In fact, there are empirical data that support this hypothesis. Gallup has conducted research on this very question since the 1960s. For more on their findings, see Carroll, J. (2005). Who supports marijuana legalization? Retrieved from http://www.gallup.com/poll/19561/who-supports-marijuana-legalization.aspx
18. Babbie, E. (2010). *The practice of social research (12th ed.)*. Belmont, CA: Wadsworth.
19. Huff, D. & Geis, I. (1993). *How to lie with statistics*. New York, NY: W. W. Norton & Co.
20. Frankfort-Nachmias, C. & Leon-Guerrero, A. (2011). *Social statistics for a diverse society*. Washington, DC: Pine Forge Press.
21. Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.
22. Engel, R. J. & Schutt, R. K. (2016). *The practice of research in social work (4th ed.)*. Washington, DC: SAGE Publishing.
23. Burnett, D. (2012). Inscribing knowledge: Writing research in social work. In W. Green & B. L. Simon (Eds.), *The Columbia guide to social work writing* (pp. 65-82). New York, NY: Columbia University Press.

9. Writing your research question

Chapter Outline

1. Empirical vs. ethical questions (4 minute read)
2. Characteristics of a good research question (4 minute read)
3. Quantitative research questions (7 minute read)
4. Qualitative research questions (3 minute read)
5. Evaluating and updating your research questions (4 minute read)

Content warning: examples in this chapter include references to sexual violence, sexism, substance use disorders, homelessness, domestic violence, the child welfare system, cissexism and heterosexism, and truancy and school discipline.

9.1 Empirical vs. ethical questions

Learning Objectives

Learners will be able to...

- Define empirical questions and provide an example
- Define ethical questions and provide an example

Writing a good research question is an art and a science. It is a science because you have to make sure it is clear, concise, and well-developed. It is an art because often your language needs "wordsmithing" to perfect and clarify the meaning. This is an exciting part of the research process; however, it can also be one of the most stressful.

Creating a good research question begins by identifying a topic you are interested in studying. At this point, you already have a working question. You've been applying it to the exercises in each chapter, and after reading more about your topic in the scholarly literature, you've probably gone back and revised your working question a few times. We're going to continue that process in more detail in this chapter. Keep in mind that writing research questions is an iterative process, with revisions happening week after week until you are ready to start your project.

Empirical vs. ethical questions

When it comes to research questions, social science is best equipped to answer **empirical questions**—those that can be answered by real experience in the real world—as opposed to **ethical questions**—questions about which people have moral opinions and that may not be answerable in reference to the real world. While social workers have explicit ethical obligations (e.g., service, social justice), research projects ask *empirical* questions to help actualize and support the work of upholding those ethical principles.



In order to help you better understand the difference between ethical and empirical questions, let's consider a topic about which people have moral opinions. How about SpongeBob SquarePants?[1] In early 2005, members of the conservative Christian group Focus on the Family (2005)[2] denounced this seemingly innocuous cartoon character as "morally offensive" because they perceived his character to be one that promotes a "pro-gay agenda." Focus on the Family supported their claim that SpongeBob is immoral by citing his appearance in a children's video designed to promote tolerance of all family forms (BBC News, 2005).[3] They also cited SpongeBob's regular hand-holding with his male sidekick Patrick as further evidence of his immorality.

So, can we now conclude that SpongeBob SquarePants is immoral? Not so fast. While your mother or a newspaper or television reporter may provide an answer, a social science researcher cannot. Questions of morality are ethical, not empirical. Of course, this doesn't mean that social science researchers cannot study opinions about or social meanings surrounding SpongeBob SquarePants (Carter, 2010).[4] We study humans after all, and as you will discover in the following chapters of this textbook, we are trained to utilize a variety of scientific data-collection techniques to understand patterns of human beliefs and behaviors. Using these techniques, we could find out how many people in the United States find SpongeBob morally reprehensible, but we could never learn, empirically, whether SpongeBob is in fact morally reprehensible.

Let's consider an example from a recent MSW research class I taught. A student group wanted to research the penalties for sexual assault. Their original research question was: "How can prison sentences for sexual assault be so much lower than the penalty for drug possession?" Outside of the research context, that is a darn good question! It speaks to how the War on Drugs and the patriarchy have distorted the criminal justice system towards policing of drug crimes over gender-based violence.

Unfortunately, it is an ethical question, not an empirical one. To answer that question, you would have to draw on philosophy and morality, answering what it is about human nature and society that allows such unjust outcomes. However, you could not answer that question by gathering data about people in the real world. If I asked people that question, they would likely give me their opinions about drugs, gender-based violence, and the criminal justice system. But I wouldn't get the real answer about why our society tolerates such an imbalance in punishment.

As the students worked on the project through the semester, they continued to focus on the topic of sexual assault in the criminal justice system. Their research question became more empirical because they read more empirical articles about their topic. One option that they considered was to evaluate intervention programs for perpetrators of sexual assault to see if they reduced the likelihood of committing sexual assault again. Another option they considered was seeing if counties or states with higher than average jail sentences for sexual assault perpetrators had lower rates of re-offense for sexual assault. These projects addressed the ethical question of punishing perpetrators of sexual violence but did so in a way that gathered and analyzed *empirical* real-world data. Our job as social work researchers is to gather social facts about social work issues, not to judge or determine morality.

Key Takeaways

- Empirical questions are distinct from ethical questions.
- There are usually a number of ethical questions and a number of empirical questions that could be asked about any single topic.
- While social workers may research topics about which people have moral opinions, a researcher's job is to gather and analyze empirical data.

Exercises

- Take a look at your working question. Make sure you have an empirical question, not an ethical one. To perform this check, describe how you could find an answer to your question by conducting a study, like a survey or focus group, with real people.

9.2 Characteristics of a good research question

Learning Objectives

Learners will be able to…

- Identify and explain the key features of a good research question
- Explain why it is important for social workers to be focused and clear with the language they use in their research questions

Now that you've made sure your working question is empirical, you need to revise that working question into a formal research question. So, what makes a good research question? First, it is generally written in the form of a question. To say that your research question is "the opioid epidemic" or "animal assisted therapy" or "oppression" would not be correct. You need to frame your topic as a question, not a statement. A good research question is also one that is well-focused. A well-focused question helps you tune out irrelevant information and not try to answer everything about the world all at once. You could be the most eloquent writer in your class, or even in the world, but if the research question about which you are writing is unclear, your work will ultimately lack direction.

In addition to being written in the form of a question and being well-focused, a good research question is one that cannot be answered with a simple yes or no. For example, if your interest is in gender norms, you could ask, "Does gender affect a person's performance of household tasks?" but you will have nothing left to say once you discover your yes or no answer. Instead, why not ask, about the relationship between gender and household tasks. Alternatively, maybe we are interested in how or to what extent gender affects a person's contributions to housework in a marriage? By tweaking your question in this small way, you suddenly have a much more fascinating question and more to say as you attempt to answer it.

A good research question should also have more than one plausible answer. In the example above, the

student who studied the relationship between gender and household tasks had a specific interest in the impact of gender, but she also knew that preferences might be impacted by other factors. For example, she knew from her own experience that her more traditional and socially conservative friends were more likely to see household tasks as part of the female domain, and were less likely to expect their male partners to contribute to those tasks. Thinking through the possible relationships between gender, culture, and household tasks led that student to realize that there were many plausible answers to her questions about *how* gender affects a person's contribution to household tasks. Because gender doesn't exist in a vacuum, she wisely felt that she needed to consider other characteristics that work together with gender to shape people's behaviors, likes, and dislikes. By doing this, the student considered the third feature of a good research question–she thought about relationships between several concepts. While she began with an interest in a single concept—household tasks—by asking herself what other concepts (such as gender or political orientation) might be related to her original interest, she was able to form a question that considered the relationships *among* those concepts.

This student had one final component to consider. Social work research questions must contain a target population. Her study would be very different if she were to conduct it on older adults or immigrants who just arrived in a new country. The **target population** is the group of people whose needs your study addresses. Maybe the student noticed issues with household tasks as part of her social work practice with first-generation immigrants, and so she made it her target population. Maybe she wants to address the needs of another community. Whatever the case, the target population should be chosen while keeping in mind social work's responsibility to work on behalf of marginalized and oppressed groups.

In sum, a good research question generally has the following features:

- It is written in the form of a question
- It is clearly written
- It cannot be answered with "yes" or "no"
- It has more than one plausible answer
- It considers relationships among multiple variables
- It is specific and clear about the concepts it addresses
- It includes a target population

Key Takeaways

- A poorly focused research question can lead to the demise of an otherwise well-executed study.
- Research questions should be clearly worded, consider relationships between multiple variables, have more than one plausible answer, and address the needs of a target population.

Exercises

Okay, it's time to write out your first draft of a research question.

- Once you've done so, take a look at the checklist in this chapter and see if your research question meets the criteria to be a good one.

Brainstorm whether your research question might be better suited to quantitative or qualitative methods.

- Describe why your question fits better with quantitative or qualitative methods.
- Provide an alternative research question that fits with the other type of research method.

9.3 Quantitative research questions

Learning Objectives

Learners will be able to…

- Describe how research questions for exploratory, descriptive, and explanatory quantitative questions differ and how to phrase them
- Identify the differences between and provide examples of strong and weak explanatory research questions

Quantitative descriptive questions

The type of research you are conducting will impact the research question that you ask. Probably the easiest questions to think of are quantitative descriptive questions. For example, "What is the average student debt load of MSW students?" is a descriptive question—and an important one. We aren't trying to build a causal relationship here. We're simply trying to describe how much debt MSW students carry. Quantitative descriptive questions like this one are helpful in social work practice as part of community scans, in which human service agencies survey the various needs of the community they serve. If the scan reveals that the community requires more services related to housing, child care, or day treatment for people with disabilities, a nonprofit office can use the community scan to create new programs that meet a defined community need.

Quantitative descriptive questions will often ask for percentage, count the number of instances of a phenomenon, or determine an average. Descriptive questions may only include one variable, such as ours about student debt load, or they may include multiple variables. Because these are descriptive questions, our purpose is not to investigate causal relationships between variables. To do that, we need to use a quantitative explanatory question.



Quantitative explanatory questions

Most studies you read in the academic literature will be quantitative and explanatory. Why is that? If you recall from Chapter 2, explanatory research tries to build nomothetic causal relationships. They are generalizable across space and time, so they are applicable to a wide audience. The editorial board of a journal wants to make sure their content will be useful to as many people as possible, so it's not surprising that quantitative research dominates the academic literature.

Structurally, quantitative explanatory questions must contain an independent variable and dependent variable. Questions should ask about the relationship between these variables. The standard format

I was taught in graduate school for an explanatory quantitative research question is: "What is the relationship between [independent variable] and [dependent variable] for [target population]?" You should play with the wording for your research question, revising that standard format to match what you really want to know about your topic.

Let's take a look at a few more examples of possible research questions and consider the relative strengths and weaknesses of each. Table 9.1 does just that. While reading the table, keep in mind that I have only noted what I view to be the most relevant strengths and weaknesses of each question. Certainly each question may have additional strengths and weaknesses not noted in the table. Each of these questions is drawn from student projects in my research methods classes and reflects the work of many students on their research question over many weeks.

Table 9.1 Sample research questions: Strengths and weaknesses

Sample question	Question's strengths	Question's weaknesses	Proposed alternative
	Written as a question	Not clearly focused	
What are the internal and external effects/problems associated with children witnessing domestic violence?	Considers relationships among multiple concepts Contains a population	Not specific and clear about the concepts it addresses	How does witnessing domestic violence impact a child's romantic relationships in adulthood?
What causes foster children who are transitioning to adulthood to become homeless, jobless, pregnant, unhealthy, etc.?	Considers relationships among multiple concepts Contains a population	Concepts are not specific and clear	What is the relationship between sexual orientation or gender identity and homelessness for late adolescents in foster care?
	Not written as a yes/no question		
How does income inequality predict ambivalence in the Stereo Content Model using major U.S. cities as target populations?	Written as a question Considers relationships among multiple concepts	Unclear wording Population is unclear	How does income inequality affect ambivalence in high-density urban areas?
Why are mental health rates higher in white foster children than African Americans and other races?	Written as a question Not written as a yes/no question	Concepts are not clear Does not contain a target population	How does race impact rates of mental health diagnosis for children in foster care?

Making it more specific

A good research question should also be specific and clear about the concepts it addresses. A student investigating gender and household tasks knows what they mean by "household tasks." You likely also have an impression of what "household tasks" means. But are your definition and the student's definition the same? A participant in their study may think that managing finances and performing home maintenance are household tasks, but the researcher may be interested in other tasks like childcare or cleaning. The only way to ensure your study stays focused and clear is to be specific about what you mean by a concept. The student in our example could pick a specific household task

that was interesting to them or that the literature indicated was important—for example, childcare. Or, the student could have a broader view of household tasks, one that encompasses childcare, food preparation, financial management, home repair, and care for relatives. Any option is probably okay, as long as the researcher is clear on what they mean by "household tasks." Clarifying these distinctions is important as we look ahead to specifying how your variables will be measured in Chapter 11.

Table 9.2 contains some "watch words" that indicate you may need to be more specific about the concepts in your research question.

Table 9.2 "Watch words" in explanatory research questions

Watch words	How to get more specific
Factors, Causes, Effects, Outcomes	What causes or effects are you interested in? What causes and effects are important, based on the literature in your topic area? Try to choose one or a handful you consider to be the most important.
Effective, Effectiveness, Useful, Efficient	Effective at doing what? Effectiveness is meaningless on its own. What outcome should the program or intervention have? Reduced symptoms of a mental health issue? Better socialization?
Etc., and so forth	Don't assume that your reader understands what you mean by "and so forth." Remember that focusing on two or a small handful concepts is necessary. Your study cannot address everything about a social problem, though the results will likely have implications on other aspects of the social world.

It can be challenging to be this specific in social work research, particularly when you are just starting out your project and still reading the literature. If you've only read one or two articles on your topic, it can be hard to know what you are interested in studying. Broad questions like "What are the causes of chronic homelessness, and what can be done to prevent it?" are common at the beginning stages of a research project as working questions. However, moving from working questions to research questions in your research proposal requires that you examine the literature on the topic and refine your question over time to be more specific and clear. Perhaps you want to study the effect of a specific anti-homelessness program that you found in the literature. Maybe there is a particular model to fighting homelessness, like Housing First or transitional housing, that you want to investigate further. You may want to focus on a potential cause of homelessness such as LGBTQ+ discrimination that you find interesting or relevant to your practice. As you can see, the possibilities for making your question more specific are almost infinite.

Quantitative exploratory questions

In exploratory research, the researcher doesn't quite know the lay of the land yet. If someone is proposing to conduct an exploratory quantitative project, the watch words highlighted in Table 9.2 are not problematic at all. In fact, questions such as "What factors influence the removal of children in child

welfare cases?" are good because they will explore a variety of factors or causes. In this question, the independent variable is less clearly written, but the dependent variable, family preservation outcomes, is quite clearly written. The inverse can also be true. If we were to ask, "What outcomes are associated with family preservation services in child welfare?", we would have a clear independent variable, family preservation services, but an unclear dependent variable, outcomes. Because we are only conducting exploratory research on a topic, we may not have an idea of what concepts may comprise our "outcomes" or "factors." Only after interacting with our participants will we be able to understand which concepts are important.

Remember that exploratory research is appropriate only when the researcher does not know much about topic because there is very little scholarly research. In our examples above, there is extensive literature on the outcomes in family reunification programs and risk factors for child removal in child welfare. Make sure you've done a thorough literature review to ensure there is little relevant research to guide you towards a more explanatory question.

Key Takeaways

- Descriptive quantitative research questions are helpful for community scans but cannot investigate causal relationships between variables.
- Explanatory quantitative research questions must include an independent and dependent variable.
- Exploratory quantitative research questions should only be considered when there is very little previous research on your topic.

Exercises

- Identify the type of research you are engaged in (descriptive, explanatory, or exploratory).
- Create a quantitative research question for your project that matches with the type of research you are engaged in.

Preferably, you should be creating an explanatory research question for quantitative research.

9.4 Qualitative research questions

Learning Objectives

Learners will be able to…

- List the key terms associated with qualitative research questions
- Distinguish between qualitative and quantitative research questions

Qualitative research questions differ from quantitative research questions. Because qualitative research questions seek to explore or describe phenomena, not provide a neat nomothetic explanation, they are often more general and openly worded. They may include only one concept, though many include more than one. Instead of asking how one variable causes changes in another, we are instead trying to understand the *experiences*, *understandings*, and *meanings* that people have about the concepts in our research question. These keywords often make an appearance in qualitative research questions.

Let's work through an example from our last section. In Table 9.1, a student asked, "What is the relationship between sexual orientation or gender identity and homelessness for late adolescents in foster care?" In this question, it is pretty clear that the student believes that adolescents in foster care who identify as LGBTQ+ may be at greater risk for homelessness. This is a nomothetic causal relationship—LGBTQ+ status causes changes in homelessness.

However, what if the student were less interested in *predicting* homelessness based on LGBTQ+ status and more interested in *understanding* the stories of foster care youth who identify as LGBTQ+ and may be at risk for homelessness? In that case, the researcher would be building an **idiographic causal explanation**. The youths whom the researcher interviews may share stories of how their foster families, caseworkers, and others treated them. They may share stories about how they thought of their own sexuality or gender identity and how it changed over time. They may have different ideas about what it means to transition out of foster care.



Because qualitative questions usually center on idiographic causal relationships, they look different than quantitative questions. Table 9.3 below takes the final research questions from Table 9.1 and adapts them for qualitative research. The guidelines for research questions previously described in this chapter still apply, but there are some new elements to qualitative research questions that are not present in quantitative questions.

1. Qualitative research questions often ask about lived experience, personal experience, understanding, meaning, and stories.
2. Qualitative research questions may be more general and less specific.
3. Qualitative research questions may also contain only one variable, rather than asking about relationships between multiple variables.

Table 9.3 Quantitative vs. qualitative research questions

Quantitative Research Questions	Qualitative Research Questions
How does witnessing domestic violence impact a child's romantic relationships in adulthood?	How do people who witness domestic violence understand its effects on their current relationships?
What is the relationship between sexual orientation or gender identity and homelessness for late adolescents in foster care?	What is the experience of identifying as LGBTQ+ in the foster care system?
How does income inequality affect ambivalence in high-density urban areas?	What does racial ambivalence mean to residents of an urban neighborhood with high income inequality?
How does race impact rates of mental health diagnosis for children in foster care?	How do African-Americans experience seeking help for mental health concerns?

Qualitative research questions have one final feature that distinguishes them from quantitative research questions: they can change over the course of a study. Qualitative research is a reflexive process, one in which the researcher adapts their approach based on what participants say and do. The researcher must constantly evaluate whether their question is important and relevant to the participants. As the researcher gains information from participants, it is normal for the focus of the inquiry to shift.

For example, a qualitative researcher may want to study how a new truancy rule impacts youth at risk of expulsion. However, after interviewing some of the youth in their community, a researcher might find that the rule is actually irrelevant to their behavior and thoughts. Instead, their participants will direct the discussion to their frustration with the school administrators or the lack of job opportunities in the area. This is a natural part of qualitative research, and it is normal for research questions and hypothesis to evolve based on information gleaned from participants.

However, this reflexivity and openness unacceptable in quantitative research for good reasons. Researchers using quantitative methods are testing a hypothesis, and if they could revise that hypothesis to match what they found, they could never be wrong! Indeed, an important component of open science and reproducibility is the preregistration of a researcher's hypotheses and data analysis plan in a central repository that can be verified and replicated by reviewers and other researchers. This interactive graphic from 538 shows how an unscrupulous research could come up with a hypothesis and theoretical explanation *after* collecting data by hunting for a combination of factors that results in a **statistically significant** relationship. This is an excellent example of how the positivist assumptions behind quantitative research and intepretivist assumptions behind qualitative research result in different approaches to social science.

Key Takeaways

- Qualitative research questions often contain words or phrases like "lived experience," "personal experience," "understanding," "meaning," and "stories."
- Qualitative research questions can change and evolve over the course of the study.

Exercises

- Using the guidance in this chapter, write a qualitative research question. You may want to use some of the keywords mentioned above.

9.5 Evaluating and updating your research questions

Learning Objectives

Learners will be able to...

- Evaluate the feasibility and importance of your research questions
- Begin to match your research questions to specific designs that determine what the participants in your study will do

Feasibility and importance

As you are getting ready to finalize your research question and move into designing your research study, it is important to check whether your research question is feasible for you to answer and what importance your results will have in the community, among your participants, and in the scientific literature

Key questions to consider when evaluating your question's **feasibility** include:

- Do you have access to the data you need?
- Will you be able to get consent from stakeholders, gatekeepers, and others?
- Does your project pose risk to individuals through direct harm, dual relationships, or breaches in confidentiality? (see Chapter 6 for more ethical considerations)
- Are you competent enough to complete the study?
- Do you have the resources and time needed to carry out the project?

Key questions to consider when evaluating the **importance** of your question include:

- Can we answer your research question simply by looking at the literature on your topic?
- How does your question add something new to the scholarly literature? (raises a new issue, addresses a controversy, studies a new population, etc.)
- How will your target population benefit, once you answer your research question?
- How will the community, social work practice, and the broader social world benefit, once you answer your research question?

Exercises

- Using the questions above, check whether you think your project is feasible for you to complete, given the constrains that student projects face.
- Realistically, explore the potential impact of your project on the community and in the scientific literature. Make sure your question cannot be answered by simply reading more about your topic.

Matching your research question and study design

This chapter described how to create a good quantitative and qualitative research question. In Parts 3 and 4 of this textbook, we will detail some of the basic designs like surveys and interviews that social scientists use to answer their research questions. But which design should you choose?

As with most things, it all depends on your research question. If your research question involves, for example, testing a new intervention, you will likely want to use an experimental design. On the other hand, if you want to know the lived experience of people in a public housing building, you probably want to use an interview or focus group design.

We will learn more about each one of these designs in the remainder of this textbook. We will also learn about using data that already exists, studying an individual client inside clinical practice, and evaluating programs, which are other examples of designs. Below is a list of designs we will cover in this textbook:

- Surveys: online, phone, mail, in-person
- Experiments: classic, pre-experiments, quasi-experiments
- Interviews: in-person or via phone or videoconference
- Focus groups: in-person or via videoconference
- Content analysis of existing data
- Secondary data analysis of another researcher's data
- Program evaluation

The design of your research study determines what you and your participants will do. In an experiment, for example, the researcher will introduce a stimulus or treatment to participants and measure their responses. In contrast, a content analysis may not have participants at all, and the researcher may simply read the marketing materials for a corporation or look at a politician's speeches to conduct the data analysis for the study.

I imagine that a content analysis probably seems easier to accomplish than an experiment. However, as a researcher, you have to choose a research design that makes sense for your question and that is feasible

to complete with the resources you have. All research projects require some resources to accomplish. Make sure your design is one you can carry out with the resources (time, money, staff, etc.) that you have.

There are so many different designs that exist in the social science literature that it would be impossible to include them all in this textbook. The purpose of the subsequent chapters is to help you understand the basic designs upon which these more advanced designs are built. As you learn more about research design, you will likely find yourself revising your research question to make sure it fits with the design. At the same time, your research question as it exists now should influence the design you end up choosing. There is no set order in which these should happen. Instead, your research project should be guided by whether you can feasibly carry it out and contribute new and important knowledge to the world.

Key Takeaways

- Research questions must be feasible and important.
- Research questions must match study design.

Exercises

- Based on what you know about designs like surveys, experiments, and interviews, describe how you might use one of them to answer your research question.
- You may want to refer back to Chapter 2 which discusses how to get raw data about your topic and the common designs used in student research projects.

Media Attributions

- patrick-starfish-2062906_1920 © Inspired Images is licensed under a CC0 (Creative Commons Zero) license
- financial-2860753_1920 © David Schwarzenberg is licensed under a CC0 (Creative Commons Zero) license
- target-group-3460039_1920 © Gerd Altmann is licensed under a CC0 (Creative Commons Zero) license

Notes

1. Not familiar with SpongeBob SquarePants? You can learn more about him on Nickelodeon's site dedicated to all things SpongeBob: http://www.nick.com/spongebob-squarepants/
2. Focus on the Family. (2005, January 26). Focus on SpongeBob. *Christianity Today*. Retrieved from http://www.christianitytoday.com/ct/2005/januaryweb-only/34.0c.html
3. BBC News. (2005, January 20). US right attacks SpongeBob video. Retrieved from: http://news.bbc.co.uk/2/hi/americas/4190699.stm
4. In fact, an MA thesis examines representations of gender and relationships in the cartoon: Carter, A. C. (2010). *Constructing gender and relationships in "SpongeBob SquarePants": Who lives in a pineapple under the sea.* MA thesis, Department of Communication, University of South Alabama, Mobile, AL.

PART 3: USING QUANTITATIVE METHODS

10. Quantitative sampling

Chapter Outline

1. The sampling process (25 minute read)
2. Sampling approaches for quantitative research (15 minute read)
3. Sample quality (24 minute read)

Content warning: examples contain references to addiction to technology, domestic violence and batterer intervention, cancer, illegal drug use, LGBTQ+ discrimination, binge drinking, intimate partner violence among college students, child abuse, neocolonialism and Western hegemony.

10.1 The sampling process

Learning Objectives

Learners will be able to...

- Decide where to get your data and who you might need to talk to
- Evaluate whether it is feasible for you to collect first-hand data from your target population
- Describe the process of sampling
- Apply population, sampling frame, and other sampling terminology to sampling people your project's target population

One of the things that surprised me most as a research methods professor is how much my students struggle with understanding sampling. It is surprising because people engage in sampling all the time. How do you learn whether you like a particular food, like BBQ ribs? You sample them from different restaurants! Obviously, social scientists put a bit more effort and thought into the process than that, but the underlying logic is the same. By sampling a small group of BBQ ribs from different restaurants and liking most of them, you can conclude that when you encounter BBQ ribs again, you will probably like them. You don't need to eat all of the BBQ ribs in the world to come to that conclusion, just a small sample.[1] Part of the difficulty my students face is learning sampling terminology, which is the focus of this section.



Who is your study about and who should you talk to?

At this point in the research process, you know what your research question is. Our goal in this chapter

is to help you understand how to find the people (or documents) you need to study in order to find the answer to your research question. It may be helpful at this point to distinguish between two concepts. Your **unit of analysis** is the entity that you wish to be able to say something about at the end of your study (probably what you'd consider to be the main focus of your study). Your **unit of observation** is the entity (or entities) that you actually observe, measure, or collect in the course of trying to learn something about your unit of analysis.

It is often the case that your unit of analysis and unit of observation are the same. For example, we may want to say something about social work students (unit of analysis), so we ask social work students at our university to complete a survey for our study (unit of observation). In this case, we are observing *individuals*, i.e. students, so we can make conclusions about *individuals*.

On the other hand, our unit of analysis and observation can differ. We could sample social work students to draw conclusions about organizations or universities. Perhaps we are comparing students at historically Black colleges and universities (HBCUs) and primarily white institutions (PWIs). Even though our sample was made up of individual students from various colleges (our unit of observation), our unit of analysis was the university as an organization. Conclusions we made from individual-level data were used to understand larger organizations.

Similarly, we could adjust our sampling approach to target specific student cohorts. Perhaps we wanted to understand the experiences of Black social work students in PWIs. We could choose either an individual unit of observation by selecting students, or a group unit of observation by studying the National Association of Black Social Workers.

Sometimes the units of analysis and observation differ due to pragmatic reasons. If we wanted to study whether being a social work student impacted family relationships, we may choose to study family members of students in social work programs who could give us information about how they behaved in the home. In this case, we would be observing family members to draw conclusions about individual students.

In sum, there are many potential units of analysis that a social worker might examine, but some of the most common include individuals, groups, and organizations. Table 10.1 details examples identifying the units of observation and analysis in a hypothetical study of student addiction to electronic gadgets.

Table 10.1 Units of analysis and units of observation

Research question	Unit of analysis	Data collection	Unit of observation	Statement of findings
Which students are most likely to be addicted to their electronic gadgets?	Individuals	Survey of students on campus	Individuals	New Media majors, men, and students with high socioeconomic status are all more likely than other students to become addicted to their electronic gadgets.
Do certain types of social clubs have more gadget-addicted members than other sorts of clubs?	Groups	Survey of students on campus	Individuals	Clubs with a scholarly focus, such as social work club and the math club, have more gadget-addicted members than clubs with a social focus, such as the 100-bottles-of-beer-on-the-wall club and the knitting club.
How do different colleges address the problem of electronic gadget addiction?	Organizations	Content analysis of policies	Documents	Campuses without strong computer science programs are more likely than those with such programs to expel students who have been found to have addictions to their electronic gadgets.

Note: Please remember that the findings described here are hypothetical. There is no reason to think that any of the hypothetical findings described here would actually bear out if empirically tested.

First-hand vs. second-hand knowledge

Your unit of analysis will be determined by your research question. Specifically, it should relate to your target population. Your unit of observation, on the other hand, is determined largely by the method of data collection you use to answer that research question. Let's consider a common issue in social work research: understanding the effectiveness of different social work interventions. Who has first-hand knowledge and who has second-hand knowledge? Well, practitioners would have first-hand knowledge about implementing the intervention. For example, they might discuss with you the unique language they use help clients understand the intervention. Clients, on the other hand, have first-hand knowledge about the impact of those interventions on their lives. If you want to know if an intervention is effective, you need to ask people who have received it!

Unfortunately, student projects run into pragmatic limitations with sampling from client groups. Clients are often diagnosed with severe mental health issues or have other ongoing issues that render them a vulnerable population at greater risk of harm. Asking a person who was recently experiencing suicidal ideation about that experience may interfere with ongoing treatment. Client records are also confidential and cannot be shared with researchers unless clients give explicit permission. Asking one's own clients to participate in the study creates a dual relationship with the client, as both clinician and researcher, and dual relationship have conflicting responsibilities and boundaries.

Obviously, studies are done with social work clients all the time. But for student projects in the classroom, it is often required to get second-hand information from a population that is less vulnerable. Students may instead choose to study clinicians and how they perceive the effectiveness of different

interventions. While clinicians can provide an informed perspective, they have less knowledge about personally receiving the intervention. In general, researchers prefer to sample the people who have first-hand knowledge about their topic, though feasibility often forces them to analyze second-hand information instead.

Population: Who do you want to study?

In social scientific research, a **population** is the cluster of people you are most interested in. It is often the "who" that you want to be able to say something about at the end of your study. While populations in research may be rather large, such as "the American people," they are more typically more specific than that. For example, a large study for which the population of interest is the American people will likely specify which American people, such as adults over the age of 18 or citizens or legal permanent residents. Based on your work in Chapter 2, you should have a target population identified in your working question. That might be something like "people with developmental disabilities" or "students in a social work program."

It is almost impossible for a researcher to gather data from their entire population of interest. This might sound surprising or disappointing until you think about the kinds of research questions that social workers typically ask. For example, let's say we wish to answer the following question: "How does gender impact attendance in a batterer intervention program?" Would you expect to be able to collect data from all people in batterer intervention programs across all nations from all historical time periods? Unless you plan to make answering this research question your entire life's work (and then some), I'm guessing your answer is a resounding no. So, what to do? Does not having the time or resources to gather data from every single person of interest mean having to give up your research interest?

Exercises

Let's think about who could possibly be in your study.

- What is your population, the people you want to make conclusions about?
- Do your unit of analysis and unit of observation differ or are they the same?
- Can you ethically and practically get first-hand information from the people most knowledgeable about the topic, or will you rely on second-hand information from less vulnerable populations?

Setting: Where will you go to get your data?

While you can't gather data from everyone, you can find some people from your target population to study. The first rule of sampling is: go where your participants are. You will need to figure out where you will go to get your data. For many student researchers, it is their agency, their peers, their family and friends, or whoever comes across students' social media posts or emails asking people to participate in their study.

Each setting (agency, social media) limits your reach to only a small segment of your target population who has the opportunity to be a part of your study. This intermediate point between the overall population and the sample of people who actually participate in the researcher's study is called a **sampling frame**. A sampling frame is a list of people from which you will draw your sample.

But where do you find a sampling frame? Answering this question is the first step in conducting human subjects research. Social work researchers must think about locations or groups in which your target population gathers or interacts. For example, a study on quality of care in nursing homes may choose a local nursing home because it's easy to access. The sampling frame could be all of the residents of the nursing home. You would select your participants for your study from the list of residents. Note that this is a *real* list. That is, an administrator at the nursing home would give you a list with every resident's name or ID number from which you would select your participants. If you decided to include more nursing homes in your study, then your sampling frame could be all the residents at all the nursing homes who agreed to participate in your study.

Let's consider some more examples. Unlike nursing home patients, cancer survivors do not live in an enclosed location and may no longer receive treatment at a hospital or clinic. For social work researchers to reach participants, they may consider partnering with a support group that services this population. Perhaps there is a support group at a local church survivors may attend. Without a set list of people, your sampling frame would simply be the people who showed up to the support group on the nights you were there. Similarly, if you posted an advertisement in an online peer-support group for people with cancer, your sampling frame is the people in that group.

More challenging still is recruiting people who are homeless, those with very low income, or those who belong to stigmatized groups. For example, a research study by Johnson and Johnson (2014)[2] attempted to learn usage patterns of "bath salts," or synthetic stimulants that are marketed as "legal highs." Users of "bath salts" don't often gather for meetings, and reaching out to individual treatment centers is unlikely to produce enough participants for a study, as the use of bath salts is rare. To reach participants, these researchers ingeniously used online discussion boards in which users of these drugs communicate. Their sampling frame included everyone who participated in the online discussion boards during the time they collected data. Another example might include using a flyer to let people know about your study, in which case your sampling frame would be anyone who walks past your flyer wherever you hang it—usually in a strategic location where you know your population will be.

In conclusion, sampling frames can be a real list of people like the list of faculty and their ID numbers in a university department, which allows you to clearly identify who is in your study and what chance they have of being selected. However, not all sampling frames allow you to be so specific. It is also important to remember that accessing your sampling frame must be practical and ethical, as we discussed in Chapter 2 and Chapter 6. For studies that present risks to participants, approval from **gatekeepers** and the university's **institutional review board** (IRB) is needed.

Criteria: What characteristics must your participants have/not have?

Your sampling frame is not just everyone in the setting you identified. For example, if you were studying MSW students who are first-generation college students, you might select your university as the setting, but not everyone in your program is a first-generation student. You need to be more specific about which characteristics or attributes individuals either *must have* or *cannot have* before they participate in the study. These are known as inclusion and exclusion criteria, respectively.

Inclusion criteria are the characteristics a person must possess in order to be included in your sample. If you were conducting a survey on LGBTQ+ discrimination at your agency, you might want to sample only clients who identify as LGBTQ+. In that case, your inclusion criteria for your sample would be that individuals have to identify as LGBTQ+.

Comparably, **exclusion criteria** are characteristics that disqualify a person from being included in your sample. In the previous example, you could think of cisgenderism and heterosexuality as your exclusion criteria because no person who identifies as heterosexual or cisgender would be included in your sample. Exclusion criteria are often the mirror image of inclusion criteria. However, there may be other criteria by which we want to exclude people from our sample. For example, we may exclude clients who were recently discharged or those who have just begun to receive services.



Recruitment: How will you ask people to participate in your study?

Once you have a location and list of people from which to select, all that is left is to reach out to your participants. **Recruitment** refers to the process by which the researcher informs potential participants about the study and asks them to participate in the research project. Recruitment comes in many different forms. If you have ever received a phone call asking for you to participate in a survey, someone has attempted to recruit you for their study. Perhaps you've seen print advertisements on buses, in student centers, or in a newspaper. I've received many emails that were passed around my school asking for participants, usually for a graduate student project. As we learn more about specific types of sampling, make sure your recruitment strategy makes sense with your sampling approach. For example, if you put up a flyer in the student health office to recruit student athletes for your study, you may not be targeting your recruitment efforts to settings where your target population is likely to see your recruitment materials.

Recruiting human participants

Sampling is the first time in which you will contact potential study participants. Before you start this process, it is important to make sure you have approval from your university's institutional review board as well as any gatekeepers at the locations in which you plan to conduct your study. As we discussed in section 10.1, the first rule of sampling is to go where your participants are. If you are studying domestic violence, reach out to local shelters, advocates, or service agencies. Gatekeepers will be necessary to gain access to your participants. For example, a gatekeeper can forward your recruitment email across their employee email list. Review our discussion of gatekeepers in Chapter 2 before proceeding with contacting potential participants as part of recruitment.

Recruitment can take many forms. You may show up at a staff meeting to ask for volunteers. You may send a company-wide email. Each step of this process should be vetted by the IRB as well as other stakeholders and gatekeepers. You will also need to set reasonable expectations for how many reminders you will send to the person before moving on. Generally, it is a good idea to give people a little while to respond, though reminders are often accompanied by an increase in participation. Pragmatically, it is a good idea for you to think through each step of the recruitment process and how much time it will take to complete it.

For example, as a graduate student, I conducted a study of state-level disabilities administrators in which I was recruiting a sample of very busy people and had no financial incentives to offer them for participating in my study. It helped for my research team to bring on board a well-known agency as a research partner, allowing them to review and offer suggestions on our survey and interview questions. This collaborative process took time and had to be completed before sampling could start. Once sampling commenced, I pulled contact names from my collaborator's database and public websites, and set a weekly schedule of email and phone contacts. I would contact the director once via email. Ten days later, I would follow up via email and by leaving a voicemail with their administrative support staff. Ten days after that, I would reach out to state administrators in a different office via email and then again via phone, if needed. The process took months to complete and required a complex Excel tracking document.

Recruitment will also expose your participants to the informed consent information you prepared. For students going through the IRB, there are templates you will have to follow in order to get your study approved. For students whose projects unfold under the supervision of their department, rather than the IRB, you should check with your professor on what the expectations are for getting participant consent. In the aforementioned study, I used our IRB's template to create a consent form but did not include a signature line. The IRB allowed me to collect my data without a signature, as there was little risk of harm from the study. It was imperative to review consent information before completing the survey and interview with participants. Only when the participant is totally clear on the purpose, risks and benefits, confidentiality protections, and other information detailed in Chapter 6, can you ethically move forward with including them in your sample.

Sampling available documents

As with sampling humans, sampling documents centers around the question: which documents are the most relevant to your research question, in that which will provide you first-hand knowledge. Common documents analyzed in student research projects include client files, popular media like film and music lyrics, and policies from service agencies. In a case record review, the student would create exclusion and inclusion criteria based on their research question. Once a suitable sampling frame of potential documents exists, the researcher can use probability or non-probability sampling to select which client files are ultimately analyzed.

Sampling documents must also come with consent and buy-in from stakeholders and gatekeepers. Assuming you have approval to conduct your study and access to the documents you need, the process of recruitment is much easier than in studies sampling humans. There is no informed consent process with documents, though research with confidential health or education records must be done in accordance with privacy laws such as the Health Insurance Portability and Accountability Act and the Family Educational Rights and Privacy Act. Barring any technical or policy obstacles, the gathering of documents should be easier and less time consuming than sampling humans.

Sample: Who actually participates in your study?

Once you find a sampling frame from which you can recruit your participants and decide which characteristics you will include and exclude, you will recruit people using a specific sampling approach, which we will cover in Section 10.2. At the end, you're left with the group of people you successfully recruited from your sampling frame to participate in your study, your **sample**. If you are a participant in a research project—answering survey questions, participating in interviews, etc.—you are part of the sample in that research project.

Visualizing sampling terms

Sampling terms can be a bit daunting at first. However, with some practice, they will become second nature. Let's walk through an example from a research project of mine. I collected data for a research project related to how much it costs to become a licensed clinical social worker (LCSW) in each state. Becoming an LCSW is necessary to work in private clinical practice and is used by supervisors in human service organizations to sign off on clinical charts from less credentialed employees, and to provide clinical supervision. If you are interested in providing clinical services as a social worker, you should become familiar with the licensing laws in your state.

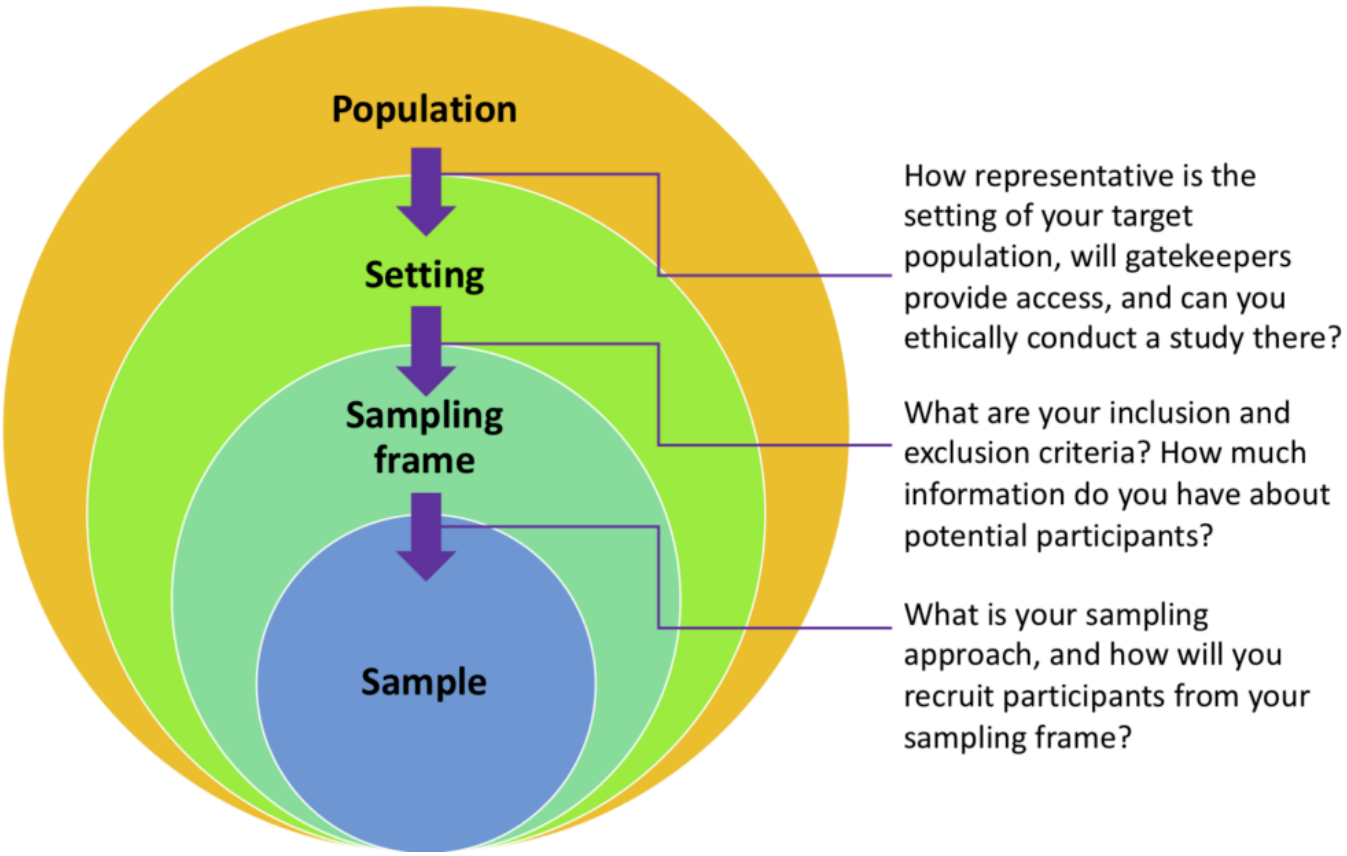


Figure 10.1 Key considerations in the sampling process

Using Figure 10.1 as a guide, my population is clearly clinical social workers, as these are the people about whom I want to draw conclusions. The next step inward would be a sampling frame. Unfortunately, there is no list of every licensed clinical social worker in the United States. I could write to each state's social work licensing board and ask for a list of names and addresses, perhaps even using a Freedom of Information Act request if they were unwilling to share the information. That option sounds time-consuming and has a low likelihood of success. Instead, I tried to figure out a convenient setting social workers are likely to congregate. I considered setting up a booth at a National Association of Social Workers (NASW) conference and asking people to participate in my survey. Ultimately, this would prove too costly, and the people who gather at an NASW conference may not be representative of the general population of clinical social workers. I finally discovered the NASW membership email list, which is available to advertisers, including researchers advertising for research projects. While the NASW list does not contain every clinical social worker, it reaches over one hundred thousand social workers regularly through its monthly e-newsletter, a large proportion of social workers in practice, so the setting was likely to draw a representative sample. To gain access to this setting from gatekeepers,

I had to provide paperwork showing my study had undergone IRB review and submit my measures for approval by the mailing list administrator.

Once I gained access from gatekeepers, my setting became the members of the NASW membership list. I decided to recruit 5,000 participants because I knew that people sometimes do not read or respond to email advertisements, and I figured maybe 20% would respond, which would give me around 1,000 responses. Figuring out my sample size was a challenge, because I had to balance the costs associated with using the NASW newsletter. As you can see on their pricing page, it would cost money to learn personal information about my potential participants, which I would need to check later in order to determine if my population was representative of the overall population of social workers. For example, I could see if my sample was comparable in race, age, gender, or state of residence to the broader population of social workers by comparing my sample with information about all social workers published by NASW. I presented my options to my external funder as:

1. I could send an email advertisement to a lot of people (5,000), but I would know very little about them and they would get only one advertisement.
2. I could send multiple advertisements to fewer people (1,000) reminding them to participate, but I would also know more about them by purchasing access to personal information.
3. I could send multiple advertisements to fewer people (2,500), but not purchase access to personal information to minimize costs.

In your project, there is no expectation you purchase access to anything, and if you plan on using email advertisements, consider places that are free to access like employee or student listservs. At the same time, you will need to consider what you can know or not know about the people who will potentially be in your study, and I could collect any personal information we wanted to check representativeness in the study itself. For this reason, we decided to go with option #1. When I sent my email recruiting participants for the study, I specified that I only wanted to hear from social workers who were either currently receiving or recently received clinical supervision for licensure—my inclusion criteria. This was important because many of the people on the NASW membership list may not be licensed or license-seeking social workers. So, my sampling frame was the email addresses on the NASW mailing list who fit the inclusion criteria for the study, which I figured would be at least a few thousand people. Unfortunately, only 150 licensed or license-seeking clinical social workers responded to my recruitment email and completed the survey. You will learn in Section 10.3 why this did not make for a very good sample.

From this example, you can see that sampling is a process. The process flows sequentially from figuring out your target population, to thinking about where to find people from your target population, to figuring out how much information you know about potential participants, and finally to selecting recruiting people from that list to be a part of your sample. Through the sampling process, you must consider where people in your target population are likely to be and how best to get their attention for your study. Sampling can be an easy process, like calling every 100th name from the phone book, or challenging, like standing every day for a few weeks in an area in which people who are homeless gather

for shelter. In either case, your goal is to recruit enough people who will participate in your study so you can learn about your population.

What about sampling non-humans?

Many student projects do not involve recruiting and sampling human subjects. Instead, many research projects will sample objects like client charts, movies, or books. The same terms apply, but the process is a bit easier because there are no humans involved. If a research project involves analyzing client files, it is unlikely you will look at every client file that your agency has. You will need to figure out which client files are important to your research question. Perhaps you want to sample clients who have a diagnosis of reactive attachment disorder. You would have to create a list of all clients at your agency (setting) who have reactive attachment disorder (your inclusion criteria) then use your sampling approach (which we will discuss in the next section) to select which client files you will actually analyze for your study (your sample). Recruitment is a lot easier because, well, there's no one to convince but your gatekeepers, the managers of your agency. However, researchers who publish chart reviews must obtain IRB permission before doing so.

Key Takeaways

- The first rule of sampling is to go where your participants are. Think about virtual or in-person settings in which your target population gathers. Remember that you may have to engage gatekeepers and stakeholders in accessing many settings, and that you will need to assess the pragmatic challenges and ethical risks and benefits of your study.
- Consider whether you can sample documents like agency files to answer your research question. Documents are much easier to "recruit" than people!
- Researchers must consider which characteristics are necessary for people to have (inclusion criteria) or not have (exclusion criteria), as well as how to recruit participants into the sample.
- Social workers can sample individuals, groups, or organizations.
- Sometimes the unit of analysis and the unit of observation in the study differ. In student projects, this is often true as target populations may be too vulnerable to expose to research whose potential harms may outweigh the benefits.
- One's recruitment method has to match one's sampling approach, as will be explained in the next chapter.

Exercises

Once you have identified who may be a part of your study, the next step is to think about where those people gather.

Are there in-person locations in your community or on the internet that are easily accessible. List at least one potential setting for your project. Describe for each potential setting:

- Based on what you know right now, how representative of your population are potential participants in the setting?
- How much information can you reasonably know about potential participants before you recruit them?
- Are there gatekeepers and what kinds of concerns might they have?
- Are there any stakeholders that may be beneficial to bring on board as part of your research team for the project?
- What interests might stakeholders and gatekeepers bring to the project and would they align with your vision for the project?
- What ethical issues might you encounter if you sampled people in this setting.

Even though you may not be 100% sure about your setting yet, let's think about the next steps.

- For the settings you've identified, how might you recruit participants?
- Identify your inclusion criteria and exclusion criteria, and assess whether you have enough information on whether people in each setting will meet them.

10.2 Sampling approaches for quantitative research

Learning Objectives

Learners will be able to…

- Determine whether you will use probability or non-probability sampling, given the strengths and limitations of each specific sampling approach
- Distinguish between approaches to probability sampling and detail the reasons to use each approach

Sampling in quantitative research projects is done because it is not feasible to study the whole population, and researchers hope to take what we learn about a small group of people (your sample) and apply it to a larger population. There are many ways to approach this process, and they can be grouped into two categories–probability sampling and non-probability sampling. Sampling approaches are inextricably linked with recruitment, and researchers should ensure that their proposal's recruitment strategy matches the sampling approach.

Probability sampling approaches use a random process, usually a computer program, to select participants from the sampling frame so that everyone has an equal chance of being included. It's important to note that *random* means the researcher used a process that is truly *random*. In a project

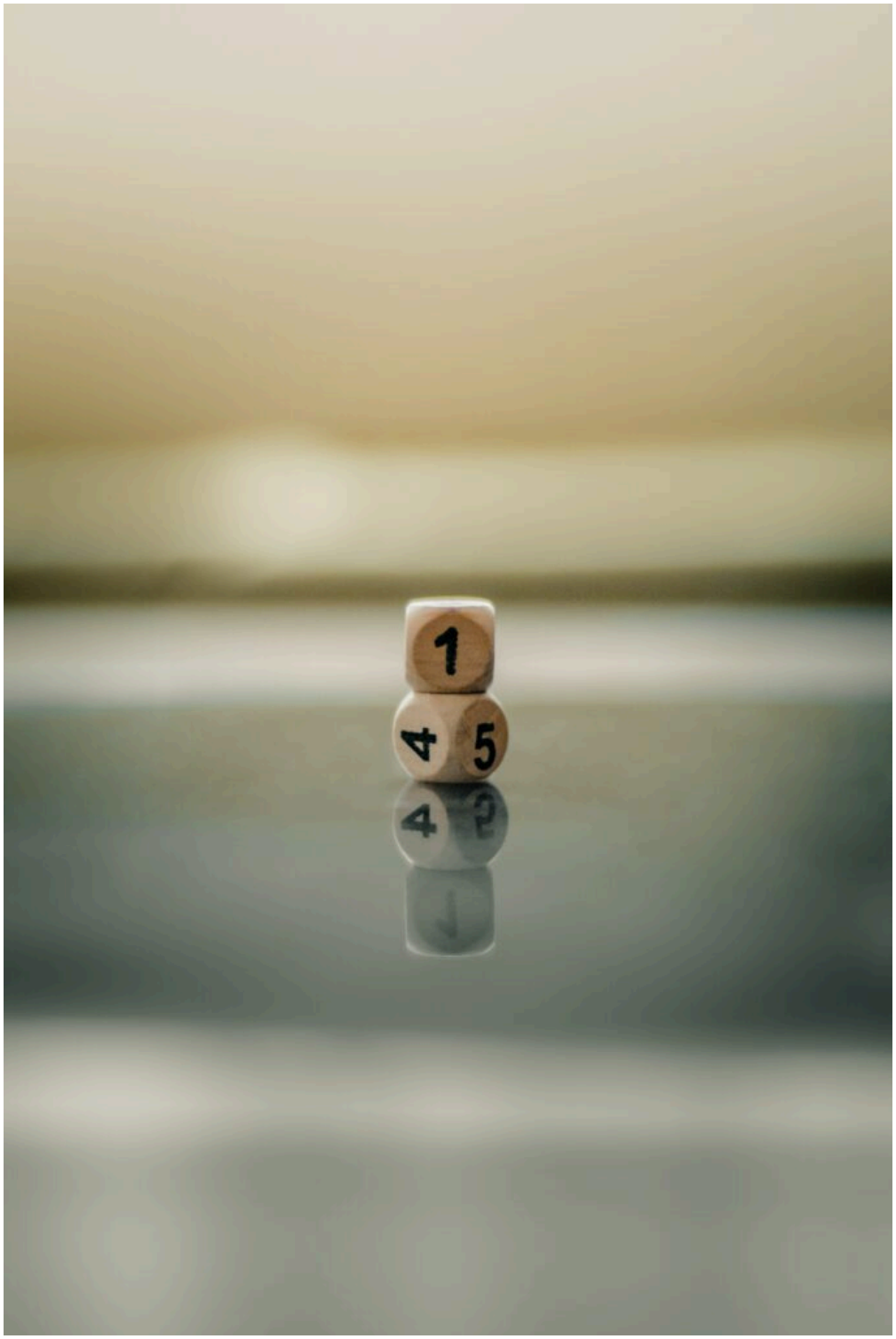
sampling college students, standing outside of the building in which your social work department is housed and surveying everyone who walks past is not random. Because of the location, you are likely to recruit a disproportionately large number of social work students and fewer from other disciplines. Depending on the time of day, you may recruit more traditional undergraduate students, who take classes during the day, or more graduate students, who take classes in the evenings.

In this example, you are actually using **non-probability sampling**. Another way to say this is that you are using the most common sampling approach for student projects, **availability sampling**. Also called convenience sampling, this approach simply recruits people who are convenient or easily available to the researcher. If you have ever been asked by a friend to participate in their research study for their class or seen an advertisement for a study on a bulletin board or social media, you were being recruited using an availability sampling approach.

There are a number of benefits to the availability sampling approach. First and foremost, it is less costly and time-consuming for the researcher. As long as the person you are attempting to recruit has knowledge of the topic you are studying, the information you get from the sample you recruit will be relevant to your topic (although your sample may not necessarily be representative of a larger population). Availability samples can also be helpful when random sampling isn't practical. If you are planning to survey students in an LGBTQ+ support group on campus but attendance varies from meeting to meeting, you may show up at a meeting and ask anyone present to participate in your study. A support group with varied membership makes it impossible to have a *real* list—or sampling frame—from which to randomly select individuals. Availability sampling would help you reach that population.

Availability sampling is appropriate for student and smaller-scale projects, but it comes with significant limitations. The purpose of sampling in quantitative research is to **generalize** from a small sample to a larger population. Because availability sampling does not use a random process to select participants, the researcher cannot be sure their sample is representative of the population they hope to generalize to. Instead, the recruitment processes may have been structured by other factors that may bias the sample to be different in some way than the overall population.

So, for instance, if we asked social work students about their level of satisfaction with the services at the student health center, and we sampled in the evenings, we would get most likely get a biased perspective of the issue. Students taking only night classes are much more likely to commute to school, spend less time on campus, and use fewer campus services. Our results would not represent what all social work students feel about the topic. We might get the impression that no social work student had ever visited the health center, when that is not actually true at all. Sampling bias will be discussed in detail in Section 10.3.



Approaches to probability sampling

What might be a better strategy is getting a list of all email addresses of social work students and randomly selecting email addresses of students to whom you can send your survey. This would be an example of **simple random sampling**. It's important to note that you need a real list of people in your

sampling frame from which to select your email addresses. For projects where the people who could potentially participate is not known by the researcher, probability sampling is not possible. It is likely that administrators at your school's registrar would be reluctant to share the list of students' names and email addresses. Always remember to consider the feasibility and ethical implications of the sampling approach you choose.

Usually, simple random sampling is accomplished by assigning each person, or **element**, in your sampling frame a number and selecting your participants using a random number generator. You would follow an identical process if you were sampling records or documents as your elements, rather than people. True randomness is difficult to achieve, and it takes complex computational calculations to do so. Although you think you can select things at random, human-generated randomness is actually quite predictable, as it falls into patterns called *heuristics*. To truly randomly select elements, researchers must rely on computer-generated help. Many free websites have good pseudo-random number generators. A good example is the website Random.org, which contains a random number generator that can also randomize lists of participants. Sometimes, researchers use a table of numbers that have been generated randomly. There are several possible sources for obtaining a random number table. Some statistics and research methods textbooks provide such tables in an appendix.

Though simple, this approach to sampling can be tedious since the researcher must assign a number to each person in a sampling frame. **Systematic sampling** techniques are somewhat less tedious but offer the benefits of a random sample. As with simple random samples, you must possess a list of everyone in your sampling frame. Once you've done that, to draw a systematic sample you'd simply select every *k*th element on your list. But what is *k*, and where on the list of population elements does one begin the selection process?

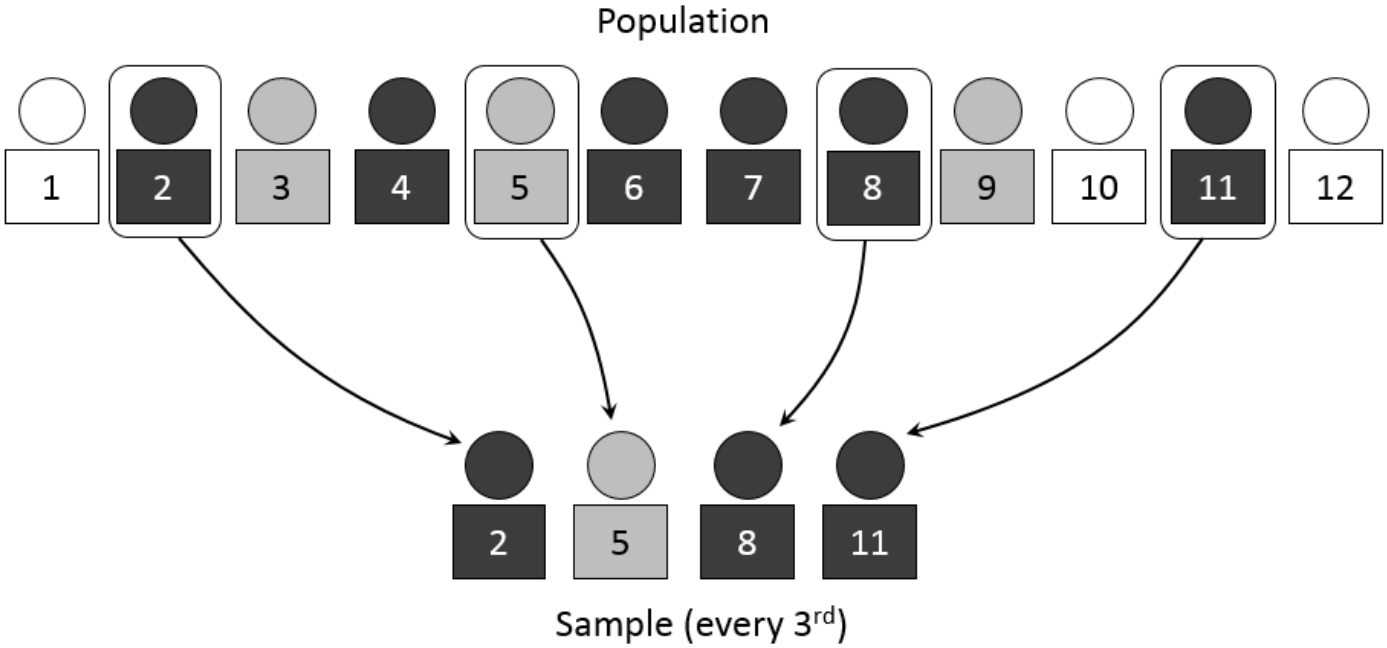


Figure 10.2 Systematic sampling

k is your **selection interval** or the distance between the elements you select for inclusion in your study. To begin the selection process, you'll need to figure out how many elements you wish to include in your sample. Let's say you want to survey 25 social work students and there are 100 social work students on your campus. In this case, your selection interval, or *k*, is 4. To get your selection interval, simply divide the total number of population elements by your desired sample size. Systematic sampling starts by randomly selecting a number between 1 and *k* to start from, and then recruiting every *kth* person. In our example, we may start at number 3 and then select the 7th, 11th, 15th (and so forth) person on our list of email addresses. In Figure 10.2, you can see the researcher starts at number 2 and then selects every third person for inclusion in the sample.

There is one clear instance in which systematic sampling should not be employed. If your sampling frame has any pattern to it, you could inadvertently introduce bias into your sample by using a systemic sampling strategy. (Bias will be discussed in more depth in section 10.3.) This is sometimes referred to as the problem of periodicity. **Periodicity** refers to the tendency for a pattern to occur at regular intervals.

To stray a bit from our example, imagine we were sampling client charts based on the date they entered a health center and recording the reason for their visit. We may expect more admissions for issues related to alcohol consumption on the weekend than we would during the week. The periodicity of alcohol intoxication may bias our sample towards either overrepresenting or underrepresenting this issue, depending on our sampling interval and whether we collected data on a weekday or weekend.

Advanced probability sampling techniques

Returning again to our idea of sampling student email addresses, one of the challenges in our study will be the different types of students. If we are interested in all social work students, it may be helpful to divide our sampling frame, or list of students, into three lists—one for traditional, full-time undergraduate students, another for part-time undergraduate students, and one more for full-time graduate students—and then randomly select from these lists. This is particularly important if we wanted to make sure our sample had the same proportion of each type of student compared with the general population.

This approach is called **stratified random sampling**. In stratified random sampling, a researcher will divide the study population into relevant subgroups or **strata** and then draw a sample from each subgroup, or stratum. Strata is the plural of stratum, so it refers to all of the groups while stratum refers to each group. This can be used to make sure your sample has the same proportion of people from each stratum. If, for example, our sample had many more graduate students than undergraduate students, we may draw incorrect conclusions that do not represent what all social work students experience.

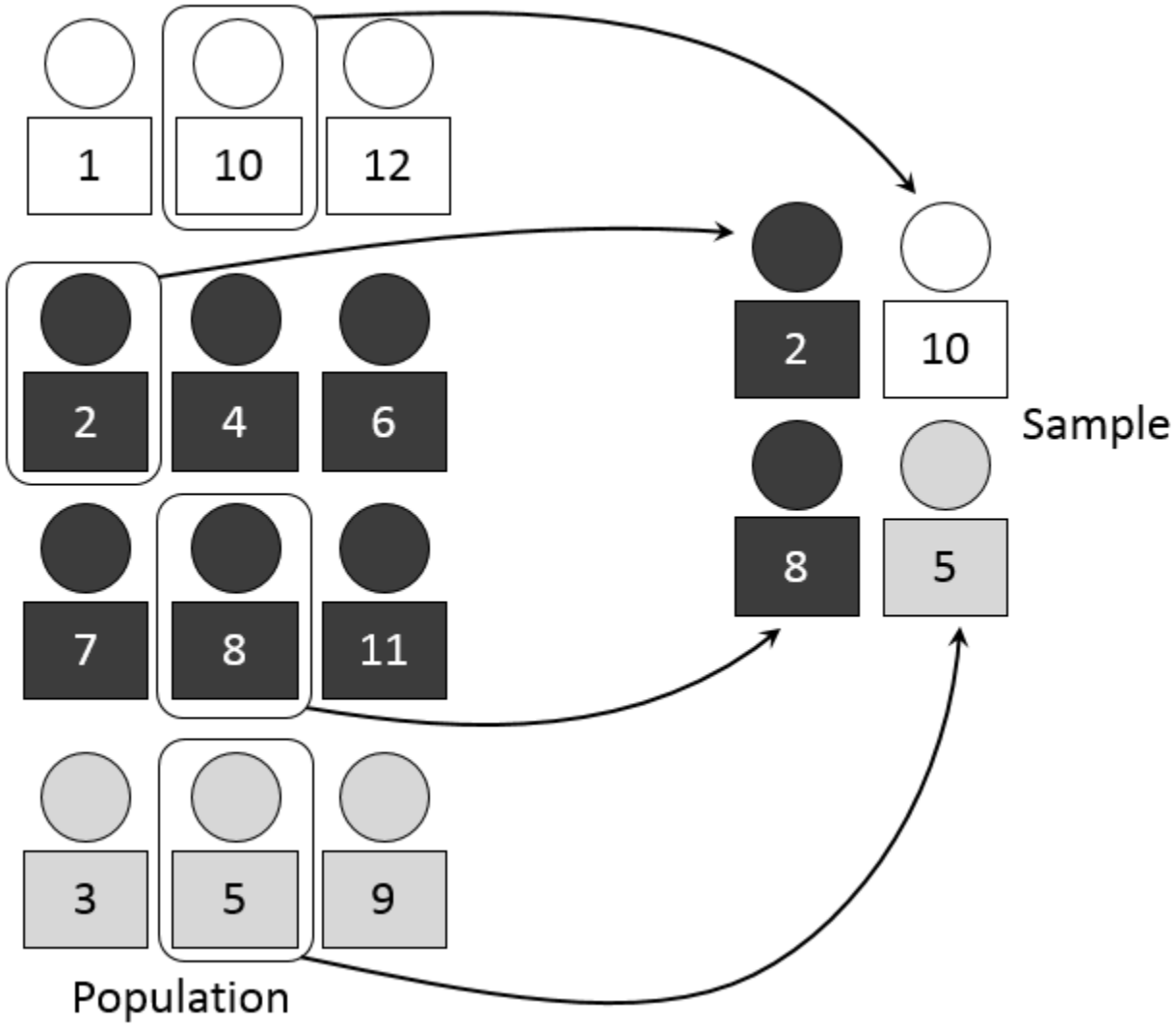


Figure 10.3 Stratified sampling

Generally, the goal of stratified random sampling is to recruit a sample that makes sure all elements of the population are included sufficiently that conclusions can be drawn about them. Usually, the purpose is to create a sample that is identical to the overall population along whatever strata you've identified. In our sample, it would be graduate and undergraduate students. Stratified random sampling is also useful when a subgroup of interest makes up a relatively small proportion of the overall sample. For example, if your social work program contained relatively few Asian students but you wanted to make sure you recruited enough Asian students to conduct statistical analysis, you could use race to divide people into subgroups or strata and then disproportionately sample from the Asian students to make sure enough of them were in your sample to draw meaningful conclusions. Statistical tests may have a minimum number

Up to this point in our discussion of probability samples, we've assumed that researchers will be able to access a list of population elements in order to create a sampling frame. This, as you might imagine,

is not always the case. Let's say, for example, that you wish to conduct a study of health center usage across students at each social work program in your state. Just imagine trying to create a list of every single social work student in the state. Even if you could find a way to generate such a list, attempting to do so might not be the most practical use of your time or resources. When this is the case, researchers turn to cluster sampling. **Cluster sampling** occurs when a researcher begins by sampling groups (or clusters) of population elements and then selects elements from within those groups.

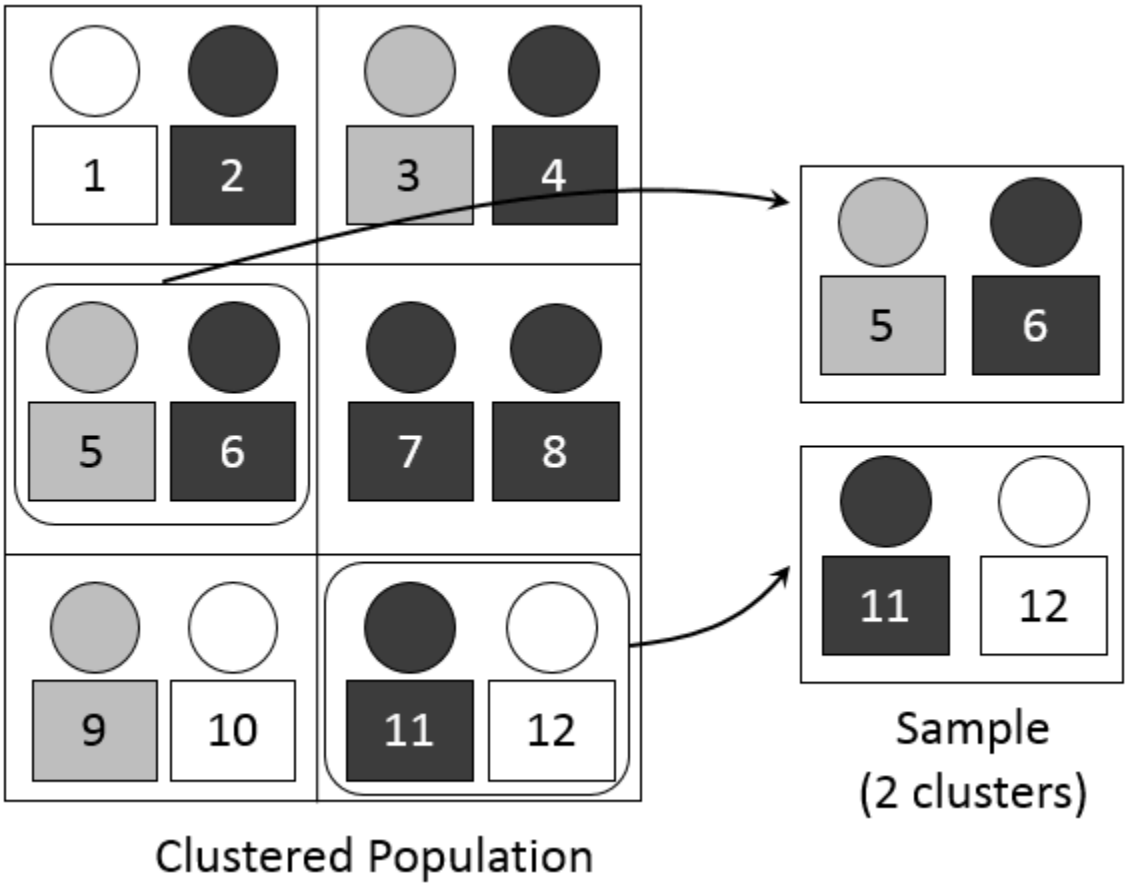


Figure 10.4 Cluster sampling

Let's work through how we might use cluster sampling. While creating a list of all social work students in your state would be next to impossible, you could easily create a list of all social work programs in your state. Then, you could draw a random sample of social work programs (your cluster) and then draw another random sample of elements (in this case, social work students) from each of the programs you randomly selected from the list of all programs.

Cluster sampling often works in stages. In this example, we sampled in two stages–(1) social work programs and (2) social work students at each program we selected. However, we could add another stage if it made sense to do so. We could randomly select (1) states in the United States (2) social work

programs in that state and (3) individual social work students. As you might have guessed, sampling in multiple stages does introduce a greater possibility of error. Each stage is subject to its own sampling problems. But, cluster sampling is nevertheless a highly efficient method.

Jessica Holt and Wayne Gillespie (2008)[3] used cluster sampling in their study of students' experiences with violence in intimate relationships. Specifically, the researchers randomly selected 14 classes on their campus and then drew a random sub-sample of students from those classes. But you probably know from your experience with college classes that not all classes are the same size. So, if Holt and Gillespie had simply randomly selected 14 classes and then selected the same number of students from each class to complete their survey, then students in the smaller of those classes would have had a greater chance of being selected for the study than students in the larger classes. Keep in mind, with random sampling the goal is to make sure that each element has the same chance of being selected. When clusters are of different sizes, as in the example of sampling college classes, researchers often use a method called **probability proportionate to size** (PPS). This means that they take into account that their clusters are of different sizes. They do this by giving clusters different chances of being selected based on their size so that each element within those clusters winds up having an equal chance of being selected.

To summarize, probability samples allow a researcher to make conclusions about larger groups. Probability samples require a sampling frame from which elements, usually human beings, can be selected at random from a list. The use of random selection reduces the error and bias present in non-probability samples, which we will discuss in greater detail in section 10.3, though some error will always remain. In relying on a random number table or generator, researchers can more accurately state that their sample represents the population from which it was drawn. This strength is common to all probability sampling approaches summarized in Table 10.2.

Table 10.2 Types of probability samples

Sample type	Description
Simple random	Researcher randomly selects elements from sampling frame.
Systematic	Researcher selects every *k*th element from sampling frame.
Stratified	Researcher creates subgroups then randomly selects elements from each subgroup.
Cluster	Researcher randomly selects clusters then randomly selects elements from selected clusters.

In determining which probability sampling approach makes the most sense for your project, it helps to know more about your population. A simple random sample and systematic sample are relatively similar to carry out. They both require a list all elements in your sampling frame. Systematic sampling is slightly easier in that it does not require you to use a random number generator, instead using a sampling interval that is easy to calculate by hand.

However, the relative simplicity of both approaches is counterweighted by their lack of sensitivity to

characteristics of your population. Stratified samples can better account for periodicity by creating strata that reduce or eliminate its effects. Stratified sampling also ensure that smaller subgroups are included in your sample, thereby making your sample more representative of the overall population. While these benefits are important, creating strata for this purpose requires having information about your population before beginning the sampling process. In our social work student example, we would need to know which students are full-time or part-time, graduate or undergraduate, in order to make sure our sample contained the same proportions. Would you know if someone was a graduate student or part-time student, just based on their email address? If the true population parameters are unknown, stratified sampling becomes significantly more challenging.

Common to each of the previous probability sampling approaches is the necessity of using a real list of all elements in your sampling frame. Cluster sampling is different. It allows a researcher to perform probability sampling in cases for which a list of elements is not available or feasible to create. Cluster sampling is also useful for making claims about a larger population (in our previous example, all social work students within a state). However, because sampling occurs at multiple stages in the process, (in our previous example, at the university and student level), sampling error increases. For many researchers, the benefits of cluster sampling outweigh this weaknesses.

Matching recruitment and sampling approach

Recruitment must match the sampling approach you choose in section 10.2. For many students, that will mean using recruitment techniques most relevant to availability sampling. These may include public postings such as flyers, mass emails, or social media posts. However, these methods would not make sense for a study using probability sampling. Probability sampling requires a list of names or other identifying information so you can use a random process to generate a list of people to recruit into your sample. Posting a flyer or social media message means you don't know who is looking at the flyer, and thus, your sample could not be randomly drawn. Probability sampling often requires knowing how to contact specific participants. For example, you may do as I did, and contact potential participants via phone and email. Even then, it's important to note that not everyone you contact will enter your study. We will discuss more about evaluating the quality of your sample in section 10.3.

Key Takeaways

- Probability sampling approaches are more accurate when the researcher wants to generalize from a smaller sample to a larger population. However, non-probability sampling approaches are often more feasible. You will have to weigh advantages and disadvantages of each when designing your project.
- There are many kinds of probability sampling approaches, though each require you know some information about people who potentially would participate in your study.

- Probability sampling also requires that you assign people within the sampling frame a number and select using a truly random process.

Exercises

Building on the step-by-step sampling plan from the exercises in section 10.1:

- Identify one of the sampling approaches listed in this chapter that might be appropriate to answering your question and list the strengths and limitations of it.
- Describe how you will recruit your participants and how your plan makes sense with the sampling approach you identified.

Examine one of the empirical articles from your literature review.

- Identify what sampling approach they used and how they carried it out from start to finish.

10.3 Sample quality

Learning Objectives

Learners will be able to…

- Assess whether your sampling plan is likely to produce a sample that is representative of the population you want to draw conclusions about
- Identify the considerations that go into producing a representative sample and determining sample size
- Distinguish between error and bias in a sample and explain the factors that lead to each

Okay, so you've chosen where you're going to get your data (setting), what characteristics you want and don't want in your sample (inclusion/exclusion criteria), and how you will select and recruit participants (sampling approach and recruitment). That means you are done, right? (I mean, there's an entire section here, so probably not.) Even if you make good choices and do everything the way you're supposed to, you can still draw a poor sample. If you are investigating a research question using quantitative methods, the best choice is some kind of probability sampling, but aside from that, how do you know a good sample from a bad sample? As an example, we'll use a bad sample I collected as part of a research project

that didn't go so well. Hopefully, your sampling will go much better than mine did, but we can always learn from what didn't work.



How representative of the coastline is the image in the frame compared to the whole photograph?

Representativeness

A **representative sample** is, "a sample that looks like the population from which it was selected in all respects that are potentially relevant to the study" (Engel & Schutt, 2011).[4] For my study on how much it costs to get an LCSW in each state, I did not get a sample that looked like the overall population to which I wanted to generalize. My sample had a few states with more than ten responses and most states with no responses. That does not look like the true distribution of social workers across the country. I could compare the number of social workers in each state, based on data from the National Association of Social Workers, or the number of recent clinical MSW graduates from the Council on Social Work Education. More than that, I could see whether my sample matched the overall population of clinical

social workers in gender, race, age, or any other important characteristics. Sadly, it wasn't even close. So, I wasn't able to use the data to publish a report.

Exercises

Critique the representativeness of the sample you are planning to gather.

- Will the sample of people (or documents) look like the population to which you want to generalize?
- Specifically, what characteristics are important in determining whether a sample is representative of the population? How do these characteristics relate to your research question?

Consider returning to this question once you have completed the sampling process and evaluate whether the sample in your study was similar to what you designed in this section.

Many of my students erroneously assume that using a probability sampling technique will guarantee a representative sample. This is not true. Engel and Schutt (2011) identify that probability sampling *increases the chance* of representativeness; however, it does not *guarantee* that the sample will be representative. If a representative sample is important to your study, it would be best to use a sampling approach that allows you to control the proportion of specific characteristics in your sample. For instance, stratified random sampling allows you to control the distribution of specific variables of interest within your sample. However, that requires knowing information about your participants before you hand them surveys or expose them to an experiment.

In my study, if I wanted to make sure I had a certain number of people from each state (state being the strata), making the proportion of social workers from each state in my sample similar to the overall population, I would need to know which email addresses were from which states. That was not information I had. So, instead I conducted simple random sampling and randomly selected 5,000 of 100,000 email addresses on the NASW list. There was less of a guarantee of representativeness, but whatever variation existed between my sample and the population would be due to random chance. This would not be true for an availability or convenience sample. While these sampling approaches are common for student projects, they come with significant limitations in that variation between the sample and population is due to factors other than chance. We will discuss these non-random differences later in the chapter when we talk about bias. For now, just remember that the representativeness of a sample is helped by using random sampling, though it is not a guarantee.

Exercises

- Before you start sampling, do you know enough about your sampling frame to use stratified random sampling, which increases the potential of getting a representative sample?

- Do you have enough information about your sampling frame to use another probability sampling approach like simple random sampling or cluster sampling?
- If little information is available on which to select people, are you using availability sampling? Remember that availability sampling is okay if it is the only approach that is feasible for the researcher, but it comes with significant limitations when drawing conclusions about a larger population.

Assessing representativeness should start prior to data collection. I mentioned that I drew my sample from the NASW email list, which (like most organizations) they sell to advertisers when companies or researchers need to advertise to social workers. How representative of my population is my sampling frame? Well, the first question to ask is what proportion of my sampling frame would actually meet my exclusion and inclusion criteria. Since my study focused specifically on *clinical* social workers, my sampling frame likely included social workers who were not clinical social workers, like macro social workers or social work managers. However, I knew, based on the information from NASW marketers, that many people who received my recruitment email would be clinical social workers or those working towards licensure, so I was satisfied with that. Anyone who didn't meet my inclusion criteria and opened the survey would be greeted with clear instructions that this survey did not apply to them.

At the same time, I should have assessed whether the demographics of the NASW email list and the demographics of clinical social workers more broadly were similar. Unfortunately, this was not information I could gather. I had to trust that this was likely to going to be the best sample I could draw and the most representative of all social workers.

Exercises

- Before you start, what do you know about your setting and potential participants?
- Are there likely to be enough people in the setting of your study who meet the inclusion criteria?

You want to avoid throwing out half of the surveys you get back because the respondents aren't a part of your target population. This is a common error I see in student proposals.

Many of you will sample people from your agency, like clients or staff. Let's say you work for a children's mental health agency, and you wanted to study children who have experienced abuse. Walking through the steps here might proceed like this:

1. Think about or ask your coworkers how many of the clients at your agency have experienced this issue. If it's common, then clients at your agency would probably make a good sampling frame for your study. If not, then you may want to adjust your research question or consider a different agency to sample. You could also change your target population to be more representative with your sample. For example, while your agency's clients may not be representative of all children

who have survived abuse, they may be more representative of abuse survivors in your state, region, or county. In this way, you can draw conclusions about a smaller population, rather than everyone in the world who is a victim of child abuse.
2. Think about those characteristics that are important for individuals in your sample to have or not have. Obviously, the variables in your research question are important, but so are the variables related to it. Take a look at the empirical literature on your topic. Are there different demographic characteristics or covariates that are relevant to your topic?
3. All of this assumes that you can actually access information about your sampling frame prior to collecting data. This is a challenge in the real world. Even if you ask around your office about client characteristics, there is no way for you to know for sure until you complete your study whether it was the most representative sampling frame you could find. When in doubt, go with whatever is feasible and address any shortcomings in sampling within the limitations section of your research report. A good project is a done project.
4. While using a probability sampling approach helps with sample representativeness, it does not guarantee it. Due to random variation, samples may differ across important characteristics. If you can feasibly use a probability sampling approach, particularly stratified random sampling, it will help make your sample more representative of the population.
5. Even if you choose a sampling frame that is representative of your population and use a probability sampling approach, there is no guarantee that the sample you are able to collect will be representative. Sometimes, people don't respond to your recruitment efforts. Other times, random chance will mean people differ on important characteristics from your target population. ¯_(?)_/¯

In agency-based samples, the small size of the pool of potential participants makes it very likely that your sample will not be representative of a broader target population. Sometimes, researchers look for specific outcomes connected with sub-populations for that reason. Not all agency-based research is concerned with representativeness, and it is still worthwhile to pursue research that is relevant to only one location as its purpose is often to improve social work practice.



Sample size

Let's assume you have found a representative sampling frame, and that you are using one of the probability sampling approaches we reviewed in section 10.2. That should help you recruit a representative sample, but how many people do you need to recruit into your sample? As with many questions about sample quality, students should keep feasibility in mind. The easiest answer I've given as a professor is, "as many as you can, without hurting yourself." While your quantitative research question would likely benefit from hundreds or thousands of respondents, that is not likely to be feasible for a student who is working full-time, interning part-time, and in school full-time. Don't feel like your study has to be perfect, but make sure you note any limitations in your final report.

To the extent possible, you should gather as many people as you can in your sample who meet your criteria. But why? Let's think about an example you probably know well. Have you ever watched the TV show *Family Feud*? Each question the host reads off starts with, "we asked 100 people…" Believe it or not, *Family Feud* uses simple random sampling to conduct their surveys the American public. Part of the challenge on *Family Feud* is that people can usually guess the most popular answers, but those answers that only a few people chose are much harder. They seem bizarre, and are more difficult to guess. That's

because 100 people is not a lot of people to sample. Essentially, *Family Feud* is trying to measure what the answer is for all 327 million people in the United States by asking 100 of them. As a result, the weird and idiosyncratic responses of a few people are likely to remain on the board as answers, and contestants have to guess answers fewer and fewer people in the sample provided. In a larger sample, the oddball answers would likely fade away and only the most popular answers would be represented on the game show's board.

In my ill-fated study of clinical social workers, I received 87 complete responses. That is far below the hundred thousand licensed or license-eligible clinical social workers. Moreover, since I wanted to conduct state-by-state estimates, there was no way I had enough people in each state to do so. For student projects, samples of 50-100 participants are more than enough to write a paper (or start a game show), but for projects in the real world with real-world consequences, it is important to recruit the appropriate number of participants. For example, if your agency conducts a community scan of people in your service area on what services they need, the results will inform the direction of your agency, which grants they apply for, who they hire, and its mission for the next several years. Being overly confident in your sample could result in wasted resources for clients.

So what is the right number? Theoretically, we could gradually increase the sample size so that the sample approaches closer and closer to the total size of the population (Bhattacherjeee, 2012).[5] But as we've talked about, it is not feasible to sample everyone. How do we find that middle ground? To answer this, we need to understand the **sampling distribution**. Imagine in your agency's survey of the community, you took three different probability samples from your community, and for each sample, you measured whether people experienced domestic violence. If each random sample was truly representative of the population, then your rate of domestic violence from the three random samples would be about the same and equal to the true value in the population.

But this is extremely unlikely, given that each random sample will likely constitute a different subset of the population, and hence, the rate of domestic violence you measure may be slightly different from sample to sample. Think about the sample you collect as existing on a distribution of infinite possible samples. Most samples you collect will be close to the population mean but many will not be. The degree to which they differ is associated with how much the subject you are sampling about varies in the population. In our example, samples will vary based on how varied the incidence of domestic violence is from person to person. The difference between the domestic violence rate we find and the rate for our overall population is called the **sampling error**.

An easy way to minimize sampling error is to increase the number of participants in your sample, but in actuality, minimizing sampling error relies on a number of factors outside of the scope of a basic student project. You can see this online textbook for more examples on sampling distributions or take an advanced methods course at your university, particularly if you are considering becoming a social work researcher. Increasing the number of people in your sample also increases your study's **power**, or the odds you will detect a significant relationship between variables when one is truly present in your sample. If you intend on publishing the findings of your student project, it is worth using a

power analysis to determine the appropriate sample size for your project. You can follow this excellent video series from the Center for Open Science on how to conduct power analyses using free statistics software. A faculty members who teaches research or statistics could check your work. You may be surprised to find out that there is a point at which you adding more people to your sample will not make your study any better.

Honestly, I did not do a power analysis for my study. Instead, I asked for 5,000 surveys with the hope that 1,000 would come back. Given that only 87 came back, a power analysis conducted after the survey was complete would likely to reveal that I did not have enough statistical power to answer my research questions. For your projects, try to get as many respondents as you feasibly can, but don't worry too much about not reaching the optimal amount of people to maximize the power of your study unless you goal is to publish something that is generalizable to a large population.

A final consideration is which statistical test you plan to use to analyze your data. We have not covered statistics yet, though we will provide a brief introduction to basic statistics in this textbook. For now, remember that some statistical tests have a minimum number of people that must be present in the sample in order to conduct the analysis. You will complete a data analysis plan before you begin your project and start sampling, so you can always increase the number of participants you plan to recruit based on what you learn in the next few chapters.

Exercises

- How many people can you feasibly sample in the time you have to complete your project?



Bias

One of the interesting things about surveying professionals is that sometimes, they email you about what they perceive to be a problem with your study. I got an email from a well-meaning participant in my LCSW study saying that my results were going to be biased! She pointed out that respondents who had been in practice a long time, before clinical supervision was required, would not have paid anything for supervision. This would lead me to draw conclusions that supervision was cheap, when in fact, it was expensive. My email back to her explained that she hit on one of my hypotheses, that social workers in practice for a longer period of time faced fewer costs to becoming licensed. Her email reinforced that I needed to account for the impact of length of practice on the costs of licensure I found across the sample. She was right to be on the lookout for bias in the sample.

One of the key questions you can ask is if there is something about your process that makes it more likely you will select a certain type of person for your sample, making it less representative of the overall population. In my project, it's worth thinking more about who is more likely to respond to an email advertisement for a research study. I know that my work email and personal email filter out advertisements, so it's unlikely I would even see the recruitment for my own study (probably something I should have thought about before using grant funds to sample the NASW email list). Perhaps an older demographic that does not screen advertisements as closely, or those whose NASW account was linked to a personal email with fewer junk filters would be more likely to respond. To the extent I made conclusions about clinical social workers of all ages based on a sample that was biased towards older social workers, my results would be biased. This is called **selection bias**, or the degree to which people in my sample differ from the overall population.

Another potential source of bias here is **nonresponse bias**. Because people do not often respond to email advertisements (no matter how well-written they are), my sample is likely to be representative of people with characteristics that make them more likely to respond. They may have more time on their hands to take surveys and respond to their junk mail. To the extent that the sample is comprised of social workers with a lot of time on their hands (who are those people?) my sample will be biased and not representative of the overall population.

It's important to note that both bias and error describe how samples differ from the overall population. Error describes random variations between samples, due to chance. Using a random process to recruit participants into a sample means you will have random variation between the sample and the population. Bias creates variance between the sample and population in a specific direction, such as towards those who have time to check their junk mail. Bias may be introduced by the sampling method used or due to conscious or unconscious bias introduced by the researcher (Rubin & Babbie, 2017).[6] A researcher might select people who "look like good research participants," in the process transferring their unconscious biases to their sample. They might exclude people from the sampling from who "would not do well with the intervention." Careful researchers can avoid these, but unconscious and structural biases can be challenging to root out.

Exercises

- Identify potential sources of bias in your sample and brainstorm ways you can minimize them, if possible.

Critical considerations

Think back to you undergraduate degree. Did you ever participate in a research project as part of an introductory psychology or sociology course? Social science researchers on college campuses have a luxury that researchers elsewhere may not share—they have access to a whole bunch of (presumably) willing and able human guinea pigs. But that luxury comes at a cost—sample representativeness. One study of top academic journals in psychology found that over two-thirds (68%) of participants in studies published by those journals were based on samples drawn in the United States (Arnett, 2008).[7] Further, the study found that two-thirds of the work that derived from US samples published in the *Journal of Personality and Social Psychology* was based on samples made up entirely of American undergraduate students taking psychology courses.

These findings certainly raise the question: What do we actually learn from social science studies and about whom do we learn it? That is exactly the concern raised by Joseph Henrich and colleagues (Henrich, Heine, & Norenzayan, 2010),[8] authors of the article "The Weirdest People in the World?" In their piece, Henrich and colleagues point out that behavioral scientists very commonly make sweeping claims about human nature based on samples drawn only from WEIRD (Western, Educated, Industrialized, Rich, and Democratic) societies, and often based on even narrower samples, as is the case with many studies relying on samples drawn from college classrooms. As it turns out, robust findings about the nature of human behavior when it comes to fairness, cooperation, visual perception, trust, and other behaviors are based on studies that excluded participants from outside the United States and sometimes excluded anyone outside the college classroom (Begley, 2010).[9] This certainly raises questions about what we really know about *human* behavior as opposed to US resident or US undergraduate behavior. Of course, not all research findings are based on samples of WEIRD folks like college students. But even then, it would behoove us to pay attention to the population on which studies are based and the claims being made about those to whom the studies apply.

Another thing to keep in mind is that just because a sample may be representative in all respects that a researcher thinks are relevant, there may be relevant aspects that didn't occur to the researcher when she was drawing her sample. You might not think that a person's phone would have much to do with their voting preferences, for example. But had pollsters making predictions about the results of the 2008 presidential election not been careful to include both cell phone-only and landline households in their surveys, it is possible that their predictions would have underestimated Barack Obama's lead over John

McCain because Obama was much more popular among cell phone-only users than McCain (Keeter, Dimock, & Christian, 2008).[10] This is another example of bias.



Putting it all together

So how do we know how good our sample is or how good the samples gathered by other researchers are? While there might not be any magic or always-true rules we can apply, there are a couple of things we can keep in mind as we read the claims researchers make about their findings.

First, remember that sample quality is determined only by the sample actually obtained, not by the sampling method itself. A researcher may set out to administer a survey to a representative sample by correctly employing a random sampling approach with impeccable recruitment materials. But, if only a handful of the people sampled actually respond to the survey, the researcher should not make claims like their sample went according to plan.

Another thing to keep in mind, as demonstrated by the preceding discussion, is that researchers may be drawn to talking about implications of their findings as though they apply to some group other than the population actually sampled. Whether the sampling frame does not match the population or the sample and population differ on important criteria, the resulting sampling error can lead to bad science.

We've talked previously about the perils of generalizing social science findings from graduate students in the United States and other Western countries to all cultures in the world, imposing a Western view as the right and correct view of the social world. As consumers of theory and research, it is our responsibility to be attentive to this sort of (likely unintentional) bait and switch. And as researchers, it is our responsibility to make sure that we only make conclusions from samples that are representative.

A larger sample size and probability sampling can improve the representativeness and generalizability of the study's findings to larger populations, though neither are guarantees.

Finally, keep in mind that a sample allowing for comparisons of theoretically important concepts or variables is certainly better than one that does not allow for such comparisons. In a study based on a nonrepresentative sample, for example, we can learn about the strength of our social theories by comparing relevant aspects of social processes. We talked about this as theory-testing in Chapter 8.

At their core, questions about sample quality should address who has been sampled, how they were sampled, and for what purpose they were sampled. Being able to answer those questions will help you better understand, and more responsibly interpret, research results. For your study, keep the following questions in mind.

- Are your sample size and your sampling approach appropriate for your research question?
- How much do you know about your sampling frame ahead of time? How will that impact the feasibility of different sampling approaches?
- What gatekeepers and stakeholders are necessary to engage in order to access your sampling frame?
- Are there any ethical issues that may make it difficult to sample those who have first-hand knowledge about your topic?
- Does your sampling frame look like your population along important characteristics? Once you get your data, ask the same question of the sample you successfully recruit.
- What about your population might make it more difficult or easier to sample?
- How many people can you feasibly sample in the time you have to complete your project?
- Are there steps in your sampling procedure that may bias your sample to render it not representative of the population?
- If you want to skip sampling altogether, are there sources of secondary data you can use? Or might you be able to answer you questions by sampling documents or media, rather than people?

Key Takeaways

- The sampling plan you implement should have a reasonable likelihood of producing a representative sample. Student projects are given more leeway with nonrepresentative samples, and this limitation should be discussed in the student's research report.
- Researchers should conduct a power analysis to determine sample size, though quantitative *student* projects should endeavor to recruit as many participants as possible. Sample size impacts representativeness of the sample, its power, and which statistical tests can be conducted.
- The sample you collect is one of an infinite number of potential samples that could have been drawn. To the extent the data in your sample varies from the data in the entire population, it includes some error or bias. Error is the result of random variations. Bias is systematic error that pushes the data in a given direction.

- Even if you do everything right, there is no guarantee that you will draw a good sample. Flawed samples are okay to use as examples in the classroom, but the results of your research would have limited generalizability beyond your specific participants.
- Historically, samples were drawn from dominant groups and generalized to all people. This shortcoming is a limitation of some social science literature and should be considered a colonialist scientific practice.

Media Attributions

- ho-hyou-qEOV3icU_Y4-unsplash © Ho Hyou is licensed under a CC0 (Creative Commons Zero) license
- young-ethnic-woman-pointing-at-camera-3880943 © Andrea Piacquadio is licensed under a CC0 (Creative Commons Zero) license
- lonso97-_GyB_XcGChs-unsplash © lonso97 is licensed under a CC0 (Creative Commons Zero) license
- Systematic_sampling © Dan Kernler is licensed under a CC BY (Attribution) license
- Figure 10.3 Stratified sampling © Dan Kernler is licensed under a CC BY-SA (Attribution ShareAlike) license
- Cluster_sampling © Dan Kernler is licensed under a CC BY-SA (Attribution ShareAlike) license
- pine-watt-3_Xwxya43hE-unsplash © pine watt is licensed under a Public Domain license
- christina-wocintechchat-com-rCyiK4_aaWw-unsplash © Christina @ wocintechchat.com is licensed under a Public Domain license
- business-2584713_1920 © Gerd Altmann
- control-3312776_1920 © Gerd Altmann

Notes

1. I clearly need a snack.
2. Johnson, P. S., & Johnson, M. W. (2014). Investigation of "bath salts" use patterns within an online sample of users in the United States. *Journal of psychoactive drugs*, 46(5), 369-378.
3. Holt, J. L., & Gillespie, W. (2008). Intergenerational transmission of violence, threatened egoism, and reciprocity: A test of multiple psychosocial factors affecting intimate partner violence. *American Journal of Criminal Justice*, 33, 252–266.
4. Engel, R. & Schutt (2011). *The practice of research in social work (2nd ed.)*. California: SAGE
5. Bhattacherjee, A. (2012). *Social science research: Principles, methods, and practices*. Retrieved from: https://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1002&context=oa_textbooks
6. Rubin, C. & Babbie, S. (2017). *Research methods for social work (9th edition)*. Boston, MA: Cengage.

7. Arnett, J. J. (2008). The neglected 95%: Why American psychology needs to become less American. *American Psychologist*, 63, 602–614.
8. Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, 33, 61–135.
9. Newsweek magazine published an interesting story about Henrich and his colleague's study: Begley, S. (2010). What's really human? The trouble with student guinea pigs. Retrieved from http://www.newsweek.com/2010/07/23/what-s-really-human.html
10. Keeter, S., Dimock, M., & Christian, L. (2008). Calling cell phones in '08 pre-election polls. *The Pew Research Center for the People and the Press*. Retrieved from http://people-press.org/files/legacy-pdf/cell-phone-commentary.pdf

11. Quantitative measurement

Chapter Outline

1. Conceptual definitions (17 minute read)
2. Operational definitions (36 minute read)
3. Measurement quality (21 minute read)
4. Ethical and social justice considerations (15 minute read)

Content warning: examples in this chapter contain references to ethnocentrism, toxic masculinity, racism in science, drug use, mental health and depression, psychiatric inpatient care, poverty and basic needs insecurity, pregnancy, and racism and sexism in the workplace and higher education.

11.1 Conceptual definitions

Learning Objectives

Learners will be able to...

- Define measurement and conceptualization
- Apply Kaplan's three categories to determine the complexity of measuring a given variable
- Identify the role previous research and theory play in defining concepts
- Distinguish between unidimensional and multidimensional concepts
- Critically apply reification to how you conceptualize the key variables in your research project

In social science, when we use the term **measurement**, we mean the process by which we describe and ascribe meaning to the key facts, concepts, or other phenomena that we are investigating. At its core, measurement is about defining one's terms in as clear and precise a way as possible. Of course, measurement in social science isn't quite as simple as using a measuring cup or spoon, but there are some basic tenets on which most social scientists agree when it comes to measurement. We'll explore those, as well as some of the ways that measurement might vary depending on your unique approach to the study of your topic.

An important point here is that measurement does not require any particular instruments or procedures. What it does require is a *systematic procedure* for assigning scores, meanings, and

descriptions to individuals or objects so that those scores represent the characteristic of interest. You can measure phenomena in many different ways, but you must be sure that how you choose to measure gives you information and data that lets you answer your research question. If you're looking for information about a person's income, but your main points of measurement have to do with the money they have in the bank, you're not really going to find the information you're looking for!

The question of what social scientists measure can be answered by asking yourself what social scientists study. Think about the topics you've learned about in other social work classes you've taken or the topics you've considered investigating yourself. Let's consider Melissa Milkie and Catharine Warner's study (2011)[1] of first graders' mental health. In order to conduct that study, Milkie and Warner needed to have some idea about how they were going to measure mental health. What does mental health mean, exactly? And how do we know when we're observing someone whose mental health is good and when we see someone whose mental health is compromised? Understanding how measurement works in research methods helps us answer these sorts of questions.

As you might have guessed, social scientists will measure just about anything that they have an interest in investigating. For example, those who are interested in learning something about the correlation between social class and levels of happiness must develop some way to measure both social class and happiness. Those who wish to understand how well immigrants cope in their new locations must measure immigrant status and coping. Those who wish to understand how a person's gender shapes their workplace experiences must measure gender and workplace experiences (and get more specific about which experiences are under examination). You get the idea. Social scientists can and do measure just about anything you can imagine observing or wanting to study. Of course, some things are easier to observe or measure than others.



Observing your variables

In 1964, philosopher Abraham Kaplan (1964)[2] wrote *The Conduct of Inquiry*, which has since become a classic work in research methodology (Babbie, 2010).[3] In his text, Kaplan describes different categories of things that behavioral scientists observe. One of those categories, which Kaplan called "observational

terms," is probably the simplest to measure in social science. **Observational terms** are the sorts of things that we can see with the naked eye simply by looking at them. Kaplan roughly defines them as conditions that are easy to identify and verify through direct observation. If, for example, we wanted to know how the conditions of playgrounds differ across different neighborhoods, we could directly observe the variety, amount, and condition of equipment at various playgrounds.

Indirect observables, on the other hand, are less straightforward to assess. In Kaplan's framework, they are conditions that are subtle and complex that we must use existing knowledge and intuition to define. If we conducted a study for which we wished to know a person's income, we'd probably have to ask them their income, perhaps in an interview or a survey. Thus, we have observed income, even if it has only been observed indirectly. Birthplace might be another indirect observable. We can ask study participants where they were born, but chances are good we won't have directly observed any of those people being born in the locations they report.

Sometimes the measures that we are interested in are more complex and more abstract than observational terms or indirect observables. Think about some of the concepts you've learned about in other social work classes—for example, ethnocentrism. What is ethnocentrism? Well, from completing an introduction to social work class you might know that it has something to do with the way a person judges another's culture. But how would you *measure* it? Here's another construct: bureaucracy. We know this term has something to do with organizations and how they operate but measuring such a construct is trickier than measuring something like a person's income. The theoretical concepts of ethnocentrism and bureaucracy represent ideas whose meanings we have come to agree on. Though we may not be able to observe these abstractions directly, we can observe their components.

Kaplan referred to these more abstract things that behavioral scientists measure as constructs. **Constructs** are "not observational either directly or indirectly" (Kaplan, 1964, p. 55),[4] but they can be defined based on observables. For example, the construct of bureaucracy could be measured by counting the number of supervisors that need to approve routine spending by public administrators. The greater the number of administrators that must sign off on routine matters, the greater the degree of bureaucracy. Similarly, we might be able to ask a person the degree to which they trust people from different cultures around the world and then assess the ethnocentrism inherent in their answers. We can measure constructs like bureaucracy and ethnocentrism by defining them in terms of what we can observe.[5]

The idea of coming up with your own measurement tool might sound pretty intimidating at this point. The good news is that if you find something in the literature that works for you, you can use it (with proper attribution, of course). If there are only pieces of it that you like, you can reuse those pieces (with proper attribution and describing/justifying any changes). You don't always have to start from scratch!

Exercises

Look at the variables in your research question.

- Classify them as direct observables, indirect observables, or constructs.
- Do you think measuring them will be easy or hard?
- What are your first thoughts about how to measure each variable? No wrong answers here, just write down a thought about each variable.



Measurement starts with conceptualization

In order to measure the concepts in your research question, we first have to understand what we think about them. As an aside, the word *concept* has come up quite a bit, and it is important to be sure we have a shared understanding of that term. A **concept** is the notion or image that we conjure up when we

think of some cluster of related observations or ideas. For example, masculinity is a concept. What do you think of when you hear that word? Presumably, you imagine some set of behaviors and perhaps even a particular style of self-presentation. Of course, we can't necessarily assume that everyone conjures up the same set of ideas or images when they hear the word *masculinity*. While there are many possible ways to define the term and some may be more common or have more support than others, there is no universal definition of masculinity. What counts as masculine may shift over time, from culture to culture, and even from individual to individual (Kimmel, 2008). This is why defining our concepts is so important.\

Not all researchers clearly explain their theoretical or conceptual framework for their study, but they should! Without understanding how a researcher has defined their key concepts, it would be nearly impossible to understand the meaning of that researcher's findings and conclusions. Back in Chapter 7, you developed a theoretical framework for your study based on a survey of the theoretical literature in your topic area. If you haven't done that yet, consider flipping back to that section to familiarize yourself with some of the techniques for finding and using theories relevant to your research question. Continuing with our example on masculinity, we would need to survey the literature on theories of masculinity. After a few queries on masculinity, I found a wonderful article by Wong (2010)[6] that analyzed eight years of the journal *Psychology of Men & Masculinity* and analyzed how often different theories of masculinity were used. Not only can I get a sense of which theories are more accepted and which are more marginal in the social science on masculinity, I am able to identify a range of options from which I can find the theory or theories that will inform my project.

Exercises

Identify a specific theory (or more than one theory) and how it helps you understand...

- Your independent variable(s).
- Your dependent variable(s).
- The relationship between your independent and dependent variables.

Rather than completing this exercise from scratch, build from your theoretical or conceptual framework developed in previous chapters.

In quantitative methods, **conceptualization** involves writing out clear, concise definitions for our key concepts. These are the kind of definitions you are used to, like the ones in a dictionary. A conceptual definition involves defining a concept in terms of other concepts, usually by making reference to how other social scientists and theorists have defined those concepts in the past. Of course, new conceptual definitions are created all the time because our conceptual understanding of the world is always evolving.

Conceptualization is deceptively challenging–spelling out exactly what the concepts in your research

question mean to you. Following along with our example, think about what comes to mind when you read the term masculinity. How do you know masculinity when you see it? Does it have something to do with men or with social norms? If so, perhaps we could define masculinity as the social norms that men are expected to follow. That seems like a reasonable start, and at this early stage of conceptualization, brainstorming about the images conjured up by concepts and playing around with possible definitions is appropriate. However, this is just the first step. At this point, you should be beyond brainstorming for your key variables because you have read a good amount of research about them

In addition, we should consult previous research and theory to understand the definitions that other scholars have already given for the concepts we are interested in. This doesn't mean we must use their definitions, but understanding how concepts have been defined in the past will help us to compare our conceptualizations with how other scholars define and relate concepts. Understanding prior definitions of our key concepts will also help us decide whether we plan to challenge those conceptualizations or rely on them for our own work. Finally, working on conceptualization is likely to help in the process of refining your research question to one that is specific and clear in what it asks. Conceptualization and operationalization (next section) are where "the rubber meets the road," so to speak, and you have to specify what you mean by the question you are asking. As your conceptualization deepens, you will often find that your research question becomes more specific and clear.

If we turn to the literature on masculinity, we will surely come across work by Michael Kimmel, one of the preeminent masculinity scholars in the United States. After consulting Kimmel's prior work (2000; 2008),[7] we might tweak our initial definition of masculinity. Rather than defining masculinity as "the social norms that men are expected to follow," perhaps instead we'll define it as "the social roles, behaviors, and meanings prescribed for men in any given society at any one time" (Kimmel & Aronson, 2004, p. 503).[8] Our revised definition is more precise and complex because it goes beyond addressing one aspect of men's lives (norms), and addresses three aspects: roles, behaviors, and meanings. It also implies that roles, behaviors, and meanings may vary across societies and over time. Using definitions developed by theorists and scholars is a good idea, though you may find that you want to define things your own way.

As you can see, conceptualization isn't as simple as applying any random definition that we come up with to a term. Defining our terms may involve some brainstorming at the very beginning. But conceptualization must go beyond that, to engage with or critique existing definitions and conceptualizations in the literature. Once we've brainstormed about the images associated with a particular word, we should also consult prior work to understand how others define the term in question. After we've identified a clear definition that we're happy with, we should make sure that every term used in our definition will make sense to others. Are there terms used within our definition that also need to be defined? If so, our conceptualization is not yet complete. Our definition includes the concept of "social roles," so we should have a definition for what those mean and become familiar with role theory to help us with our conceptualization. If we don't know what roles are, how can we study them?

Let's say we do all of that. We have a clear definition of the term *masculinity* with reference to previous literature and we also have a good understanding of the terms in our conceptual definition…then we're done, right? Not so fast. You've likely met more than one man in your life, and you've probably noticed that they are not the same, even if they live in the same society during the same historical time period. This could mean there are dimensions of masculinity. In terms of social scientific measurement, concepts can be said to have **multiple dimensions** when there are multiple elements that make up a single concept. With respect to the term *masculinity*, dimensions could based on gender identity, gender performance, sexual orientation, etc.. In any of these cases, the concept of masculinity would be considered to have multiple dimensions.

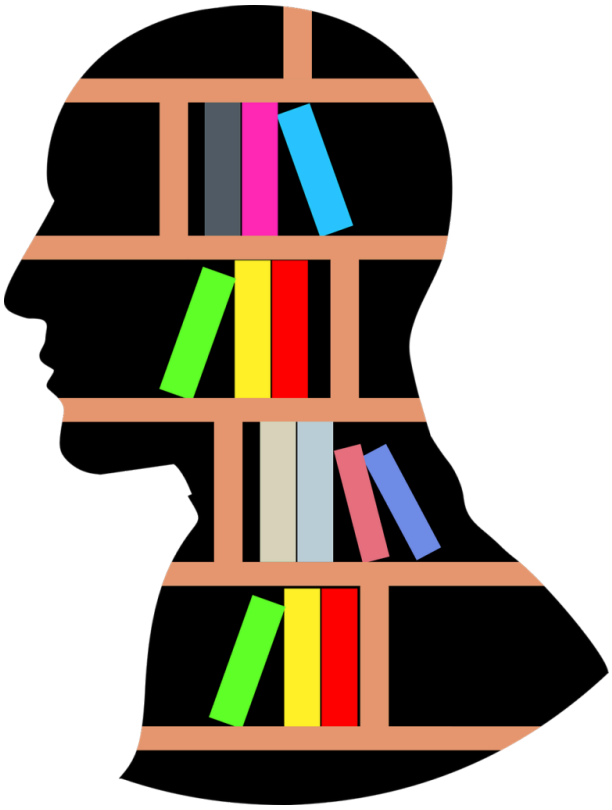
While you do not need to spell out every possible dimension of the concepts you wish to measure, it is important to identify whether your concepts are **unidimensional** (and therefore relatively easy to define and measure) or multidimensional (and therefore require multi-part definitions and measures). In this way, how you conceptualize your variables determines how you will measure them in your study. Unidimensional concepts are those that are expected to have a single underlying dimension. These concepts can be measured using a single measure or test. Examples include simple concepts such as a person's weight, time spent sleeping, and so forth.

One frustrating this is that there is no clear demarcation between concepts that are inherently unidimensional or multidimensional. Even something as simple as age could be broken down into multiple dimensions including mental age and chronological age, so where does conceptualization stop? How far down the dimensional rabbit hole do we have to go? Researchers should consider two things. First, how important is this variable in your study? If age is not important in your study (maybe it is a control variable), it seems like a waste of time to do a lot of work drawing from developmental theory to conceptualize this variable. A unidimensional measure from zero to dead is all the detail we need. On the other hand, if we were measuring the impact of age on masculinity, conceptualizing our independent variable (age) as multidimensional may provide a richer understanding of its impact on masculinity. Finally, your conceptualization will lead directly to your operationalization of the variable, and once your operationalization is complete, make sure someone reading your study could follow how your conceptual definitions informed the measures you chose for your variables.

Exercises

Write a conceptual definition for your independent and dependent variables.

- Cite and attribute definitions to other scholars, if you use their words.
- Describe how your definitions are informed by your theoretical framework.
- Place your definition in conversation with other theories and conceptual definitions commonly used in the literature.
- Are there multiple dimensions of your variables?
- Are any of these dimensions important for you to measure?



Do researchers actually know what we're talking about?

Conceptualization proceeds differently in qualitative research compared to quantitative research. Since qualitative researchers are interested in the understandings and experiences of their participants, it is less important for them to find one fixed definition for a concept before starting to interview or interact with participants. The researcher's job is to accurately and completely represent how their participants understand a concept, not to test their own definition of that concept.

If you were conducting qualitative research on masculinity, you would likely consult previous literature like Kimmel's work mentioned above. From your literature review, you may come up with a *working definition* for the terms you plan to use in your study, which can change over the course of the investigation. However, the definition that matters is the definition that your participants share during data collection. A working definition is merely a place to start, and researchers should take care not to think it is the only or best definition out there.

In qualitative inquiry, your participants are the experts (sound familiar, social workers?) on the concepts that arise during the research study. Your job as the researcher is to accurately and reliably collect and interpret their understanding of the concepts they describe while answering your questions. Conceptualization of concepts is likely to change over the course of qualitative inquiry, as you learn

more information from your participants. Indeed, getting participants to comment on, extend, or challenge the definitions and understandings of other participants is a hallmark of qualitative research. This is the opposite of quantitative research, in which definitions must be completely set in stone before the inquiry can begin.

The contrast between qualitative and quantitative conceptualization is instructive for understanding how quantitative methods (and positivist research in general) privilege the knowledge of the researcher over the knowledge of study participants and community members. Positivism holds that the researcher is the "expert," and can define concepts based on their expert knowledge of the scientific literature. This knowledge is in contrast to the lived experience that participants possess from experiencing the topic under examination day-in, day-out. For this reason, it would be wise to remind ourselves not to take our definitions too seriously and be critical about the limitations of our knowledge.

Conceptualization must be open to revisions, even radical revisions, as scientific knowledge progresses. While I've suggested consulting prior scholarly definitions of our concepts, you should not assume that prior, scholarly definitions are more real than the definitions we create. Likewise, we should not think that our own made-up definitions are any more real than any other definition. It would also be wrong to assume that just because definitions exist for some concept that the concept itself exists beyond some abstract idea in our heads. Building on the paradigmatic ideas behind interpretivism and the critical paradigm, researchers call the assumption that our abstract concepts exist in some concrete, tangible way is known as **reification**. It explores the power dynamics behind how we can create reality by how we define it.

Returning again to our example of masculinity. Think about our how our notions of masculinity have developed over the past few decades, and how different and yet so similar they are to patriarchal definitions throughout history. Conceptual definitions become more or less popular based on the power arrangements inside of social science the broader world. Western knowledge systems are privileged, while others are viewed as unscientific and marginal. The historical domination of social science by white men from WEIRD countries meant that definitions of masculinity were imbued their cultural biases and were designed explicitly and implicitly to preserve their power. This has inspired movements for cognitive justice as we seek to use social science to achieve global development.

Key Takeaways

- Measurement is the process by which we describe and ascribe meaning to the key facts, concepts, or other phenomena that we are investigating.
- Kaplan identified three categories of things that social scientists measure including observational terms, indirect observables, and constructs.
- Some concepts have multiple elements or dimensions.
- Researchers often use measures previously developed and studied by other researchers.
- Conceptualization is a process that involves coming up with clear, concise definitions.

- Conceptual definitions are based on the theoretical framework you are using for your study (and the paradigmatic assumptions underlying those theories).
- Whether your conceptual definitions come from your own ideas or the literature, you should be able to situate them in terms of other commonly used conceptual definitions.
- Researchers should acknowledge the limited explanatory power of their definitions for concepts and how oppression can shape what explanations are considered true or scientific.

Exercises

Think historically about the variables in your research question.

- How has our conceptual definition of your topic changed over time?
- What scholars or social forces were responsible for this change?

Take a critical look at your conceptual definitions.

- How participants might define terms for themselves differently, in terms of their daily experience?
- On what cultural assumptions are your conceptual definitions based?
- Are your conceptual definitions applicable across all cultures that will be represented in your sample?

11.2 Operational definitions

Learning Objectives

Learners will be able to…

- Define and give an example of indicators and attributes for a variable
- Apply the three components of an operational definition to a variable
- Distinguish between levels of measurement for a variable and how those differences relate to measurement
- Describe the purpose of composite measures like scales and indices

Conceptual definitions are like dictionary definitions. They tell you what a concept means by defining it using other concepts. In this section we will move from the abstract realm (theory) to the real world (measurement). **Operationalization** is the process by which researchers spell out precisely how a concept will be measured in their study. It involves identifying the specific research procedures

we will use to gather data about our concepts. If conceptually defining your terms means looking at theory, how do you operationally define your terms? By looking for indicators of when your variable is present or not, more or less intense, and so forth. Operationalization is probably the most challenging part of quantitative research, but once it's done, the design and implementation of your study will be straightforward.



Indicators

Operationalization works by identifying specific **indicators** that will be taken to represent the ideas we are interested in studying. If we are interested in studying masculinity, then the indicators for that concept might include some of the social roles prescribed to men in society such as breadwinning or fatherhood. Being a breadwinner or a father might therefore be considered *indicators* of a person's masculinity. The extent to which a man fulfills either, or both, of these roles might be understood as clues (or indicators) about the extent to which he is viewed as masculine.

Let's look at another example of indicators. Each day, Gallup researchers poll 1,000 randomly selected Americans to ask them about their well-being. To measure well-being, Gallup asks these people to respond to questions covering six broad areas: physical health, emotional health, work environment, life

evaluation, healthy behaviors, and access to basic necessities. Gallup uses these six factors as indicators of the concept that they are really interested in, which is well-being.

Identifying indicators can be even simpler than the examples described thus far. Political party affiliation is another relatively easy concept for which to identify indicators. If you asked a person what party they voted for in the last national election (or gained access to their voting records), you would get a good indication of their party affiliation. Of course, some voters split tickets between multiple parties when they vote and others swing from party to party each election, so our indicator is not perfect. Indeed, if our study were about political identity as a key concept, operationalizing it solely in terms of who they voted for in the previous election leaves out a lot of information about identity that is relevant to that concept. Nevertheless, it's a pretty good indicator of political party affiliation.

Choosing indicators is not an arbitrary process. As described earlier, utilizing prior theoretical and empirical work in your area of interest is a great way to identify indicators in a scholarly manner. And you conceptual definitions will point you in the direction of relevant indicators. Empirical work will give you some very specific examples of how the important concepts in an area have been measured in the past and what sorts of indicators have been used. Often, it makes sense to use the same indicators as previous researchers; however, you may find that some previous measures have potential weaknesses that your own study will improve upon.

All of the examples in this chapter have dealt with questions you might ask a research participant on a survey or in a quantitative interview. If you plan to collect data from other sources, such as through direct observation or the analysis of available records, think practically about what the design of your study might look like and how you can collect data on various indicators feasibly. If your study asks about whether the participant regularly changes the oil in their car, you will likely not observe them directly doing so. Instead, you will likely need to rely on a survey question that asks them the frequency with which they change their oil or ask to see their car maintenance records.

Exercises

- What indicators are commonly used to measure the variables in your research question?
- How can you feasibly collect data on these indicators?
- Are you planning to collect your own data using a questionnaire or interview? Or are you planning to analyze available data like client files or raw data shared from another researcher's project?

Remember, you need **raw data**. You research project cannot rely solely on the results reported by other researchers or the arguments you read in the literature. A literature review is only the first part of a research project, and your review of the literature should inform the indicators you end up choosing when *you* measure the variables in your research question.

Unlike conceptual definitions which contain other concepts, operational definition consists of the following components: (1) the variable being measured and its attributes, (2) the measure you will use, (3)

how you plan to interpret the data collected from that measure to draw conclusions about the variable you are measuring.

Step 1: Specifying variables and attributes

The first component, the variable, should be the easiest part. At this point in quantitative research, you should have a research question that has at least one independent and at least one dependent variable. Remember that variables must be able to vary. For example, the United States is not a variable. Country of residence is a variable, as is patriotism. Similarly, if your sample only includes men, gender is a constant in your study, not a variable. A **constant** is a characteristic that does not change in your study.

When social scientists measure concepts, they sometimes use the language of variables and attributes. A **variable** refers to a quality or quantity that varies across people or situations. **Attributes** are the characteristics that make up a variable. For example, the variable hair color would contain attributes like blonde, brown, black, red, gray, etc. A variable's attributes determine its level of measurement. There are four possible levels of measurement: nominal, ordinal, interval, and ratio. The first two levels of measurement are **categorical**, meaning their attributes are categories rather than numbers. The latter two levels of measurement are **continuous**, meaning their attributes are numbers.



I exist to frustrate researchers' categorizations.

Levels of measurement

Hair color is an example of a nominal level of measurement. **Nominal** measures are categorical, and those categories cannot be mathematically ranked. As a brown-haired person (with some gray), I can't say for sure that brown-haired people are better than blonde-haired people. As with all nominal levels of measurement, there is no ranking order between hair colors; they are simply different. That is what constitutes a nominal level of gender and race are also measured at the nominal level.

What attributes are contained in the variable *hair color*? While blonde, brown, black, and red are common colors, some people may not fit into these categories if we only list these attributes. My wife, who currently has purple hair, wouldn't fit anywhere. This means that our attributes were not exhaustive. **Exhaustiveness** means that all possible attributes are listed. We may have to list a lot of colors before we can meet the criteria of exhaustiveness. Clearly, there is a point at which exhaustiveness has been reasonably met. If a person insists that their hair color is *light burnt sienna*, it is not your responsibility to list that as an option. Rather, that person would reasonably be described as brown-haired. Perhaps listing a category for *other color* would suffice to make our list of colors exhaustive.

What about a person who has multiple hair colors at the same time, such as red and black? They would fall into multiple attributes. This violates the rule of **mutual exclusivity**, in which a person cannot fall into two different attributes. Instead of listing all of the possible combinations of colors, perhaps you might include a *multi-color* attribute to describe people with more than one hair color.

Making sure researchers provide mutually exclusive and exhaustive is about making sure all people are represented in the data record. For many years, the attributes for gender were only male or female. Now, our understanding of gender has evolved to encompass more attributes that better reflect the diversity in the world. Children of parents from different races were often classified as one race or another, even if they identified with both cultures. The option for bi-racial or multi-racial on a survey not only more accurately reflects the racial diversity in the real world but validates and acknowledges people who identify in that manner. If we did not measure race in this way, we would leave empty the data record for people who identify as biracial or multiracial, impairing our search for truth.

Unlike nominal-level measures, attributes at the **ordinal** level can be rank ordered. For example, someone's degree of satisfaction in their romantic relationship can be ordered by rank. That is, you could say you are not at all satisfied, a little satisfied, moderately satisfied, or highly satisfied. Note that even though these have a rank order to them (not at all satisfied is certainly worse than highly satisfied), we cannot calculate a mathematical distance between those attributes. We can simply say that one attribute of an ordinal-level variable is more or less than another attribute.

This can get a little confusing when using **rating scales**. If you have ever taken a customer satisfaction survey or completed a course evaluation for school, you are familiar with rating scales. "On a scale of 1-5, with 1 being the lowest and 5 being the highest, how likely are you to recommend our company to other people?" That surely sounds familiar. Rating scales use numbers, but only as a shorthand, to indicate what attribute (highly likely, somewhat likely, etc.) the person feels describes them best. You wouldn't say you are "2" likely to recommend the company, but you would say you are not very likely to recommend the company. Ordinal-level attributes must also be exhaustive and mutually exclusive, as with nominal-level variables.

At the **interval** level, attributes must also be exhaustive and mutually exclusive and there is equal distance between attributes. Interval measures are also continuous, meaning their attributes are numbers, rather than categories. IQ scores are interval level, as are temperatures in Fahrenheit and Celsius. Their defining characteristic is that we can say how much more or less one attribute differs from another. We cannot, however, say with certainty what the ratio of one attribute is in comparison to another. For example, it would not make sense to say that a person with an IQ score of 140 has twice the IQ of a person with a score of 70. However, the difference between IQ scores of 80 and 100 is the same as the difference between IQ scores of 120 and 140.

While we cannot say that someone with an IQ of 140 is twice as intelligent as someone with an IQ of 70 because IQ is measured at the interval level, we can say that someone with six siblings has twice as many as someone with three because number of siblings is measured at the ratio level. Finally, at the **ratio** level, attributes are mutually exclusive and exhaustive, attributes can be rank ordered, the distance between attributes is equal, and attributes have a true zero point. Thus, with these variables, we *can* say what the ratio of one attribute is in comparison to another. Examples of ratio-level variables include age and years of education. We know that a person who is 12 years old is twice as old as someone who is 6 years old. Height measured in meters and weight measured in kilograms are good examples. So are counts of discrete objects or events such as the number of siblings one has or the number of questions a student answers correctly on an exam. The differences between each level of measurement are visualized in Table 11.1.

Table 11.1 Criteria for Different Levels of Measurement

	Nominal	Ordinal	Interval	Ratio
Exhaustive	X	X	X	X
Mutually exclusive	X	X	X	X
Rank-ordered		X	X	X
Equal distance between attributes			X	X
True zero point				X

Levels of measurement=levels of specificity

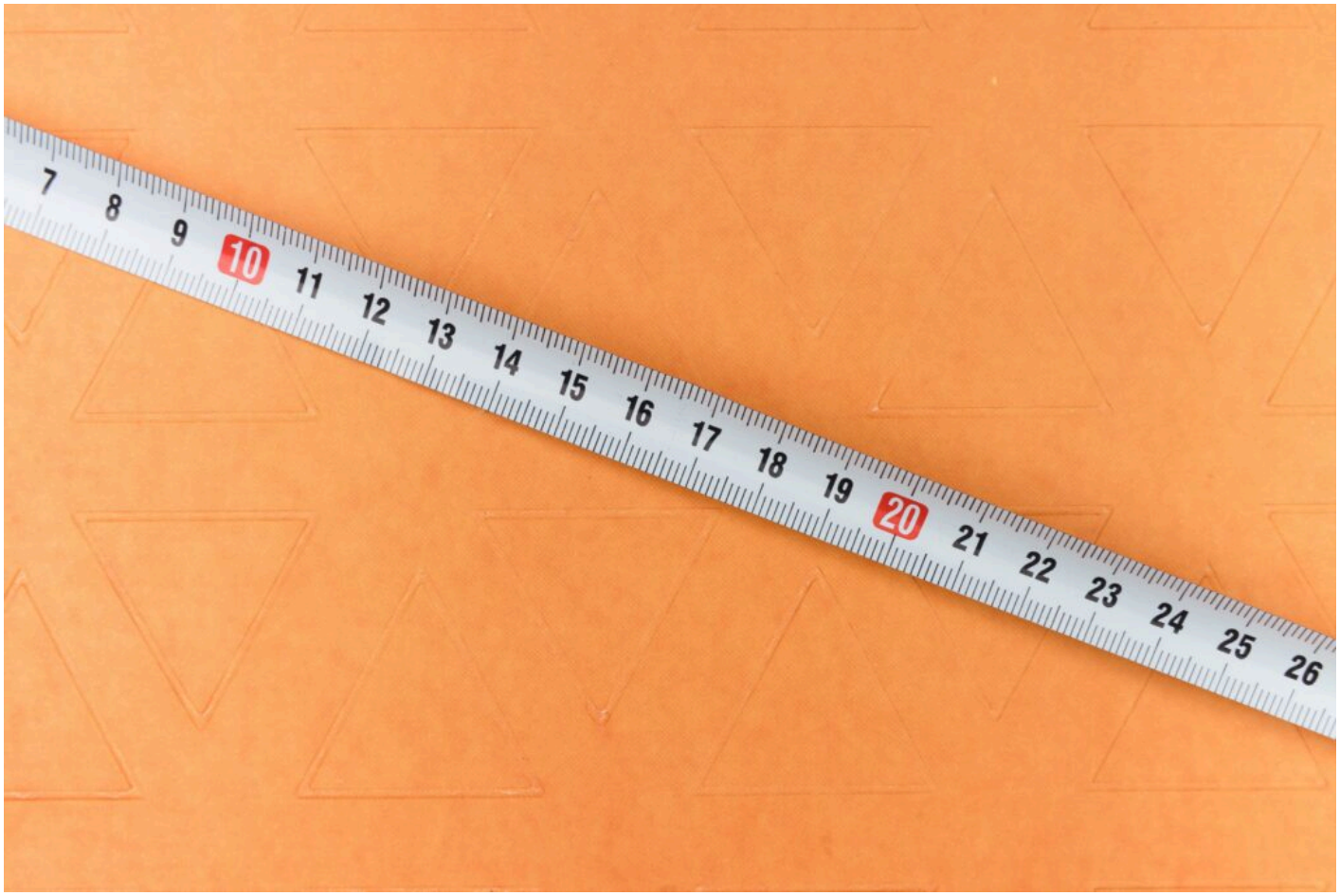
We have spent time learning how to determine our data's level of measurement. Now what? How could we use this information to help us as we measure concepts and develop measurement tools? First, the types of statistical tests that we are able to use are dependent on our data's level of measurement. With nominal-level measurement, for example, the only available measure of central tendency is the mode. With ordinal-level measurement, the median or mode can be used as indicators of central tendency. Interval and ratio-level measurement are typically considered the most desirable because they permit for any indicators of central tendency to be computed (i.e., mean, median, or mode). Also, ratio-level measurement is the only level that allows meaningful statements about ratios of scores. The higher the level of measurement, the more complex statistical tests we are able to conduct. This knowledge may help us decide what kind of data we need to gather, and how.

That said, we have to balance this knowledge with the understanding that sometimes, collecting data at a higher level of measurement could negatively impact our studies. For instance, sometimes providing answers in ranges may make prospective participants feel more comfortable responding to sensitive items. Imagine that you were interested in collecting information on topics such as income, number of sexual partners, number of times someone used illicit drugs, etc. You would have to think about the sensitivity of these items and determine if it would make more sense to collect some data at a lower level of measurement (e.g., asking if they are sexually active or not (nominal) versus their total number of sexual partners (ratio).

Finally, sometimes when analyzing data, researchers find a need to change a data's level of measurement. For example, a few years ago, a student was interested in studying the relationship between mental health and life satisfaction. This student used a variety of measures. One item asked about the number of mental health symptoms, reported as the actual number. When analyzing data, my student examined the mental health symptom variable and noticed that she had two groups, those with none or one symptoms and those with many symptoms. Instead of using the ratio level data (actual number of mental health symptoms), she collapsed her cases into two categories, few and many. She decided to use this variable in her analyses. It is important to note that you can move a higher level of data to a lower level of data; however, you are unable to move a lower level to a higher level.

Exercises

- Check that the variables in your research question can vary…and that they are not constants or one of many potential attributes of a variable.
- Think about the attributes your variables have. Are they categorical or continuous? What level of measurement seems most appropriate?



Step 2: Specifying measures for each variable

Let's pick a social work research question and walk through the process of operationalizing variables to see how specific we need to get. I'm going to hypothesize that residents of a psychiatric unit who are more depressed are less likely to be satisfied with care. Remember, this would be a inverse relationship—as depression increases, satisfaction decreases. In this question, depression is my independent variable (the cause) and satisfaction with care is my dependent variable (the effect). Now we have identified our variables, their attributes, and levels of measurement, we move onto the second component: the measure itself.

So, how would you measure my key variables: depression and satisfaction? What indicators would you look for? Some students might say that depression could be measured by observing a participant's body language. They may also say that a depressed person will often express feelings of sadness or hopelessness. In addition, a satisfied person might be happy around service providers and often express gratitude. While these factors may indicate that the variables are present, they lack coherence. Unfortunately, what this "measure" is actually saying is that "I know depression and satisfaction when I see them." While you are likely a decent judge of depression and satisfaction, you need to provide

more information in a research study for how you plan to measure your variables. Your judgment is subjective, based on your own idiosyncratic experiences with depression and satisfaction. They couldn't be replicated by another researcher. They also can't be done consistently for a large group of people. Operationalization requires that you come up with a specific and rigorous measure for seeing who is depressed or satisfied.

Finding a good measure for your variable depends on the kind of variable it is. Variables that are directly observable don't come up very often in my students' classroom projects, but they might include things like taking someone's blood pressure, marking attendance or participation in a group, and so forth. To measure an indirectly observable variable like age, you would probably put a question on a survey that asked, "How old are you?" Measuring a variable like income might require some more thought, though. Are you interested in this person's individual income or the income of their family unit? This might matter if your participant does not work or is dependent on other family members for income. Do you count income from social welfare programs? Are you interested in their income per month or per year? Even though indirect observables are relatively easy to measure, the measures you use must be clear in what they are asking, and operationalization is all about figuring out the specifics of what you want to know. For more complicated constructs, you will need compound measures (that use multiple indicators to measure a single variable).

How you plan to collect your data also influences how you will measure your variables. For social work researchers using secondary data like client records as a data source, you are limited by what information is in the data sources you can access. If your organization uses a given measurement for a mental health outcome, that is the one you will use in your study. Similarly, if you plan to study how long a client was housed after an intervention using client visit records, you are limited by how their caseworker recorded their housing status in the chart. One of the benefits of collecting your own data is being able to select the measures you feel best exemplify your understanding of the topic.

Measuring unidimensional concepts

The previous section mentioned two important considerations: how complicated the variable is and how you plan to collect your data. With these in hand, we can use the level of measurement to further specify how you will measure your variables and consider specialized rating scales developed by social science researchers.

Measurement at each level

Nominal measures assess categorical variables. These measures are used for variables or indicators that have mutually exclusive attributes, but that cannot be rank-ordered. Nominal measures ask about

the variable and provide names or labels for different attribute values like social work, counseling, and nursing for the variable profession. Nominal measures are relatively straightforward.

Ordinal measures often use a rating scale. It is an ordered set of responses that participants must choose from. Figure 11.1 shows several examples. The number of response options on a typical rating scale is usualy five or seven, though it can range from three to 11. Five-point scales are best for unipolar scales where only one construct is tested, such as frequency (Never, Rarely, Sometimes, Often, Always). Seven-point scales are best for bipolar scales where there is a dichotomous spectrum, such as liking (Like very much, Like somewhat, Like slightly, Neither like nor dislike, Dislike slightly, Dislike somewhat, Dislike very much). For bipolar questions, it is useful to offer an earlier question that branches them into an area of the scale; if asking about liking ice cream, first ask "Do you generally like or dislike ice cream?" Once the respondent chooses like or dislike, refine it by offering them relevant choices from the seven-point scale. Branching improves both reliability and validity (Krosnick & Berent, 1993).[9] Although you often see scales with numerical labels, it is best to only present verbal labels to the respondents but convert them to numerical values in the analyses. Avoid partial labels or length or overly specific labels. In some cases, the verbal labels can be supplemented with (or even replaced by) meaningful graphics. The last rating scale shown in Figure 11.1 is a visual-analog scale, on which participants make a mark somewhere along the horizontal line to indicate the magnitude of their response.

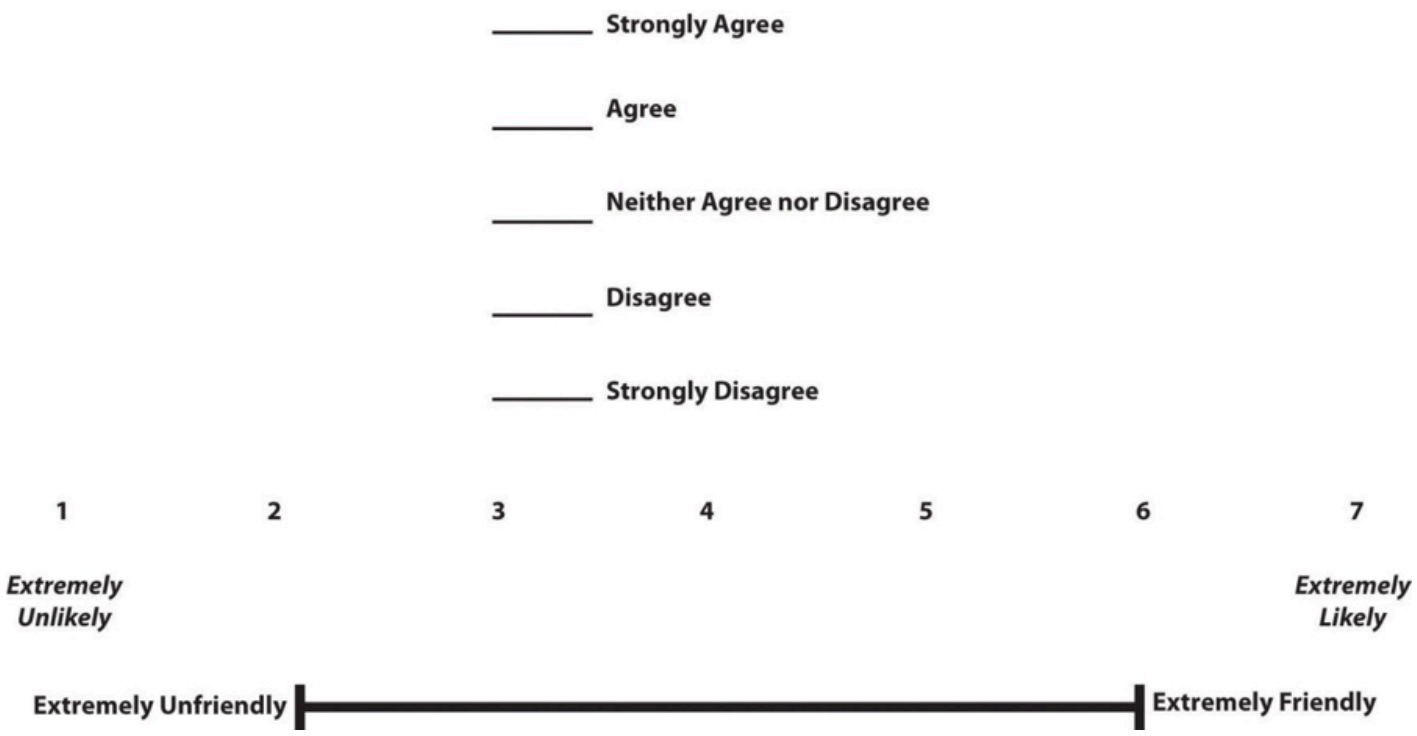


Figure 11.1 Example rating scales for closed-ended questionnaire items

Interval measures are those where the values measured are not only rank-ordered, but are also

equidistant from adjacent attributes. For example, the temperature scale (in Fahrenheit or Celsius), where the difference between 30 and 40 degree Fahrenheit is the same as that between 80 and 90 degree Fahrenheit. Likewise, if you have a scale that asks respondents' annual income using the following attributes (ranges): $0 to 10,000, $10,000 to 20,000, $20,000 to 30,000, and so forth, this is also an interval measure, because the mid-point of each range (i.e., $5,000, $15,000, $25,000, etc.) are equidistant from each other. The intelligence quotient (IQ) scale is also an interval measure, because the measure is designed such that the difference between IQ scores 100 and 110 is supposed to be the same as between 110 and 120 (although we do not really know whether that is truly the case). Interval measures allow us to examine "how much more" is one attribute when compared to another, which is not possible with nominal or ordinal measures. You may find researchers who "pretend" (incorrectly) that ordinal rating scales are actually interval measures so that we can use different statistical techniques for analyzing them. As we will discuss in the latter part of the chapter, this is a mistake because there is no way to know whether the difference between a 3 and a 4 on a rating scale is the same as the difference between a 2 and a 3. Those numbers are just placeholders for categories.

Ratio measures are those that have all the qualities of nominal, ordinal, and interval scales, and in addition, also have a "true zero" point (where the value zero implies lack or non-availability of the underlying construct). Think about how to measure the number of people working in human resources at a social work agency. It could be one, several, or none (if the company contracts out for those services). Measuring interval and ratio data is relatively easy, as people either select or input a number for their answer. If you ask a person how many eggs they purchased last week, they can simply tell you they purchased `a dozen eggs at the store, two at breakfast on Wednesday, or none at all.

Commonly used rating scales in questionnaires

The level of measurement will give you the basic information you need, but social scientists have developed specialized instruments for use in questionnaires, a common tool used in quantitative research. As we mentioned before, if you plan to source your data from client files or previously published results

Although **Likert scale** is a term colloquially used to refer to almost any rating scale (e.g., a 0-to-10 life satisfaction scale), it has a much more precise meaning. In the 1930s, researcher Rensis Likert (pronounced LICK-ert) created a new approach for measuring people's attitudes (Likert, 1932).[10] It involves presenting people with several statements—including both favorable and unfavorable statements—about some person, group, or idea. Respondents then express their agreement or disagreement with each statement on a 5-point scale: *Strongly Agree*, *Agree*, *Neither Agree nor Disagree*, *Disagree*, *Strongly Disagree*. Numbers are assigned to each response and then summed across all items to produce a score representing the attitude toward the person, group, or idea. For items that are phrased in an opposite direction (e.g., negatively worded statements instead of positively worded

statements), reverse coding is used so that the numerical scoring of statements also runs in the opposite direction. The entire set of items came to be called a Likert scale, as indicated in Table 11.2 below.

Unless you are measuring people's attitude toward something by assessing their level of agreement with several statements about it, it is best to avoid calling it a Likert scale. You are probably just using a rating scale. Likert scales allow for more granularity (more finely tuned response) than yes/no items, including whether respondents are neutral to the statement. Below is an example of how we might use a Likert scale to assess your attitudes about research as you work your way through this textbook.

Table 11.2 Likert scale

	Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
I like research more now than when I started reading this book.					
This textbook is easy to use.					
I feel confident about how well I understand levels of measurement.					
This textbook is helping me plan my research proposal.					

Semantic differential scales are composite (multi-item) scales in which respondents are asked to indicate their opinions or feelings toward a single statement using different pairs of adjectives framed as polar opposites. Whereas in the above Likert scale, the participant is asked how much they *agree or disagree* with a statement, in a semantic differential scale the participant is asked to indicate how they *feel* about a specific item. This makes the semantic differential scale an excellent technique for measuring people's attitudes or feelings toward objects, events, or behaviors. Table 11.3 is an example of a semantic differential scale that was created to assess participants' feelings about this textbook.

Table 11.3. A semantic differential scale for measuring attitudes towards a textbook

1) *How would you rate your opinions toward this textbook?*						
	Very much	Somewhat	Neither	Somewhat	Very much	
Boring						Exciting
Useless						Useful
Hard						Easy
Irrelevant						Applicable

Notice that on a Likert scale, each item is different but the choices for the scale are the same (e.g., strongly agree, agree, etc.). However, for a semantic differential scale, the thing that you are reviewing, in this case, beliefs about research content, remains the same. It is the choices that change. Semantic differential is believed to be an excellent technique for measuring people's attitude or feelings toward objects, events, or behaviors.

This composite scale was designed by Louis Guttman and uses a series of items arranged in increasing order of intensity (least intense to most intense) of the concept. This type of scale allows us to understand the intensity of beliefs or feelings. Each item in the above **Guttman scale** has a weight (this is not indicated on the tool) which varies with the intensity of that item, and the weighted combination of each response is used as an aggregate measure of an observation.

Example Guttman Scale Items

1. I often felt the material was not engaging Yes/No
2. I was often thinking about other things in class Yes/No
3. I was often working on other tasks during class Yes/No
4. I will work to abolish research from the curriculum Yes/No

Notice how the items move from lower intensity to higher intensity. A researcher reviews the yes answers and creates a score for each participant.

Composite measures: Scales and indices

Depending on your research design, your measure may be something you put on a survey or pre/post-test that you give to your participants. For a variable like age or income, one well-worded question may suffice. Unfortunately, most variables in the social world are not so simple. Depression and satisfaction are multidimensional concepts. Relying on a single indicator like a question that asks "Yes or no, are you depressed?" does not encompass the complexity of depression, including issues with mood, sleeping,

eating, relationships, and happiness. There is no easy way to delineate between multidimensional and unidimensional concepts, as its all in how you think about your variable. Satisfaction could be validly measured using a unidimensional ordinal rating scale. However, if satisfaction were a key variable in our study, we would need a theoretical framework and conceptual definition for it. That means we'd probably have more indicators to ask about like timeliness, respect, sensitivity, and many others, and we would want our study to say something about what satisfaction truly means in terms of our other key variables. However, if satisfaction is not a key variable in your conceptual framework, it makes sense to operationalize it as a unidimensional concept.

For more complicated measures, researchers use scales and indices (sometimes called indexes) to measure their variables because they assess multiple indicators to develop a composite (or total) score. Composite scores provide a much greater understanding of concepts than a single item could. Although we won't delve too deeply into the process of scale development, we will cover some important topics for you to understand how scales and indices developed by other researchers can be used in your project.

Although they exhibit differences (which will later be discussed) the two have in common various factors.

- Both are ordinal measures of variables.
- Both can order the units of analysis in terms of specific variables.
- Both are **composite measures**.



Scales

The previous section discussed how to measure respondents' responses to predesigned items or indicators belonging to an underlying construct. But how do we create the indicators themselves? The process of creating the indicators is called scaling. More formally, scaling is a branch of measurement that involves the construction of measures by associating qualitative judgments about unobservable constructs with quantitative, measurable metric units. Stevens (1946)[11] said, "Scaling is the assignment of objects to numbers according to a rule." This process of measuring abstract concepts in concrete terms remains one of the most difficult tasks in empirical social science research.

The outcome of a scaling process is a **scale**, which is an empirical structure for measuring items or indicators of a given construct. Understand that multidimensional "scales", as discussed in this section, are a little different from "rating scales" discussed in the previous section. A rating scale is used to capture the respondents' reactions to a given item on a questionnaire. For example, an ordinally scaled item captures a value between "strongly disagree" to "strongly agree." Attaching a rating scale to a statement or instrument is not scaling. Rather, scaling is the formal process of developing scale items, before rating scales can be attached to those items.

If creating your own scale sounds painful, don't worry! For most multidimensional variables, you would likely be duplicating work that has already been done by other researchers. Specifically, this is a branch of science called psychometrics. You do not need to create a scale for depression because scales such as the Patient Health Questionnaire (PHQ-9), the Center for Epidemiologic Studies Depression Scale (CES-D), and Beck's Depression Inventory (BDI) have been developed and refined over dozens of years to measure variables like depression. Similarly, scales such as the Patient Satisfaction Questionnaire (PSQ-18) have been developed to measure satisfaction with medical care. As we will discuss in the next section, these scales have been shown to be reliable and valid. While you could create a new scale to measure depression or satisfaction, a study with rigor would pilot test and refine that new scale over time to make sure it measures the concept accurately and consistently. This high level of rigor is often unachievable in student research projects because of the cost and time involved in pilot testing and validating, so using existing scales is recommended.

Unfortunately, there is no good one-stop=shop for psychometric scales. The Mental Measurements Yearbook provides a searchable database of measures for social science variables, though it woefully incomplete and often does not contain the full documentation for scales in its database. You can access it from a university library's list of databases. If you can't find anything in there, your next stop should be the methods section of the articles in your literature review. The methods section of each article will detail how the researchers measured their variables, and often the results section is instructive for understanding more about measures. In a quantitative study, researchers may have used a scale to measure key variables and will provide a brief description of that scale, its names, and maybe a few example questions. If you need more information, look at the results section and tables discussing the scale to get a better idea of how the measure works. Looking beyond the articles in your literature review, searching Google Scholar using queries like "depression scale" or "satisfaction scale" should also provide some relevant results. For example, searching for documentation for the Rosenberg Self-Esteem Scale (which we will discuss in the next section), I found this report from researchers investigating acceptance and commitment therapy which details this scale and many others used to assess mental health outcomes. If you find the name of the scale somewhere but cannot find the documentation (all questions and answers plus how to interpret the scale), a general web search with the name of the scale and ".pdf" may bring you to what you need. Or, to get professional help with finding information, always ask a librarian!

Unfortunately, these approaches do not guarantee that you will be able to view the scale itself or get information on how it is interpreted. Many scales cost money to use and may require training to properly administer. You may also find scales that are related to your variable but would need to be slightly modified to match your study's needs. You could adapt a scale to fit your study, however changing even small parts of a scale can influence its accuracy and consistency. While it is perfectly acceptable in student projects to adapt a scale without testing it first (time may not allow you to do so), pilot testing is always recommended for adapted scales, and researchers seeking to draw valid conclusions and publish their results must take this additional step.

Indices

An **index** is a composite score derived from aggregating measures of multiple concepts (called components) using a set of rules and formulas. It is different from a scale. Scales also aggregate measures; however, these measures examine different dimensions *or* the same dimension of a single construct. A well-known example of an index is the consumer price index (CPI), which is computed every month by the Bureau of Labor Statistics of the U.S. Department of Labor. The CPI is a measure of how much consumers have to pay for goods and services (in general) and is divided into eight major categories (food and beverages, housing, apparel, transportation, healthcare, recreation, education and communication, and "other goods and services"), which are further subdivided into more than 200 smaller items. Each month, government employees call all over the country to get the current prices of more than 80,000 items. Using a complicated weighting scheme that takes into account the location and probability of purchase for each item, analysts then combine these prices into an overall index score using a series of formulas and rules.

Another example of an index is the Duncan Socioeconomic Index (SEI). This index is used to quantify a person's socioeconomic status (SES) and is a combination of three concepts: income, education, and occupation. Income is measured in dollars, education in years or degrees achieved, and occupation is classified into categories or levels by status. These very different measures are combined to create an overall SES index score. However, SES index measurement has generated a lot of controversy and disagreement among researchers.

> Here is a resource where you can read a summary of the Socio-Economic Index debate.

The process of creating an index is similar to that of a scale. First, conceptualize (define) the index and its constituent components. Though this appears simple, there may be a lot of disagreement on what components (concepts/constructs) should be included or excluded from an index. For instance, in the SES index, isn't income correlated with education and occupation? And if so, should we include one component only or all three components? Reviewing the literature, using theories, and/or interviewing experts or key stakeholders may help resolve this issue. Second, operationalize and measure each component. For instance, how will you categorize occupations, particularly since some occupations may have changed with time (e.g., there were no Web developers before the Internet)? As we will see in step three below, researchers must create a rule or formula for calculating the index score. Again, this process may involve a lot of subjectivity, so validating the index score using existing or new data is important.

Scale and index development at often taught in their own course in doctoral education, so it is unreasonable for you to expect to develop a consistently accurate measure within the span of a week or two. Using available indices and scales is recommended for this reason.

Differences between scales and indices

Though indices and scales yield a single numerical score or value representing a concept of interest, they are different in many ways. First, indices often comprise components that are very different from each other (e.g., income, education, and occupation in the SES index) and are measured in different ways. Conversely, scales typically involve a set of similar items that use the same rating scale (such as a five-point Likert scale about customer satisfaction).

Second, indices often combine objectively measurable values such as prices or income, while scales are designed to assess subjective or judgmental constructs such as attitude, prejudice, or self-esteem. Some argue that the sophistication of the scaling methodology makes scales different from indexes, while others suggest that indexing methodology can be equally sophisticated. Nevertheless, indexes and scales are both essential tools in social science research.

Scales and indices seem like clean, convenient ways to measure different phenomena in social science, but just like with a lot of research, we have to be mindful of the assumptions and biases underneath. What if a scale or an index was developed using only White women as research participants? Is it going to be useful for other groups? It very well might be, but when using a scale or index on a group for whom it hasn't been tested, it will be very important to evaluate the validity and reliability of the instrument, which we address in the rest of the chapter.

Finally, it's important to note that while scales and indices are often made up of nominal or ordinal variables, when we analyze them into composite scores, we will treat them as interval/ratio variables.

Exercises

- Look back to your work from the previous section, are your variables unidimensional or multidimensional?
- Describe the specific measures you will use (actual questions and response options you will use with participants) for each variable in your research question.
- If you are using a measure developed by another researcher but do not have all of the questions, response options, and instructions needed to implement it, put it on your to-do list to get them.



If we were operationalizing blood pressure, the cuff and reader would be the measure…but how do we interpret what is high, low, and normal blood pressure?

Step 3: How you will interpret your measures

The final stage of operationalization involves setting the rules for how the measure works and how the researcher should interpret the results. Sometimes, interpreting a measure can be incredibly easy. If you ask someone their age, you'll probably interpret the results by noting the raw number (e.g., 22) someone provides and that it is lower or higher than other people's ages. However, you could also recode that person into age categories (e.g., under 25, 20-29-years-old, generation Z, etc.). Even scales may be simple to interpret. If there is a scale of problem behaviors, one might simply add up the number of behaviors checked off–with a range from 1-5 indicating low risk of delinquent behavior, 6-10 indicating the student is moderate risk, etc. How you choose to interpret your measures should be guided by how they were designed, how you conceptualize your variables, the data sources you used, and your plan for analyzing your data statistically. Whatever measure you use, you need a set of rules for how to take any valid answer a respondent provides to your measure and interpret it in terms of the variable being measured.

For more complicated measures like scales, refer to the information provided by the author for how to interpret the scale. If you can't find enough information from the scale's creator, look at how the results of that scale are reported in the results section of research articles. For example, Beck's Depression Inventory (BDI-II) uses 21 statements to measure depression and respondents rate their level of agreement on a scale of 0-3. The results for each question are added up, and the respondent is put into one of three categories: low levels of depression (1-16), moderate levels of depression (17-30), or severe levels of depression (31 and over).

One common mistake I see often is that students will introduce another variable into their operational definition. This is incorrect. Your operational definition should mention only one variable—the variable being defined. While your study will certainly draw conclusions about the relationships between variables, that's not what operationalization is. Operationalization specifies what instrument you will use to measure your variable and how you plan to interpret the data collected using that measure.

Operationalization is probably the trickiest component of basic research methods, so please don't get frustrated if it takes a few drafts and a lot of feedback to get to a workable definition. At the time of this writing, I am in the process of operationalizing the concept of "attitudes towards research methods." Originally, I thought that I could gauge students' attitudes toward research methods by looking at their end-of-semester course evaluations. As I became aware of the potential methodological issues with student course evaluations, I opted to use focus groups of students to measure their common beliefs about research. You may recall some of these opinions from Chapter 1, such as the common beliefs that research is boring, useless, and too difficult. After the focus group, I created a scale based on the opinions I gathered, and I plan to pilot test it with another group of students. After the pilot test, I expect that I will have to revise the scale again before I can implement the measure in a real social work research project. At the time I'm writing this, I'm still not completely done operationalizing this concept.

Key Takeaways

- Operationalization involves spelling out precisely how a concept will be measured.
- Operational definitions must include the variable, the measure, and how you plan to interpret the measure.
- There are four different levels of measurement: nominal, ordinal, interval, and ratio (in increasing order of specificity).
- Scales and indices are common ways to collect information and involve using multiple indicators in measurement.
- A key difference between a scale and an index is that a scale contains multiple indicators for one concept, whereas an indicator examines multiple concepts (components).
- Using scales developed and refined by other researchers can improve the rigor of a quantitative study.

Exercises

Use the research question that you developed in the previous chapters and find a related scale or index that researchers have used. If you have trouble finding the exact phenomenon you want to study, get as close as you can.

- What is the level of measurement for each item on each tool? Take a second and think about why the tool's creator decided to include these levels of measurement. Identify any levels of measurement you would change and why.
- If these tools don't exist for what you are interested in studying, why do you think that is?

11.3 Measurement quality

Learning Objectives

Learners will be able to...

- Define and describe the types of validity and reliability
- Assess for systematic error

The previous chapter provided insight into measuring concepts in social work research. We discussed the importance of identifying concepts and their corresponding indicators as a way to help us operationalize them. In essence, we now understand that when we think about our measurement process, we must be intentional and thoughtful in the choices that we make. This section is all about how to judge the quality of the measures you've chosen for the key variables in your research question.

Reliability

First, let's say we've decided to measure alcoholism by asking people to respond to the following question: Have you ever had a problem with alcohol? If we measure alcoholism this way, then it is likely that anyone who identifies as an alcoholic would respond "yes." This may seem like a good way to identify our group of interest, but think about how you and your peer group may respond to this question. Would participants respond differently after a wild night out, compared to any other night? Could an infrequent drinker's current headache from last night's glass of wine influence how

they answer the question this morning? How would that same person respond to the question before consuming the wine? In each cases, the same person might respond differently to the same question at different points, so it is possible that our measure of alcoholism has a reliability problem. **Reliability** in measurement is about consistency.

One common problem of reliability with social scientific measures is memory. If we ask research participants to recall some aspect of their own past behavior, we should try to make the recollection process as simple and straightforward for them as possible. Sticking with the topic of alcohol intake, if we ask respondents how much wine, beer, and liquor they've consumed each day over the course of the past 3 months, how likely are we to get accurate responses? Unless a person keeps a journal documenting their intake, there will very likely be some inaccuracies in their responses. On the other hand, we might get more accurate responses if we ask a participant how many drinks of any kind they have consumed in the past week.

Reliability can be an issue even when we're not reliant on others to accurately report their behaviors. Perhaps a researcher is interested in observing how alcohol intake influences interactions in public locations. They may decide to conduct observations at a local pub by noting how many drinks patrons consume and how their behavior changes as their intake changes. What if the researcher has to use the restroom, and the patron next to them takes three shots of tequila during the brief period the researcher is away from their seat? The reliability of this researcher's measure of alcohol intake depends on their ability to physically observe every instance of patrons consuming drinks. If they are unlikely to be able to observe every such instance, then perhaps their mechanism for measuring this concept is not reliable.

The following subsections describe the types of reliability that are important for you to know about, but keep in mind that you may see other approaches to judging reliability mentioned in the empirical literature.

Test-retest reliability

When researchers measure a construct that they assume to be consistent across time, then the scores they obtain should also be consistent across time. **Test-retest reliability** is the extent to which this is actually the case. For example, intelligence is generally thought to be consistent across time. A person who is highly intelligent today will be highly intelligent next week. This means that any good measure of intelligence should produce roughly the same scores for this individual next week as it does today. Clearly, a measure that produces highly inconsistent scores over time cannot be a very good measure of a construct that is supposed to be consistent.

Assessing test-retest reliability requires using the measure on a group of people at one time, using it again on the *same* group of people at a later time. Unlike an experiment, you aren't giving participants

an intervention but trying to establish a reliable baseline of the variable you are measuring. Once you have these two measurements, you then look at the correlation between the two sets of scores. This is typically done by graphing the data in a scatterplot and computing the correlation coefficient. Figure 11.2 shows the correlation between two sets of scores of several university students on the Rosenberg Self-Esteem Scale, administered two times, a week apart. The correlation coefficient for these data is +.95. In general, a test-retest correlation of +.80 or greater is considered to indicate good reliability.

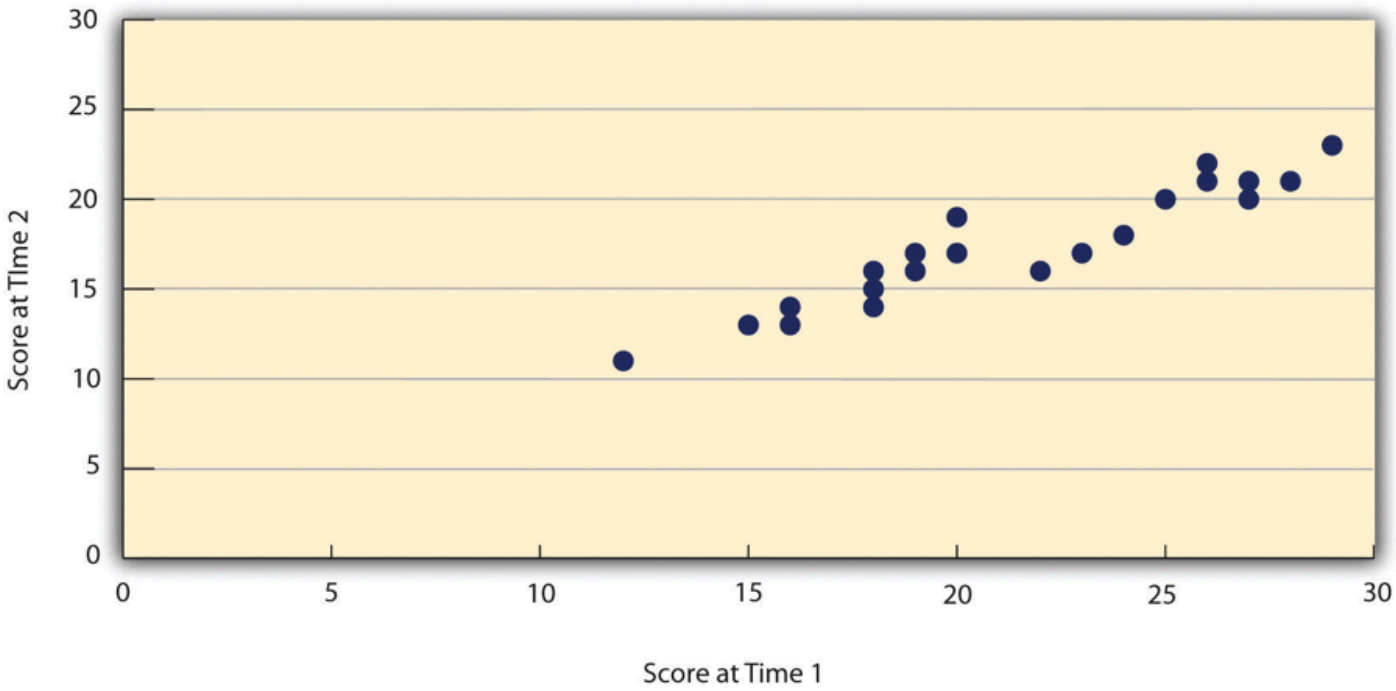


Figure 11.2 Test-retest correlation between two sets of scores of several college students on the Rosenberg Self-Esteem Scale, given two times a week apart

Again, high test-retest correlations make sense when the construct being measured is assumed to be consistent over time, which is the case for intelligence, self-esteem, and the Big Five personality dimensions. But other constructs are not assumed to be stable over time. The very nature of mood, for example, is that it changes. So a measure of mood that produced a low test-retest correlation over a period of a month would not be a cause for concern.

Internal consistency

Another kind of reliability is **internal consistency**, which is the consistency of people's responses across the items on a multiple-item measure. In general, all the items on such measures are supposed to reflect the same underlying construct, so people's scores on those items should be correlated with each other.

On the Rosenberg Self-Esteem Scale, people who agree that they are a person of worth should tend to agree that they have a number of good qualities. If people's responses to the different items are not correlated with each other, then it would no longer make sense to claim that they are all measuring the same underlying construct. This is as true for behavioral and physiological measures as for self-report measures. For example, people might make a series of bets in a simulated game of roulette as a measure of their level of risk seeking. This measure would be internally consistent to the extent that individual participants' bets were consistently high or low across trials. A specific statistical test known as Cronbach's Alpha provides a way to measure how well each question of a scale is related to the others.

Interrater reliability

Many behavioral measures involve significant judgment on the part of an observer or a rater. **Interrater reliability** is the extent to which different observers are consistent in their judgments. For example, if you were interested in measuring university students' social skills, you could make video recordings of them as they interacted with another student whom they are meeting for the first time. Then you could have two or more observers watch the videos and rate each student's level of social skills. To the extent that each participant does, in fact, have some level of social skills that can be detected by an attentive observer, different observers' ratings should be highly correlated with each other.



Validity

Validity, another key element of assessing measurement quality, is the extent to which the scores from a measure represent the variable they are intended to. But how do researchers make this judgment? We have already considered one factor that they take into account—reliability. When a measure has good test-retest reliability and internal consistency, researchers should be more confident that the scores represent what they are supposed to. There has to be more to it, however, because a measure can be extremely reliable but have no validity whatsoever. As an absurd example, imagine someone who believes that people's index finger length reflects their self-esteem and therefore tries to measure self-esteem by holding a ruler up to people's index fingers. Although this measure would have extremely good test-retest reliability, it would have absolutely no validity. The fact that one person's index finger is a centimeter longer than another's would indicate nothing about which one had higher self-esteem.

Discussions of validity usually divide it into several distinct "types." But a good way to interpret these types is that they are other kinds of evidence—in addition to reliability—that should be taken into account when judging the validity of a measure.

Face validity

Face validity is the extent to which a measurement method appears "on its face" to measure the construct of interest. Most people would expect a self-esteem questionnaire to include items about whether they see themselves as a person of worth and whether they think they have good qualities. So a questionnaire that included these kinds of items would have good face validity. The finger-length method of measuring self-esteem, on the other hand, seems to have nothing to do with self-esteem and therefore has poor face validity. Although face validity can be assessed quantitatively—for example, by having a large sample of people rate a measure in terms of whether it appears to measure what it is intended to—it is usually assessed informally.

Face validity is at best a very weak kind of evidence that a measurement method is measuring what it is supposed to. One reason is that it is based on people's intuitions about human behavior, which are frequently wrong. It is also the case that many established measures in psychology work quite well despite lacking face validity. The Minnesota Multiphasic Personality Inventory-2 (MMPI-2) measures many personality characteristics and disorders by having people decide whether each of over 567 different statements applies to them—where many of the statements do not have any obvious relationship to the construct that they measure. For example, the items "I enjoy detective or mystery stories" and "The sight of blood doesn't frighten me or make me sick" both measure the suppression of aggression. In this case, it is not the participants' literal answers to these questions that are of interest, but rather whether the pattern of the participants' responses to a series of questions matches those of individuals who tend to suppress their aggression.

Content validity

Content validity is the extent to which a measure "covers" the construct of interest. For example, if a researcher conceptually defines test anxiety as involving both sympathetic nervous system activation (leading to nervous feelings) and negative thoughts, then his measure of test anxiety should include items about both nervous feelings and negative thoughts. Or consider that attitudes are usually defined as involving thoughts, feelings, and actions toward something. By this conceptual definition, a person has a positive attitude toward exercise to the extent that they think positive thoughts about exercising, feels good about exercising, and actually exercises. So to have good content validity, a measure of people's attitudes toward exercise would have to reflect all three of these aspects. Like face validity, content validity is not usually assessed quantitatively. Instead, it is assessed by carefully checking the measurement method against the conceptual definition of the construct.

Criterion validity

Criterion validity is the extent to which people's scores on a measure are correlated with other variables (known as criteria) that one would expect them to be correlated with. For example, people's scores on a new measure of test anxiety should be negatively correlated with their performance on an important school exam. If it were found that people's scores were in fact negatively correlated with their exam performance, then this would be a piece of evidence that these scores really represent people's test anxiety. But if it were found that people scored equally well on the exam regardless of their test anxiety scores, then this would cast doubt on the validity of the measure.

A criterion can be any variable that one has reason to think should be correlated with the construct being measured, and there will usually be many of them. For example, one would expect test anxiety scores to be negatively correlated with exam performance and course grades and positively correlated with general anxiety and with blood pressure during an exam. Or imagine that a researcher develops a new measure of physical risk taking. People's scores on this measure should be correlated with their participation in "extreme" activities such as snowboarding and rock climbing, the number of speeding tickets they have received, and even the number of broken bones they have had over the years. When the criterion is measured at the same time as the construct, criterion validity is referred to as **concurrent validity**; however, when the criterion is measured at some point in the future (after the construct has been measured), it is referred to as **predictive validity** (because scores on the measure have "predicted" a future outcome).

Discriminant validity

Discriminant validity, on the other hand, is the extent to which scores on a measure are *not* correlated with measures of variables that are conceptually distinct. For example, self-esteem is a general attitude toward the self that is fairly stable over time. It is not the same as mood, which is how good or bad one happens to be feeling right now. So people's scores on a new measure of self-esteem should not be very highly correlated with their moods. If the new measure of self-esteem were highly correlated with a measure of mood, it could be argued that the new measure is not really measuring self-esteem; it is measuring mood instead.

Increasing the reliability and validity of measures

We have reviewed the types of errors and how to evaluate our measures based on reliability and validity considerations. However, what can we do while selecting or creating our tool so that we minimize the potential of errors? Many of our options were covered in our discussion about reliability and validity.

Nevertheless, the following table provides a quick summary of things that you should do when creating or selecting a measurement tool. While not all of these will be feasible in your project, it is important to include easy-to-implement measures in your research context.

Make sure that you engage in a rigorous literature review so that you understand the concept that you are studying. This means understanding the different ways that your concept may manifest itself. This review should include a search for existing instruments.[12]

- Do you understand all the dimensions of your concept? Do you have a good understanding of the content dimensions of your concept(s)?
- What instruments exist? How many items are on the existing instruments? Are these instruments appropriate for your population?
- Are these instruments standardized? Note: If an instrument is standardized, that means it has been rigorously studied and tested.

Consult content experts to review your instrument. This is a good way to check the face validity of your items. Additionally, content experts can also help you understand the content validity.[13]

- Do you have access to a reasonable number of content experts? If not, how can you locate them?
- Did you provide a list of critical questions for your content reviewers to use in the reviewing process?

Pilot test your instrument on a sufficient number of people and get detailed feedback.[14] Ask your group to provide feedback on the wording and clarity of items. Keep detailed notes and make adjustments BEFORE you administer your final tool.

- How many people will you use in your pilot testing?
- How will you set up your pilot testing so that it mimics the actual process of administering your tool?
- How will you receive feedback from your pilot testing group? Have you provided a list of questions for your group to think about?

Provide training for anyone collecting data for your project.[15] You should provide those helping you with a written research protocol that explains all of the steps of the project. You should also problem solve and answer any questions that those helping you may have. This will increase the chances that your tool will be administered in a consistent manner.

- How will you conduct your orientation/training? How long will it be? What modality?
- How will you select those who will administer your tool? What qualifications do they need?

When thinking of items, use a higher level of measurement, if possible.[16] This will provide more information and you can always downgrade to a lower level of measurement later.

- Have you examined your items and the levels of measurement?
- Have you thought about whether you need to modify the type of data you are collecting? Specifically, are you asking for information that is too specific (at a higher level of measurement) which may reduce participants' willingness to participate?

Use multiple indicators for a variable.[17] Think about the number of items that you will include in your tool.

- Do you have enough items? Enough indicators? The correct indicators?

Conduct an item-by-item assessment of multiple-item measures.[18] When you do this assessment, think about each word and how it changes the meaning of your item.

- Are there items that are redundant? Do you need to modify, delete, or add items?



Types of error

As you can see, measures never perfectly describe what exists in the real world. Good measures demonstrate validity and reliability but will always have some degree of error. **Systematic error** (also called bias) causes our measures to consistently output incorrect data in one direction or another on a measure, usually due to an identifiable process. Imagine you created a measure of height, but you didn't put an option for anyone over six feet tall. If you gave that measure to your local college or university, some of the taller students might not be measured accurately. In fact, you would be under the mistaken impression that the tallest person at your school was six feet tall, when in actuality there are likely people taller than six feet at your school. This error seems innocent, but if you were using that measure to help you build a new building, those people might hit their heads!

A less innocent form of error arises when researchers word questions in a way that might cause participants to think one answer choice is preferable to another. For example, if I were to ask you "Do you think global warming is caused by human activity?" you would probably feel comfortable answering honestly. But what if I asked you "Do you agree with 99% of scientists that global warming is caused by human activity?" Would you feel comfortable saying no, if that's what you honestly felt? I doubt it. That is an example of a **leading question**, a question with wording that influences how a participant responds. We'll discuss leading questions and other problems in question wording in greater detail in Chapter 12.

In addition to error created by the researcher, your participants can cause error in measurement. Some people will respond without fully understanding a question, particularly if the question is worded in a confusing way. Let's consider another potential source or error. If we asked people if they always washed their hands after using the bathroom, would we expect people to be perfectly honest? Polling people about whether they wash their hands after using the bathroom might only elicit what people would like others to think they do, rather than what they actually do. This is an example of **social desirability bias**, in which participants in a research study want to present themselves in a positive, socially desirable way to the researcher. People in your study will want to seem tolerant, open-minded, and intelligent, but their true feelings may be closed-minded, simple, and biased. Participants may lie in this situation. This occurs often in political polling, which may show greater support for a candidate from a minority race, gender, or political party than actually exists in the electorate.

A related form of bias is called **acquiescence bias**, also known as "yea-saying." It occurs when people say yes to whatever the researcher asks, even when doing so contradicts previous answers. For example, a person might say yes to both "I am a confident leader in group discussions" and "I feel anxious interacting in group discussions." Those two responses are unlikely to both be true for the same person. Why would someone do this? Similar to social desirability, people want to be agreeable and nice to the researcher asking them questions or they might ignore contradictory feelings when responding to each question. You could interpret this as someone saying "yeah, I guess." Respondents may also act on cultural reasons, trying to "save face" for themselves or the person asking the questions. Regardless of the reason, the results of your measure don't match what the person truly feels.

So far, we have discussed sources of error that come from choices made by respondents or researchers. Systematic errors will result in responses that are incorrect in one direction or another. For example, social desirability bias usually means that the number of people who *say* they will vote for a third party in an election is greater than the number of people who actually vote for that candidate. Systematic errors such as these can be reduced, but random error can never be eliminated. Unlike systematic error, which biases responses consistently in one direction or another, **random error** is unpredictable and does not consistently result in scores that are consistently higher or lower on a given measure. Instead, random error is more like statistical noise, which will likely average out across participants.

Random error is present in any measurement. If you've ever stepped on a bathroom scale twice and gotten two slightly different results, maybe a difference of a tenth of a pound, then you've experienced random error. Maybe you were standing slightly differently or had a fraction of your foot off of the scale the first time. If you were to take enough measures of your weight on the same scale, you'd be able to figure out your true weight. In social science, if you gave someone a scale measuring depression on a day after they lost their job, they would likely score differently than if they had just gotten a promotion and a raise. Even if the person were clinically depressed, our measure is subject to influence by the random occurrences of life. Thus, social scientists speak with humility about our measures. We are reasonably confident that what we found is true, but we must always acknowledge that our measures are only an approximation of reality.

Humility is important in scientific measurement, as errors can have real consequences. At the time I'm writing this, my wife and I are expecting our first child. Like most people, we used a pregnancy test from the pharmacy. If the test said my wife was pregnant when she was not pregnant, that would be a **false positive**. On the other hand, if the test indicated that she was not pregnant when she was in fact pregnant, that would be a **false negative**. Even if the test is 99% accurate, that means that one in a hundred women will get an erroneous result when they use a home pregnancy test. For us, a false positive would have been initially exciting, then devastating when we found out we were not having a child. A false negative would have been disappointing at first and then quite shocking when we found out we were indeed having a child. While both false positives and false negatives are not very likely for home pregnancy tests (when taken correctly), measurement error can have consequences for the people being measured.

Key Takeaways

- Reliability is a matter of consistency.
- Validity is a matter of accuracy.
- There are many types of validity and reliability.
- Systematic error may arise from the researcher, participant, or measurement instrument.
- Systematic error biases results in a particular direction, whereas random error can be in any direction.
- All measures are prone to error and should interpreted with humility.

Exercises

Use the measurement tools you located in the previous exercise. Evaluate the reliability and validity of these tools. Hint: You will need to go into the literature to "research" these tools.

- Provide a clear statement regarding the reliability and validity of these tools. What strengths did you notice? What were the limitations?
- Think about your **target population**. Are there changes that need to be made in order for one of these tools to be appropriate for your population?
- If you decide to create your own tool, how will you assess its validity and reliability?

11.4 Ethical and social justice considerations

Learning Objectives

Learners will be able to...

- Identify potential cultural, ethical, and social justice issues in measurement.

With your variables operationalized, it's time to take a step back and look at how measurement in social science impact our daily lives. As we will see, how we measure things is both shaped by power arrangements inside our society, and more insidiously, by establishing what is scientifically true, measures have their own power to influence the world. Just like reification in the conceptual world, how we operationally define concepts can reinforce or fight against oppressive forces.



Data equity

How we decide to measure our variables determines what kind of data we end up with in our research project. Because scientific processes are a part of our sociocultural context, the same biases and oppressions we see in the real world can be manifested or even magnified in research data. Jagadish and colleagues (2021)[19] presents four dimensions of data equity that are relevant to consider: in representation of non-dominant groups within data sets; in how data is collected, analyzed, and combined across datasets; in equitable and participatory access to data, and finally in the outcomes associated with the data collection. Historically, we have mostly focused on the outcomes of measures producing outcomes that are biased in one way or another, and this section reviews many such examples. However, it is important to note that equity must also come from designing measures that respond to questions like:

1. Are groups historically suppressed from the data record represented in the sample?

2. Are equity data gathered by researchers and used to uncover and quantify inequity?
3. Are the data accessible across domains and levels of expertise, and can community members participate in the design, collection, and analysis of the public data record?
4. Are the data collected used to monitor and mitigate inequitable impacts?

So, it's not just about whether measures work for one population for another. Data equity is about the context in which data are created from how we measure people and things. We agree with these authors that data equity should be considered within the context of automated decision-making systems and recognizing a broader literature around the role of administrative systems in creating and reinforcing discrimination. To combat the inequitable processes and outcomes we describe below, researchers must foreground equity as a core component of measurement.

Flawed measures & missing measures

At the end of every semester, students in just about every university classroom in the United States complete similar student evaluations of teaching (SETs). Since every student is likely familiar with these, we can recognize many of the concepts we discussed in the previous sections. There are number of rating scale questions that ask you to rate the professor, class, and teaching effectiveness on a scale of 1-5. Scores are averaged across students and used to determine the quality of teaching delivered by the faculty member. SETs scores are often a principle component of how faculty are reappointed to teaching positions. Would it surprise you to learn that student evaluations of teaching are of questionable quality? If your instructors are assessed with a biased or incomplete measure, how might that impact your education?

Most often, student scores are averaged across questions and reported as a final average. This average is used as one factor, often the most important factor, in a faculty member's reappointment to teaching roles. We learned in this chapter that rating scales are ordinal, not interval or ratio, and the data are categories not numbers. Although rating scales use a familiar 1-5 scale, the numbers 1, 2, 3, 4, & 5 are really just helpful labels for categories like "excellent" or "strongly agree." If we relabeled these categories as letters (A-E) rather than as numbers (1-5), how would you average them?

Averaging ordinal data is methodologically dubious, as the numbers are merely a useful convention. As you will learn in Chapter 14, taking the **median** value is what makes the most sense with ordinal data. Median values are also less sensitive to outliers. So, a single student who has strong negative or positive feelings towards the professor could bias the class's SETs scores higher or lower than what the "average" student in the class would say, particularly for classes with few students or in which fewer students completed evaluations of their teachers.

We care about teaching quality because more effective teachers will produce more knowledgeable and capable students. However, student evaluations of teaching are not particularly good indicators of

teaching quality and are not associated with the independently measured learning gains of students (i.e., test scores, final grades) (Uttl et al., 2017).[20] This speaks to the lack of criterion validity. Higher teaching quality should be associated with better learning outcomes for students, but across multiple studies stretching back years, there is no association that cannot be better explained by other factors. To be fair, there are scholars who find that SETs are valid and reliable. For a thorough defense of SETs as well as a historical summary of the literature see Benton & Cashin (2012).[21]

Even though student evaluations of teaching often contain dozens of questions, researchers often find that the questions are so highly interrelated that one concept (or factor, as it is called in a factor analysis) explains a large portion of the variance in teachers' scores on student evaluations (Clayson, 2018).[22] Personally, I believe based on completing SETs myself that factor is probably best conceptualized as student satisfaction, which is obviously worthwhile to measure, but is conceptually quite different from teaching effectiveness or whether a course achieved its intended outcomes. The lack of a clear operational and conceptual definition for the variable or variables being measured in student evaluations of teaching also speaks to a lack of content validity. Researchers check content validity by comparing the measurement method with the conceptual definition, but without a clear conceptual definition of the concept measured by student evaluations of teaching, it's not clear how we can know our measure is valid. Indeed, the lack of clarity around what is being measured in teaching evaluations impairs students' ability to provide reliable and valid evaluations. So, while many researchers argue that the class average SETs scores are reliable in that they are consistent over time and across classes, it is unclear what exactly is being measured even if it is consistent (Clayson, 2018).[23]

As a faculty member, there are a number of things I can do to influence my evaluations and disrupt validity and reliability. Since SETs scores are associated with the grades students perceive they will receive (e.g., Boring et al., 2016),[24] guaranteeing everyone a final grade of A in my class will likely increase my SETs scores and my chances at tenure and promotion. I could time an email reminder to complete SETs with releasing high grades for a major assignment to boost my evaluation scores. On the other hand, student evaluations might be coincidentally timed with poor grades or difficult assignments that will bias student evaluations downward. Students may also infer I am manipulating them and give me lower SET scores as a result. To maximize my SET scores and chances and promotion, I also need to select which courses I teach carefully. Classes that are more quantitatively oriented generally receive lower ratings than more qualitative and humanities-driven classes, which makes my decision to teach social work research a poor strategy (Uttl & Smibert, 2017).[25] The only manipulative strategy I will admit to using is bringing food (usually cookies or donuts) to class during the period in which students are completing evaluations. Measurement is impacted by context.

As a white cis-gender male educator, I am adversely impacted by SETs because of their sketchy validity, reliability, and methodology. The other flaws with student evaluations actually help me while disadvantaging teachers from oppressed groups. Heffernan (2021)[26] provides a comprehensive overview of the sexism, racism, ableism, and prejudice baked into student evaluations:

> "In all studies relating to gender, the analyses indicate that the highest scores are awarded in

> subjects filled with young, white, male students being taught by white English first language speaking, able-bodied, male academics who are neither too young nor too old (approx. 35–50 years of age), and who the students believe are heterosexual. Most deviations from this scenario in terms of student and academic demographics equates to lower SET scores. These studies thus highlight that white, able-bodied, heterosexual, men of a certain age are not only the least affected, they benefit from the practice. When every demographic group who does not fit this image is significantly disadvantaged by SETs, these processes serve to further enhance the position of the already privileged" (p. 5).

The staggering consistency of studies examining prejudice in SETs has led to some rather superficial reforms like reminding students to not submit racist or sexist responses in the written instructions given before SETs. Yet, even though we know that SETs are systematically biased against women, people of color, and people with disabilities, the overwhelming majority of universities in the United States continue to use them to evaluate faculty for promotion or reappointment. From a critical perspective, it is worth considering why university administrators continue to use such a biased and flawed instrument. SETs produce data that make it easy to compare faculty to one another and track faculty members over time. Furthermore, they offer students a direct opportunity to voice their concerns and highlight what went well.

As the people with the greatest knowledge about what happened in the classroom as whether it met their expectations, providing students with open-ended questions is the most productive part of SETs. Personally, I have found focus groups written, facilitated, and analyzed by student researchers to be more insightful than SETs. MSW student activists and leaders may look for ways to evaluate faculty that are more methodologically sound and less systematically biased, creating institutional change by replacing or augmenting traditional SETs in their department. There is very rarely student input on the criteria and methodology for teaching evaluations, yet students are the most impacted by helpful or harmful teaching practices.

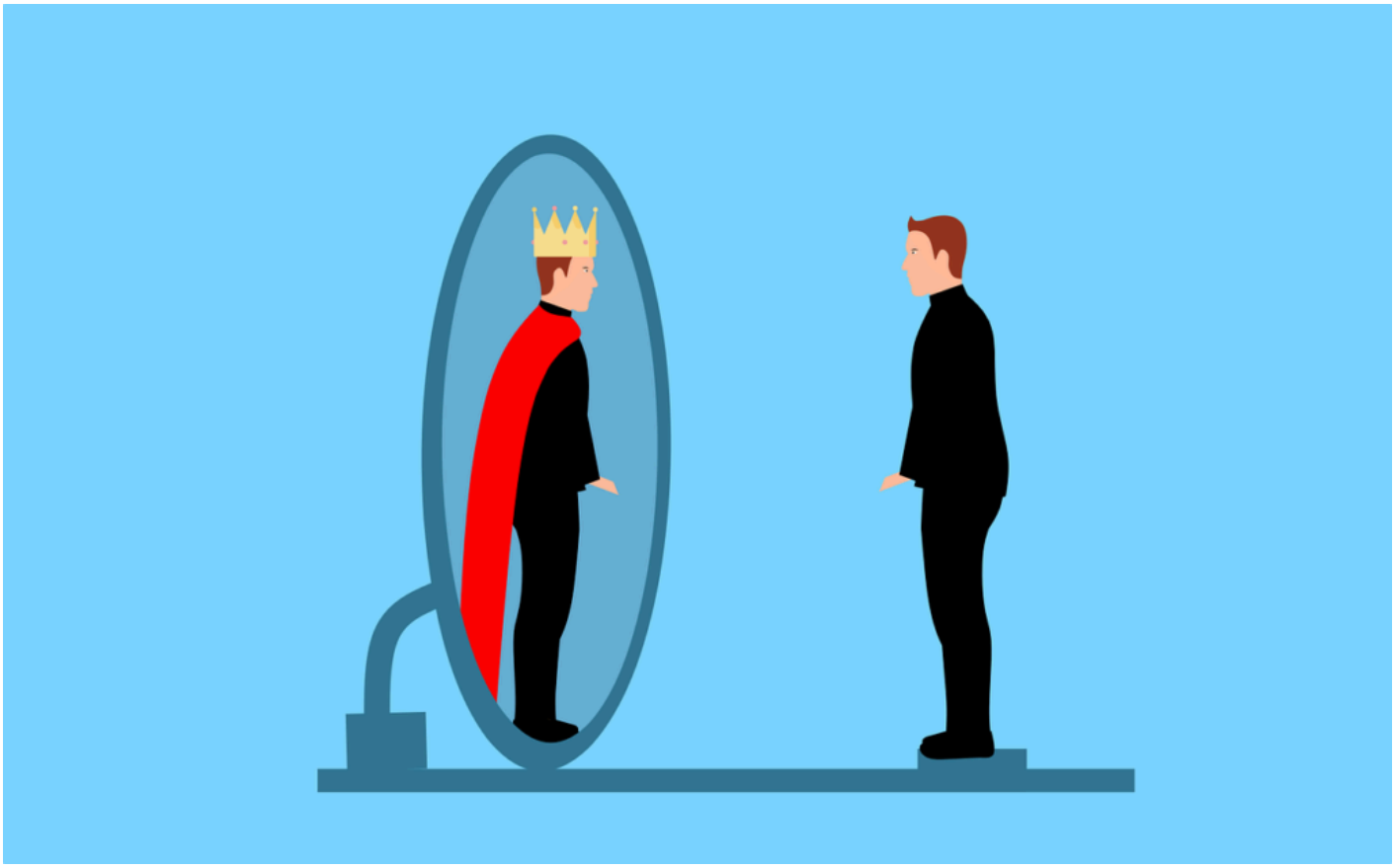
Students should fight for better assessment in the classroom because well-designed assessments provide documentation to support more effective teaching practices and discourage unhelpful or discriminatory practices. Flawed assessments like SETs, can lead to a lack of information about problems with courses, instructors, or other aspects of the program. Think critically about what data your program uses to gauge its effectiveness. How might you introduce areas of student concern into how your program evaluates itself? Are there issues with food or housing insecurity, mentorship of nontraditional and first generation students, or other issues that faculty should consider when they evaluate their program? Finally, as you transition into practice, think about how your agency measures its impact and how it privileges or excludes client and community voices in the assessment process.

Let's consider an example from social work practice. Let's say you work for a mental health organization that serves youth impacted by community violence. How should you measure the impact of your services on your clients and their community? Schools may be interested in reducing truancy, self-injury, or other behavioral concerns. However, by centering delinquent behaviors in how we measure

our impact, we may be inattentive to the role of trauma, family dynamics, and other cognitive and social processes beyond "delinquent behavior." Indeed, we may bias our interventions by focusing on things that are not as important to clients' needs. Social workers want to make sure their programs are improving over time, and we rely on our measures to indicate what to change and what to keep. If our measures present a partial or flawed view, we lose our ability to establish and act on scientific truths.

While writing this section, one of the authors wrote this commentary article addressing potential racial bias in social work licensing exams. If you are interested in an example of missing or flawed measures that relates to systems *your* social work practice is governed by (rather than SETs which govern *our* practice in higher education) check it out!

You may also be interested in similar arguments against the standard grading scale (A-F), and why grades (numerical, letter, etc.) do not do a good job of measuring learning. Think critically about the role that grades play in your life as a student, your self-concept, and your relationships with teachers. Your test and grade anxiety is due in part to how your learning is measured. Those measurements end up becoming an official record of your scholarship and allow employers or funders to compare you to other scholars. The stakes for measurement are the same for participants in your research study.



Self-reflection and measurement

Student evaluations of teaching are just like any other measure. How we decide to measure what we are researching is influenced by our backgrounds, including our culture, implicit biases, and individual experiences. For me as a middle-class, cisgender white woman, the decisions I make about measurement will probably default to ones that make the most sense to me and others like me, and thus measure characteristics about us most accurately if I don't think carefully about it. There are major implications for research here because this could affect the validity of my measurements for other populations.

This doesn't mean that standardized scales or indices, for instance, won't work for diverse groups of people. What it means is that researchers must not ignore difference in deciding how to measure a variable in their research. Doing so may serve to push already marginalized people further into the margins of academic research and, consequently, social work intervention. Social work researchers, with our strong orientation toward celebrating difference and working for social justice, are obligated to keep this in mind for ourselves and encourage others to think about it in their research, too.

This involves reflecting on *what* we are measuring, *how* we are measuring, and *why* we are measuring. Do we have biases that impacted how we operationalized our concepts? Did we include **stakeholders** and **gatekeepers** in the development of our concepts? This can be a way to gain access to vulnerable populations. What feedback did we receive on our measurement process and how was it incorporated into our work? These are all questions we should ask as we are thinking about measurement. Further, engaging in this intentionally reflective process will help us maximize the chances that our measurement will be accurate and as free from bias as possible.

The NASW Code of Ethics discusses social work research and the importance of engaging in practices that do not harm participants. This is especially important considering that many of the topics studied by social workers are those that are disproportionately experienced by marginalized and oppressed populations. Some of these populations have had negative experiences with the research process: historically, their stories have been viewed through lenses that reinforced the dominant culture's standpoint. Thus, when thinking about measurement in research projects, we must remember that the way in which concepts or constructs are measured will impact how marginalized or oppressed persons are viewed. It is important that social work researchers examine current tools to ensure appropriateness for their population(s). Sometimes this may require researchers to use existing tools. Other times, this may require researchers to adapt existing measures or develop completely new measures in collaboration with community stakeholders. In summary, the measurement protocols selected should be tailored and attentive to the experiences of the communities to be studied.

Unfortunately, social science researchers do not do a great job of sharing their measures in a way that allows social work practitioners and administrators to use them to evaluate the impact of interventions and programs on clients. Few scales are published under an open copyright license that allows other

people to view it for free and share it with others. Instead, the best way to find a scale mentioned in an article is often to simply search for it in Google with ".pdf" or ".docx" in the query to see if someone posted a copy online (usually in violation of copyright law). As we discussed in Chapter 4, this is an issue of information privilege, or the structuring impact of oppression and discrimination on groups' access to and use of scholarly information. As a student at a university with a research library, you can access the Mental Measurement Yearbook to look up scales and indexes that measure client or program outcomes while researchers unaffiliated with university libraries cannot do so. Similarly, the vast majority of scholarship in social work and allied disciplines does not share measures, data, or other research materials openly, a best practice in open and collaborative science. It is important to underscore these structural barriers to using valid and reliable scales in social work practice. An invalid or unreliable outcome test may cause ineffective or harmful programs to persist or may worsen existing prejudices and oppressions experienced by clients, communities, and practitioners.

But it's not just about reflecting and identifying problems and biases in our measurement, operationalization, and conceptualization—what are we going to *do* about it? Consider this as you move through this book and become a more critical consumer of research. Sometimes there isn't something you can do in the immediate sense—the literature base at this moment just is what it is. But how does that inform what you will do later?

A place to start: Stop oversimplifying race

We will address many more of the critical issues related to measurement in the next chapter. One way to get started in bringing cultural awareness to scientific measurement is through a critical examination of how we analyze race quantitatively. There are many important methodological objections to how we measure the impact of race. We encourage you to watch Dr. Abigail Sewell's three-part workshop series called "Nested Models for Critical Studies of Race & Racism" for the Inter-university Consortium for Political and Social Research (ICPSR). She discusses how to operationalize and measure inequality, racism, and intersectionality and critiques researchers' attempts to oversimplify or overlook racism when we measure concepts in social science. If you are interested in developing your social work research skills further, consider applying for financial support from your university to attend an ICPSR summer seminar like Dr. Sewell's where you can receive more advanced and specialized training in using research for social change.

- Part 1: Creating Measures of Supraindividual Racism (2-hour video)
- Part 2: Evaluating Population Risks of Supraindividual Racism (2-hour video)
- Part 3: Quantifying Intersectionality (2-hour video)

Key Takeaways

- Social work researchers must be attentive to personal and institutional biases in the measurement process that affect marginalized groups.
- What is measured and how it is measured is shaped by power, and social workers must be critical and self-reflective in their research projects.

Exercises

Think about your current research question and the tool(s) that you will use to gather data. Even if you haven't chosen your tools yet, think of some that you have encountered in the literature so far.

- How does your positionality and experience shape what variables you are choosing to measure and how you measure them?
- Evaluate the measures in your study for potential biases.
- If you are using measures developed by another researcher, investigate whether it is valid and reliable in other studies across cultures.

Media Attributions

- jose-martin-ramirez-carrasco-z2tinW7Z6Bw-unsplash © José Martín Ramírez Carrasco
- simone-pellegrini-L3QG_OBluT0-unsplash © Simone Pellegrini
- man-5573925_1280 © Mohamed Hassan
- detective-152085_1280 © OpenClipart-Vectors
- tommy-van-kessel-BXFY8_iii9M-unsplash © Tommy van Kessel
- markus-winkler-htShI76GLDM-unsplash © Markus Winkler
- Figure 11.1 Example Rating Scales for Closed-Ended Questionnaire Items © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, & Dana C. Leighton is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- survey-4441595_1920 © Christina Smith
- mockup-graphics-i1iqQRLULlg-unsplash © Mockup Graphics
- Test-retest reliability © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, & Dana C. Leighton is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- dartboard-5518055_1920 © FlitsArt
- error-63628_1920 © Gerd Altmann

- mitchell-griest-ImgBdiGAl4c-unsplash © Mitchell Griest
- man-5732103_1280 © Mohamed Hassan

Notes

1. Milkie, M. A., & Warner, C. H. (2011). Classroom learning environments and the mental health of first grade children. *Journal of Health and Social Behavior*, 52, 4–22
2. Kaplan, A. (1964). *The conduct of inquiry: Methodology for behavioral science*. San Francisco, CA: Chandler Publishing Company.
3. Earl Babbie offers a more detailed discussion of Kaplan's work in his text. You can read it in: Babbie, E. (2010). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.
4. Kaplan, A. (1964). *The conduct of inquiry: Methodology for behavioral science*. San Francisco, CA: Chandler Publishing Company.
5. In this chapter, we will use the terms concept and construct interchangeably. While each term has a distinct meaning in research conceptualization, we do not believe this distinction is important enough to warrant discussion in this chapter.
6. Wong, Y. J., Steinfeldt, J. A., Speight, Q. L., & Hickman, S. J. (2010). Content analysis of Psychology of men & masculinity (2000–2008). *Psychology of Men & Masculinity*, 11(3), 170.
7. Kimmel, M. (2000). *The gendered society*. New York, NY: Oxford University Press; Kimmel, M. (2008). Masculinity. In W. A. Darity Jr. (Ed.), *International encyclopedia of the social sciences* (2nd ed., Vol. 5, p. 1–5). Detroit, MI: Macmillan Reference USA
8. Kimmel, M. & Aronson, A. B. (2004). *Men and masculinities*: A-J. Denver, CO: ABL-CLIO.
9. Krosnick, J.A. & Berent, M.K. (1993). Comparisons of party identification and policy preferences: The impact of survey question format. *American Journal of Political Science*, 27(3), 941-964.
10. Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*,140, 1–55.
11. Stevens, S. S. (1946). On the Theory of Scales of Measurement. *Science*, 103(2684), 677-680.
12. Sullivan G. M. (2011). A primer on the validity of assessment instruments. *Journal of graduate medical education*, 3(2), 119–120. doi:10.4300/JGME-D-11-00075.1
13. Sullivan G. M. (2011). A primer on the validity of assessment instruments. *Journal of graduate medical education*, 3(2), 119–120. doi:10.4300/JGME-D-11-00075.1
14. Engel, R. & Schutt, R. (2013). *The practice of research in social work (3rd. ed.)*. Thousand Oaks, CA: SAGE.
15. Engel, R. & Schutt, R. (2013). *The practice of research in social work (3rd. ed.)*. Thousand Oaks, CA: SAGE.
16. Engel, R. & Schutt, R. (2013). The practice of research in social work (3rd. ed.). Thousand Oaks, CA: SAGE.
17. Engel, R. & Schutt, R. (2013). The practice of research in social work (3rd. ed.). Thousand Oaks, CA: SAGE.
18. Engel, R. & Schutt, R. (2013). The practice of research in social work (3rd. ed.). Thousand Oaks, CA: SAGE.
19. Jagadish, H. V., Stoyanovich, J., & Howe, B. (2021). COVID-19 Brings Data Equity Challenges to the Fore. *Digital Government: Research and Practice*, 2(2), 1-7.
20. Uttl, B., White, C. A., & Gonzalez, D. W. (2017). Meta-analysis of faculty's teaching effectiveness: Student evaluation of teaching ratings and student learning are not related. *Studies in Educational Evaluation*, 54, 22-42.
21. Benton, S. L., & Cashin, W. E. (2014). Student ratings of instruction in college and university courses. In *Higher education: Handbook of theory and research* (pp. 279-326). Springer, Dordrecht.
22. Clayson, D. E. (2018). Student evaluation of teaching and matters of reliability. *Assessment & Evaluation in Higher Education*, 43(4), 666-681.
23. Clayson, D. E. (2018). Student evaluation of teaching and matters of reliability. *Assessment & Evaluation in Higher Education*, 43(4), 666-681.

24. Boring, A., Ottoboni, K., & Stark, P. (2016). Student evaluations of teaching (mostly) do not measure teaching effectiveness. *ScienceOpen Research*.
25. Uttl, B., & Smibert, D. (2017). Student evaluations of teaching: teaching quantitative courses can be hazardous to one's career. *Peer Journal*, 5, e3299.
26. Heffernan, T. (2021). Sexism, racism, prejudice, and bias: a literature review and synthesis of research surrounding student evaluations of courses and teaching. *Assessment & Evaluation in Higher Education*, 1-11.

12. Survey design

Chapter Outline

1. What is a survey, and when should you use one? (14 minute read)
2. Collecting data using surveys (29 minute read)
3. Writing effective questions and questionnaires (38 minute read)
4. Bias and cultural considerations (22 minute read)

Content warning: examples in this chapter contain references to drug use, racism in politics, COVD-19, undocumented immigration, basic needs insecurity in higher education, school discipline, drunk driving, poverty, child sexual abuse, colonization and Global North/West hegemony, and ethnocentrism in science.

12.1 What is a survey, and when should you use one?

Learning Objectives

Learners will be able to...

- Distinguish between survey as a research design and questionnaires used to measure concepts
- Identify the strengths and weaknesses of surveys
- Evaluate whether survey design fits with their research question

Students in my research methods classes often feel that surveys are self-explanatory. This feeling is understandable. Surveys are part of our everyday lives. Every time you call customer service, purchase a meal, or participate in a program, someone is handing you a survey to complete. Survey results are often discussed in the news, and perhaps you've even carried our a survey yourself. What could be so hard? Ask people a few quick questions about your research question and you're done, right?

Students quickly learn that there is more to constructing a good survey than meets the eye. Survey design takes a great deal of thoughtful planning and often many rounds of revision, but it is worth the effort. As we'll learn in this section, there are many benefits to choosing survey research as your data collection method particularly for student projects. We'll discuss what a survey is, its potential benefits and drawbacks, and what research projects are the best fit for survey design.

Is survey research right for your project?

To answer this question, the first thing we need to do is distinguish between a survey and a questionnaire. They might seem like they are the same thing, and in normal non-research contexts, they are used interchangeably. In this textbook, we define a **survey** as a research design in which a researcher poses a set of predetermined questions to an entire group, or **sample**, of individuals. That set of questions is the **questionnaire**, a research instrument consisting of a set of questions (items) intended to capture responses from participants in a standardized manner. Basically, researchers use questionnaires as part of survey research. Questionnaires are the tool. Surveys are one research design for using that tool.

Let's contrast how survey research uses questionnaires with the other quantitative design we will discuss in this book–**experimental design**. Questionnaires in experiments are called **pretests** and **posttests** and they measure how participants change over time as a result of an intervention (e.g., a group therapy session) or a stimulus (e.g., watching a video of a political speech) introduced by the researcher. We will discuss experiments in greater detail in Chapter 13, but if testing an intervention or measuring how people react to something you do sounds like what you want to do with your project, experiments might be the best fit for you.



Surveys, on the other hand, do not measure the impact of an intervention or stimulus introduced by the researcher. Instead, surveys look for patterns that already exist in the world based on how people self-report on a questionnaire. **Self-report** simply means that the participants in your research study are answering questions about themselves, regardless of whether they are presented on paper, electronically, or read aloud by the researcher. Questionnaires structure self-report data into a standardized format—with everyone receiving the exact same questions and answer choices in the same order[1]—which makes comparing data across participants much easier. Researchers using surveys try to influence their participants as little as possible because they want honest answers.

Questionnaires are completed by individual people, so the **unit of observation** is almost always individuals, rather than groups or organizations. Generally speaking, individuals provide the most informed data about their own lives and experiences, so surveys often also use individuals as the **unit of analysis**. Surveys are also helpful in analyzing dyads, families, groups, organizations, and communities, but regardless of the unit of analysis, the unit of observation for surveys is usually individuals. Keep this in mind as you think about sampling for your project.

In some cases, getting the most-informed person to complete your questionnaire may not be **feasible**. As we discussed in Chapter 2 and Chapter 6, ethical duties to protect clients and vulnerable community members mean student research projects often study practitioners and other less-vulnerable populations rather than clients and community members. The ethical supervision needed via the IRB to complete projects that pose significant risks to participants takes time and effort, and as a result, student projects often rely on key informants like clinicians, teachers, and administrators who are less likely to be harmed by the survey. **Key informants** are people who are especially knowledgeable about your topic. If your study is about nursing, you should probably survey nurses. These considerations are more thoroughly addressed in Chapter 10. Sometimes, participants complete surveys on behalf of people in your target population who are infeasible to survey for some reason. Some examples of key informants include a head of household completing a survey about family finances or an administrator completing a survey about staff morale on behalf of their employees. In this case, the survey respondent is a **proxy**, providing their best informed guess about the responses other people might have chosen if they were able to complete the survey independently. You are relying on an individual unit of observation (one person filling out a self-report questionnaire) and group or organization unit of analysis (the family or organization the researcher wants to make conclusions about). Proxies are commonly used when the target population is not capable of providing consent or appropriate answers, as in young children and people with disabilities.

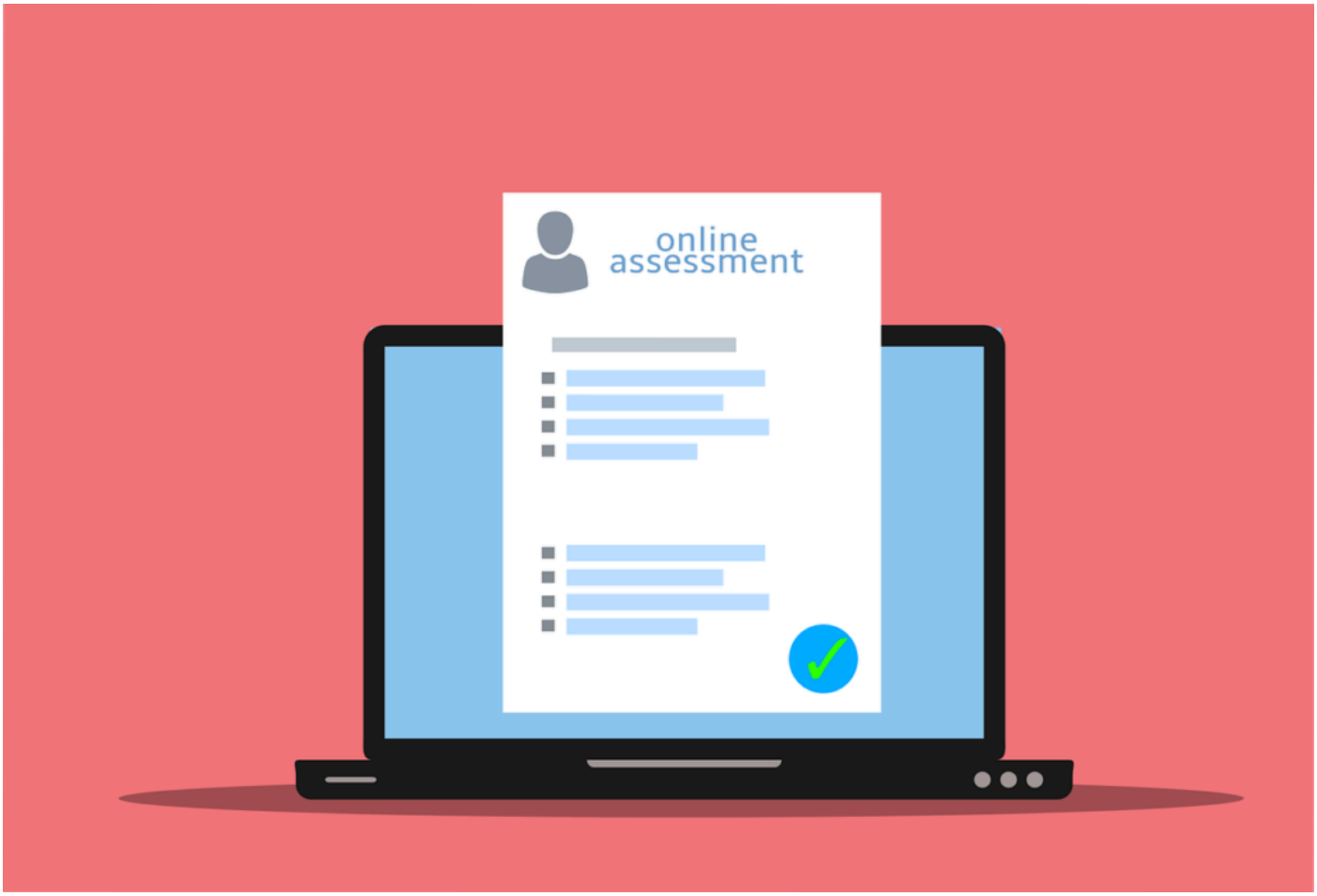
Proxies are relying on their best judgment of another person's experiences, and while that is valuable information, it may introduce bias and error into the research process. Student research projects, due to time and resource constraints, often include sampling people with second-hand knowledge, and this is simply one of many common limitations of their findings. Remember, every project has limitations. Social work researchers look for the most favorable choices in design and methodology, as there are no perfect projects. If you are planning to conduct a survey of people with second-hand knowledge of your topic, consider reworking your research question to be about something they have

more direct knowledge about and can answer easily. One common missed opportunity I see is student researchers who want to understand client outcomes (unit of analysis) by surveying practitioners (unit of observation). If a practitioner has a caseload of 30 clients, it's not really possible to answer a question like "how much progress have your clients made?" on a survey. Would they just average all 30 clients together? Instead, design a survey that asks them about their education, professional experience, and other things they know about first-hand. By making your unit of analysis and unit of observation the same, you can ensure the people completing your survey are able to provide informed answers.

Researchers may introduce measurement error if the person completing the questionnaire does not have adequate knowledge or has a biased opinion about the phenomenon of interest. For instance, many schools of social work market themselves based on the rankings of social work programs published by US News and World Report. Last updated in 2019, the methodology for these rankings is simply to send out a survey to deans, directors, and administrators at schools of social work. No graduation rates, teacher evaluations, licensure pass rates, accreditation data, or other considerations are a part of these rankings. It's literally a popularity contest in which each school is asked to rank the others on a scale of 1-5, and ranked by highest average score. What if an informant is unfamiliar with a school or has a personal bias against a school?[2] This could significantly skew results. One might also question the validity of such a questionnaire in assessing something as important and economically impactful as the quality of social work education. We might envision how students might demand and create more authentic measures of school quality.

In summary, survey design best fits with research projects that have the following attributes:

- Researchers plan to collect their own raw data, rather than secondary analysis of existing data.
- Researchers have access to the most knowledgeable people (that you can feasibly and ethically sample) to complete the questionnaire.
- Research question is best answered with quantitative methods.
- Individuals are the unit of observation, and in many cases, the unit of analysis.
- Researchers will try to observe things objectively and try not to influence participants to respond differently.
- Research questions asks about indirect observables–things participants can self-report on a questionnaire.
- There are valid, reliable, and commonly used scales (or other self-report measures) for the variables in the research question.



Strengths of survey methods

Researchers employing survey research as a research design enjoy a number of benefits. First, surveys are an excellent way to gather lots of information from many people. In a study by Blackstone (2013)[3] on older people's experiences in the workplace, researchers were able to mail a written questionnaire to around 500 people who lived throughout the state of Maine at a cost of just over $1,000. This cost included printing copies of a seven-page survey, printing a cover letter, addressing and stuffing envelopes, mailing the survey, and buying return postage for the survey. We realize that $1,000 is nothing to sneeze at, but just imagine what it might have cost to visit each of those people individually to interview them in person. You would have to dedicate a few weeks of your life at least, drive around the state, and pay for meals and lodging to interview each person individually. Researchers can double, triple, or even quadruple their costs pretty quickly by opting for an in-person method of data collection over a mailed survey. Thus, surveys are relatively *cost-effective*.

Related to the benefit of cost-effectiveness is a survey's potential for generalizability. Because surveys allow researchers to collect data from very large samples for a relatively low cost, survey methods lend themselves to probability sampling techniques, which we discussed in Chapter 10. When used with

probability sampling approaches, survey research is the best method to use when one hopes to gain a representative picture of the attitudes and characteristics of a large group. Unfortunately, student projects are quite often not able to take advantage of the generalizability of surveys because they use availability sampling rather than the more costly and time-intensive random sampling approaches that are more likely to elicit a representative sample. While the conclusions drawn from availability samples have far less generalizability, surveys are still a great choice for student projects and they provide data that can be followed up on by well-funded researchers to generate generalizable research.

Survey research is particularly adept at investigating **indirect observables**. Indirect observables are things we have to ask someone to self-report because we cannot observe them directly, such as people's preferences (e.g., political orientation), traits (e.g., self-esteem), attitudes (e.g., toward immigrants), beliefs (e.g., about a new law), behaviors (e.g., smoking or drinking), or factual information (e.g., income). Unlike qualitative studies in which these beliefs and attitudes would be detailed in unstructured conversations, surveys seek to systematize answers so researchers can make apples-to-apples comparisons across participants. Surveys are so flexible because you can ask about anything, and the variety of questions allows you to expand social science knowledge beyond what is naturally observable.

Survey research also tends to be a **reliable** method of inquiry. This is because surveys are standardized in that the same questions, phrased in exactly the same way, as they are posed to participants. Other methods, such as qualitative interviewing, which we'll learn about in Chapter 18, do not offer the same consistency that a quantitative survey offers. This is not to say that all surveys are always reliable. A poorly phrased question can cause respondents to interpret its meaning differently, which can reduce that question's reliability. Assuming well-constructed questions and survey design, one strength of this methodology is its potential to produce reliable results.

The versatility of survey research is also an asset. Surveys are used by all kinds of people in all kinds of professions. They can measure anything that people can self-report. Surveys are also appropriate for exploratory, descriptive, and explanatory research questions (though exploratory projects may benefit more from qualitative methods). Moreover, they can be delivered in a number of flexible ways, including via email, mail, text, and phone. We will describe the many ways to implement a survey later on in this chapter.

In sum, the following are benefits of survey research:

- Cost-effectiveness
- Generalizability
- Variety
- Reliability
- Versatility



Weaknesses of survey methods

As with all methods of data collection, survey research also comes with a few drawbacks. First, while one might argue that surveys are flexible in the sense that you can ask any kind of question about any topic we want, once the survey is given to the first participant, there is nothing you can do to change the survey without biasing your results. Because surveys want to minimize the amount of influence that a researcher has on the participants, everyone gets the same questionnaire. Let's say you mail a questionnaire out to 1,000 people and then discover, as responses start coming in, that your phrasing on a particular question seems to be confusing a number of respondents. At this stage, it's too late for a do-over or to change the question for the respondents who haven't yet returned their questionnaires. When conducting qualitative interviews or focus groups, on the other hand, a researcher can provide respondents further explanation if they're confused by a question and can tweak their questions as they learn more about how respondents seem to understand them. Survey researchers often ask colleagues, students, and others to pilot test their questionnaire and catch any errors prior to sending it to participants; however, once researchers distribute the survey to participants, there is little they can do to change anything.

Depth can also be a problem with surveys. Survey questions are standardized; thus, it can be difficult to ask anything other than very general questions that a broad range of people will understand. Because of this, survey results may not provide as detailed of an understanding as results obtained using methods of data collection that allow a researcher to more comprehensively examine whatever topic is being studied. Let's say, for example, that you want to learn something about voters' willingness to elect an African American president. General Social Survey respondents were asked, "If your party nominated an African American for president, would you vote for him if he were qualified for the job?" (Smith, 2009).[4] Respondents were then asked to respond either yes or no to the question. But what if someone's opinion was more complex than could be answered with a simple yes or no? What if, for example, a person was willing to vote for an African American man, but only if that person was a conservative, moderate, anti-abortion, antiwar, etc. Then we would miss out on that additional detail when the participant responded "yes," to our question. Of course, you could add a question to your survey about moderate vs. radical candidates, but could you do that for all of the relevant attributes of candidates for all people? Moreover, how do you know that moderate or antiwar means the same thing to everyone who participates in your survey? Without having a conversation with someone and asking them follow up questions, survey research can lack enough detail to understand how people truly think.

In sum, potential drawbacks to survey research include the following:

- Inflexibility
- Lack of depth
- Problems specific to cross-sectional surveys, which we will address in the next section.

Secondary analysis of survey data

This chapter is designed to help you conduct your own survey, but that is not the only option for social work researchers. Look back to Chapter 2 and recall our discussion of **secondary data analysis**. As we talked about previously, using data collected by another researcher can have a number of benefits. Well-funded researchers have the resources to recruit a large representative sample and ensure their measures are valid and reliable prior to sending them to participants. Before you get too far into designing your own data collection, make sure there are no existing data sets out there that you can use to answer your question. We refer you to Chapter 2 for all full discussion of the strengths and challenges of using secondary analysis of survey data.

Key Takeaways

- Strengths of survey research include its cost effectiveness, generalizability, variety, reliability, and versatility.

- Weaknesses of survey research include inflexibility and lack of potential depth. There are also weaknesses specific to cross-sectional surveys, the most common type of survey.

Exercises

If you are using quantitative methods in a student project, it is very likely that you are going to use survey design to collect your data.

- Check to make sure that your research question and study fit best with survey design using the criteria in this section
- Remind yourself of any limitations to generalizability based on your sampling frame.
- Refresh your memory on the operational definitions you will use for your dependent and independent variables.

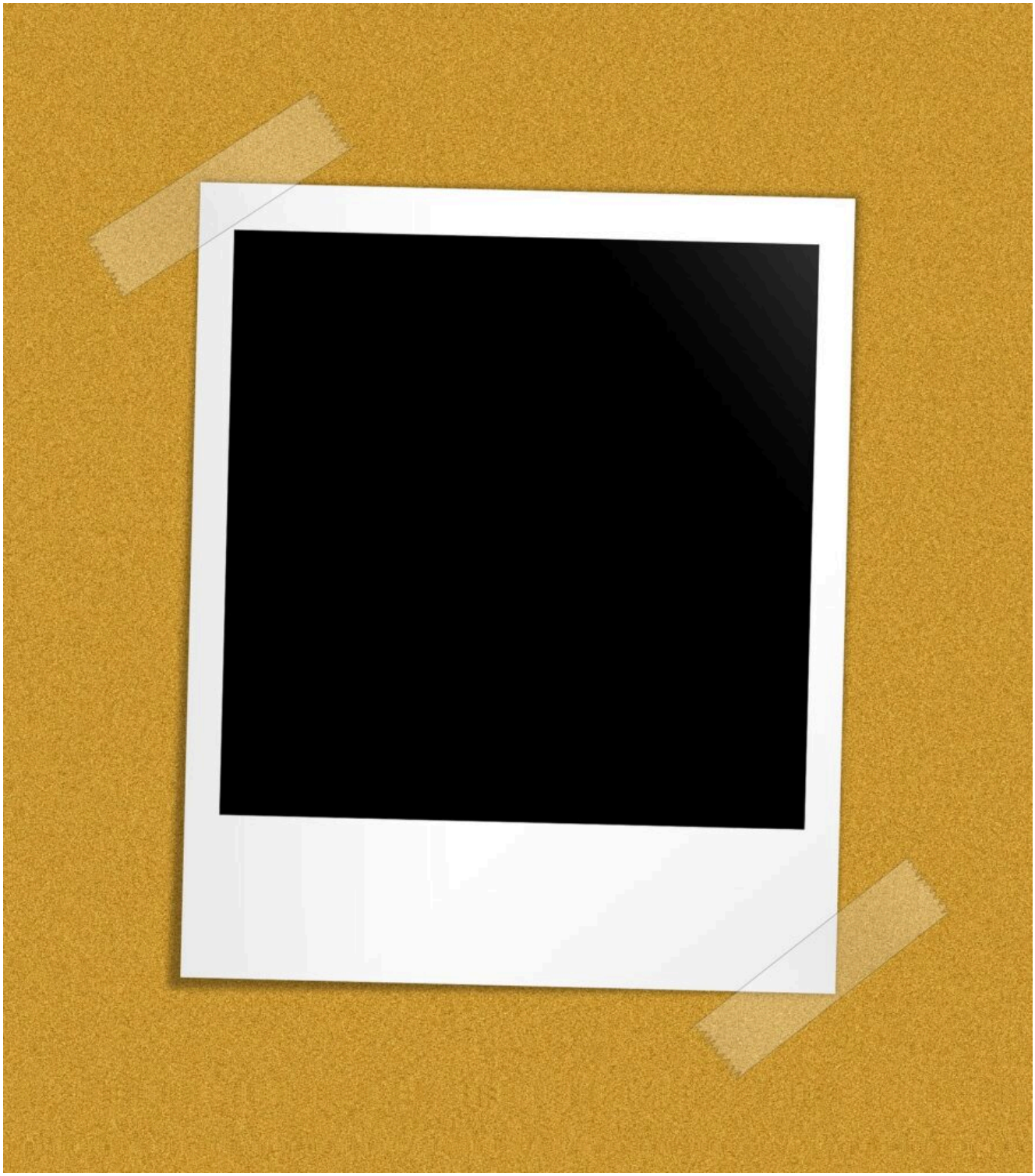
12.2 Collecting data using surveys

Learning Objectives

Learners will be able to...

- Distinguish between cross-sectional and longitudinal surveys
- Identify the strengths and limitations of each approach to collecting survey data, including the timing of data collection and how the questionnaire is delivered to participants

As we discussed in the previous chapter, surveys are versatile and can be shaped and suited to most topics of inquiry. While that makes surveys a great research tool, it also means there are many options to consider when designing your survey. The two main considerations for designing surveys is how many times researchers will collect data from participants and how researchers contact participants and record responses to the questionnaire.



Cross-sectional surveys: A snapshot in time

Think back to the last survey you took. Did you respond to the questionnaire once or did you respond to it multiple times over a long period? **Cross-sectional surveys** are administered only one time. Chances are the last survey you took was a cross-sectional survey—a one-shot measure of a sample using a

questionnaire. And chances are if you are conducting a survey to collect data for your project, it will be cross-sectional simply because it is more feasible to collect data once than multiple times.

Let's take a very recent example, the COVID-19 pandemic. Enriquez and colleagues (2021)[5] wanted to understand the impact of the pandemic on undocumented college students' academic performance, attention to academics, financial stability, mental and physical health, and other factors. In cooperation with offices of undocumented student support at eighteen campuses in California, the researchers emailed undocumented students a few times from March through June of 2020 and asked them to participate in their survey via an online questionnaire. Their survey presents an compelling look at how COVID-19 worsened existing economic inequities in this population.

Strengths and weaknesses of cross-sectional surveys

Cross-sectional surveys are great. They take advantage of many of the strengths of survey design. They are easy to administer since you only need to measure your participants once, which makes them highly suitable for student projects. Keeping track of participants for multiple measures takes time and energy, two resources always under constraint in student projects. Conducting a cross-sectional survey simply requires collecting a sample of people and getting them to fill out your questionnaire—nothing more.

That convenience comes with a tradeoff. When you only measure people at one point in time, you can miss a lot. The events, opinions, behaviors, and other phenomena that such surveys are designed to assess don't generally remain the same over time. Because nomothetic causal explanations seek a general, universal truth, surveys conducted a decade ago do not represent what people think and feel today or twenty years ago. In student research projects, this weakness is often compounded by the use of availability sampling, which further limits the generalizability of the results in student research projects to other places and times beyond the sample collected by the researcher. Imagine generalizing results on the use of telehealth in social work prior to the COVID-19 pandemic or managers' willingness to allow employees to telecommute. Both as a result of shocks to the system—like COVID-19—and the linear progression of cultural, economic and social change—like human rights movements—cross-sectional surveys can never truly give us a timeless causal explanation. In our example about undocumented students during COVID-19, you can say something about the way things were in the moment that you administered your survey, but it is difficult to know whether things remained that way for long after you administered your survey or describe patterns that go back far in time.

Of course, just as society changes over time, so do people. Because cross-sectional surveys only measure people at one point in time, they have difficulty establishing cause-and-effect relationships for individuals because they cannot clearly establish whether the cause came before the effect. If your research question were about how school discipline (our independent variable) impacts substance use (our dependent variable), you would want to make that any changes in our dependent variable, substance use, came *after* changes in school discipline. That is, if your hypothesis is that says school

discipline causes increases in substance use, you must establish that school discipline came first and increases in substance use came afterwards. However, it is perhaps just as likely that increased substance use might cause increases in school discipline. If you sent a cross-sectional survey to students asking them about their substance use and disciplinary record, you would get back something like "tried drugs or alcohol 6 times" and "has been suspended 5 times." You could see whether similar patterns existed in other students, but you wouldn't be able to tell which was the cause or the effect.

Because of these limitations, cross-sectional surveys are limited in how well they can establish whether a nomothetic causal relationship is true or not. Surveys are still a key part of establishing causality. But they need additional help and support to make causal arguments. That might come from combining data across surveys in meta-analyses and systematic reviews, integrating survey findings with theories that explain causal relationships among variables in the study, as well as corroboration from research using other designs, theories, and paradigms. Scientists can establish causal explanations, in part, based on survey research. However, in keeping with the assumptions of postpositivism, the picture of reality that emerges from survey research is only our best approximation of what is objectively true about human beings in the social world. Science requires a multi-disciplinary conversation among scholars to continually improve our understanding.



Longitudinal surveys: Measuring change over time

One way to overcome this sometimes-problematic aspect of cross-sectional surveys is to administer a **longitudinal survey**. Longitudinal surveys enable a researcher to make observations over some extended period of time. There are several types of longitudinal surveys, including trend, panel, and

cohort surveys. We'll discuss all three types here, along with retrospective surveys, which fall somewhere in between cross-sectional and longitudinal surveys.

The first type of longitudinal survey is called a **trend survey**. The main focus of a trend survey is, perhaps not surprisingly, trends. Researchers conducting trend surveys are interested in how people in a specific group change over time. Each time researchers gather data, they survey different people from the identified group because they are interested in the trends of the whole group, rather than changes in specific individuals. Let's look at an example.

The Monitoring the Future Study is a trend study that described the substance use of high school children in the United States. It's conducted annually by the National Institute on Drug Abuse (NIDA). Each year, the NIDA distributes surveys to children in high schools around the country to understand how substance use and abuse in that population changes over time. Perhaps surprisingly, fewer high school children reported using alcohol in the past month than at any point over the last 20 years—a fact that often surprises people because it cuts against the stereotype of adolescents engaging in ever-riskier behaviors. Nevertheless, recent data also reflected an increased use of e-cigarettes and the popularity of e-cigarettes with no nicotine over those with nicotine. By tracking these data points over time, we can better target substance abuse prevention programs towards the current issues facing the high school population.

Unlike trend surveys, panel surveys require the same people participate in the survey each time it is administered. As you might imagine, panel studies can be difficult and costly. Imagine trying to administer a survey to the same 100 people every year, for 5 years in a row. Keeping track of where respondents live, when they move, and when they change phone numbers takes resources that researchers often don't have. However, when the researchers do have the resources to carry out a panel survey, the results can be quite powerful. The Youth Development Study (YDS), administered from the University of Minnesota, offers an excellent example of a panel study.

Since 1988, YDS researchers have administered an annual survey to the same 1,000 people. Study participants were in ninth grade when the study began, and they are now in their thirties. Several hundred papers, articles, and books have been written using data from the YDS. One of the major lessons learned from this panel study is that work has a largely positive impact on young people (Mortimer, 2003).[6] Contrary to popular beliefs about the impact of work on adolescents' school performance and transition to adulthood, work increases confidence, enhances academic success, and prepares students for success in their future careers. Without this panel study, we may not be aware of the positive impact that working can have on young people.

Another type of longitudinal survey is a cohort survey. In a cohort survey, the participants have a defining characteristic that the researcher is interested in studying. The same people don't necessarily participate from year to year, but all participants must meet whatever categorical criteria fulfill the researcher's primary interest. Common cohorts that researchers study include people of particular generations or people born around the same time period, graduating classes, people who began work in a given industry at the same time, or perhaps people who have some specific historical experience

in common. An example of this sort of research can be seen in Lindert and colleagues (2020)[7] work on healthy aging in men. Their article is a secondary analysis of longitudinal data collected as part of the Veterans Affairs Normative Aging Study conducted in 1985, 1988, and 1991.



Strengths and weaknesses of longitudinal surveys

All three types of longitudinal surveys share the strength that they permit a researcher to make observations over time. Whether a major world event takes place or participants mature, researchers can effectively capture the subsequent potential changes in the phenomenon or behavior of interest. This is the key strength of longitudinal surveys—their ability to establish temporality needed for nomothetic causal explanations. Whether your project investigates changes in society, communities, or individuals, longitudinal designs improve on cross-sectional designs by providing data at multiple points in time that better establish causality.

Of course, all of that extra data comes at a high cost. If a panel survey takes place over ten years, the research team must keep track of every individual in the study for those ten years, ensuring they have current contact information for their sample the whole time. Consider this study which followed people convicted of driving under the influence of drugs or alcohol (Kleschinsky et al., 2009).[8] It took an average of 8.6 contacts for participants to complete follow-up surveys, and while this was a difficult-to-reach population, researchers engaging in longitudinal research must prepare for considerable time and expense in tracking participants. Keeping in touch with a participant for a prolonged period of

time likely requires building participant motivation to stay in the study, maintaining contact at regular intervals, and providing monetary compensation. Panel studies are not the only costly longitudinal design. Trend studies need to recruit a new sample every time they collect a new wave of data at additional cost and time.

In my years as a research methods instructor, I have never seen a longitudinal survey design used in a student research project because students do not have enough time to complete them. Cross-sectional surveys are simply the most convenient and feasible option. Nevertheless, social work researchers with more time to complete their studies use longitudinal surveys to understand causal relationships that they cannot manipulate themselves. A researcher could not ethically experiment on participants by assigning a jail sentence or relapse, but longitudinal surveys allow us to systematically investigate such sensitive phenomena ethically. Indeed, because longitudinal surveys observe people in everyday life, outside of the artificial environment of the laboratory (as in experiments), the generalizability of longitudinal survey results to real-world situations may make them superior to experiments, in some cases.

Table 12.1 summarizes these three types of longitudinal surveys.

Table 12.1 Types of longitudinal surveys

Sample type	Description
Trend	Researcher examines changes in trends over time; the same people do not necessarily participate in the survey more than once.
Panel	Researcher surveys the exact same sample several times over a period of time.
Cohort	Researcher identifies a defining characteristic and then regularly surveys people who have that characteristic.

Retrospective surveys: Good, but not the best of both worlds

Retrospective surveys try to strike a middle ground between the two types of surveys. They are similar to other longitudinal studies in that they deal with changes over time, but like a cross-sectional study, data are collected only once. In a retrospective survey, participants are asked to report events from the past. By having respondents report past behaviors, beliefs, or experiences, researchers are able to gather longitudinal-like data without actually incurring the time or expense of a longitudinal survey. Of course, this benefit must be weighed against the possibility that people's recollections of their pasts may be faulty. Imagine that you are participating in a survey that asks you to respond to questions about your feelings on Valentine's Day. As last Valentine's Day can't be more than 12 months ago, there is a good chance that you are able to provide a pretty accurate response of how you felt. Now let's imagine that

the researcher wants to know how last Valentine's Day compares to previous Valentine's Days, so the survey asks you to report on the preceding six Valentine's Days. How likely is it that you will remember how you felt at each one? Will your responses be as accurate as they might have been if your data were collected via survey once a year rather reporting the past few years today? The main limitation with retrospective surveys are that they are not as reliable as cross-section or longitudinal surveys. That said, retrospective surveys are a feasible way to collect longitudinal data when the researcher only has access to the population once, and for this reason, they may be worth the drawback of greater risk of bias and error in the measurement process.

Because quantitative research seeks to build nomothetic causal explanations, it is important to determine the order in which things happen. When using survey design to investigate causal relationships between variables in a research question, longitudinal surveys are certainly preferable because they can track changes over time and therefore provide stronger evidence for cause-and-effect relationships. As we discussed, the time and cost required to administer a longitudinal survey can be prohibitive, and most survey research in the scholarly literature is cross-sectional because it is more feasible to collect data once. Well designed cross-sectional surveys provide can provide important evidence for a causal relationship, even if it is imperfect. Once you decide how many times you will collect data from your participants, the next step is to figure out how to get your questionnaire in front of participants.



Self-administered questionnaires

If you are planning to conduct a survey for your research project, chances are you have thought about how you might deliver your survey to participants. If you don't have a clear picture yet, look back at your work from Chapter 11 on the sampling approach for your project. How are you planning to recruit participants from your sampling frame? If you are considering contacting potential participants via phone or email, perhaps you want to collect your data using a phone or email survey attached to your recruitment materials. If you are planning to collect data from students, colleagues, or other people you most commonly interact with in-person, maybe you want to consider a pen-and-paper survey to collect your data conveniently. As you review the different approaches to administering surveys below, consider how each one matches with your sampling approach and the contact information you have for study participants. Ensure that your sampling approach is feasible conduct before building your survey design from it. For example, if you are planning to administer an online survey, make sure you have email addresses to send your questionnaire or permission to post your survey to an online forum.

Surveys are a versatile research approach. Survey designs vary not only in terms of *when* they are administered but also in terms of *how* they are administered. One common way to collect data is in

the form of **self-administered questionnaires**. Self-administered means that the research participant completes the questions independently, usually in writing. Paper questionnaires can be delivered to participants via mail or in person whenever you see your participants. Generally, student projects use in-person collection of paper questionnaires, as mail surveys require physical addresses, spending money, and waiting for the mail. It is common for academic researchers to administer surveys in large social science classes, so perhaps you have taken a survey that was given to you in-person during undergraduate classes. These professors were taking advantage of the same convenience sampling approach that student projects often do. If everyone in your sampling frame is in one room, going into that room and giving them a quick paper survey to fill out is a feasible and convenient way to collect data. Availability sampling may involve asking your sampling frame to complete your study during when they naturally meet—colleagues at a staff meeting, students in the student lounge, professors in a faculty meeting—and self-administered questionnaires are one way to take advantage of this natural grouping of your target population. Try to pick a time and situation when people have the downtime needed to complete your questionnaire, and you can maximize the likelihood that people will participate in your in-person survey. Of course, this convenience may come at the cost of privacy and confidentiality. If your survey addresses sensitive topics, participants may alter their responses because they are in close proximity to other participants while they complete the survey. Regardless of whether participants feel self-conscious or talk about their answers with one another, by potentially altering the participants' honest response you may have introduced bias or error into your measurement of the variables in your research question.

Because student research projects often rely on availability sampling, collecting data using paper surveys from whoever in your sampling frame is convenient makes sense because the results will be of limited generalizability. But for researchers who aim to generalize (and students who want to publish their study!), self-administered surveys may be better distributed via the mail or electronically. While is very unusual for a student project to send a questionnaire via the mail, this method is used quite often in the scholarly literature and for good reason. Survey researchers who deliver their surveys via postal mail often provide some advance notice to respondents about the survey to get people thinking and preparing to complete it. They may also follow up with their sample a few weeks after their survey has been sent out. This can be done not only to remind those who have not yet completed the survey to please do so but also to thank those who have already returned the survey. Most survey researchers agree that this sort of follow-up is essential for improving mailed surveys' return rates (Babbie, 2010). [6] Other helpful tools to increase response rate are to create an attractive and professional survey, offer monetary incentives, and provide a pre-addressed, stamped return envelope. These are also effective for other types of surveys.

While snail mail may not be feasible for student project, it is increasingly common for student projects and social science projects to use email and other modes of online delivery like social media to collect responses to a questionnaire. Researchers like online delivery for many reasons. It's quicker than knocking on doors in a neighborhood for an in-person survey or waiting for mailed surveys to be returned. It's cheap, too. There are many free tools like Google Forms and Survey Monkey (which includes a premium option). While you are affiliated with a university, you may have access

to commercial research software like Redcap or Qualtrics which provide much more advanced tools for collecting survey data than free options. Online surveys can take advantage of the advantages of computer-mediated data collection by playing a video before asking a question, tracking how long participants take to answer each question, and making sure participants don't fill out the survey more than once (to name a few examples. Moreover, survey data collected via online forms can be exported for analysis in spreadsheet software like Google Sheets or Microsoft Excel or statistics software like SPSS or JASP, a free and open-source alternative to SPSS. While the exported data still need to be checked before analysis, online distribution saves you the trouble of manually inputting every response a participant writes down on a paper survey into a computer to analyze.

The process of collecting data online depends on your sampling frame and approach to recruitment. If your project plans to reach out to people via email to ask them to participate in your study, you should attach your survey to your recruitment email. You already have their attention, and you may not get it again (even if you remind them). Think pragmatically. You will need access to the email addresses of people in your sampling frame. You may be able to piece together a list of email addresses based on public information (e.g., faculty email addresses are on their university webpage, practitioner emails are in marketing materials). In other cases, you may know of a pre-existing list of email addresses to which your target population subscribes (e.g., all undergraduate students in a social work program, all therapists at an agency), and you will need to gain the permission of the list's administrator recruit using the email platform. Other projects will identify an online forum in which their target population congregates and recruit participants there. For example, your project might identify a Facebook group used by students in your social work program or practitioners in your local area to distribute your survey. Of course, you can post a survey to your personal social media account (or one you create for the survey), but depending on your question, you will need a detailed plan on how to reach participants with enough relevant knowledge about your topic to provide informed answers to your questionnaire.

Many of the suggestions that were provided earlier to improve the response rate of hard copy questionnaires also apply to online questionnaires, including the development of an attractive survey and sending reminder emails. One challenge not present in mail surveys is the spam filter or junk mail box. While people will at least glance at recruitment materials send via mail, email programs may automatically filter out recruitment emails so participants never see them at all. While the financial incentives that can be provided online differ from those that can be given in person or by mail, online survey researchers can still offer completion incentives to their respondents. Over the years, I've taken numerous online surveys. Often, they did not come with any incentive other than the joy of knowing that I'd helped a fellow social scientist do their job. However, some surveys have their perks. One survey offered a coupon code to use for $30 off any order at a major online retailer and another allowed the opportunity to be entered into a lottery with other study participants to win a larger gift, such as a $50 gift card or a tablet computer. Student projects should not pay participants unless they have grant funding to cover that cost, and there should be no expectations of any out-of-pocket costs for students to complete their research project.

One area in which online surveys are less suitable than mail or in-person surveys is when your target

population includes individuals with limited, unreliable, or no access to the internet or individuals with limited computer skills. For these groups, an online survey is inaccessible. At the same time, online surveys offer the most feasible way to collect data anonymously. By posting recruitment materials to a Facebook group or list of practitioners at an agency, you can avoid collecting identifying information from people who participated in your study. For studies that address sensitive topics, online surveys also offer the opportunity to complete the survey privately (again, assuming participants have access to a phone or personal computer). If you have the person's email address, physical address, or met them in-person, your participants are not anonymous, but if you need to collect data anonymously, online tools offer a feasible way to do so.

The best way to collect data using self-administered questionnaires depends on numerous factors. The strengths and weaknesses of in-person, mail, and electronic self-administered surveys are reviewed in Table 12.2. Ultimately, you must make the best decision based on its congruence with your sampling approach and what you can feasibly do. Decisions about survey design should be done with a deep appreciation for your study's target population and how your design choices may impact their responses to your survey.

Table 12.2 Strengths and weaknesses of delivery methods for self-administered questionnaires

	In-person	Mail	Electronic
Cost	*Depends*: it's easy if your participants congregate in an accessible location; but costly to go door-to-door to collect surveys	*Depends*: it's too expensive for unfunded projects but a cost-effective option for funded projects	*Strength*: it's free and easy to use online survey tools
Time	*Depends*: it's easy if your participants congregate in an accessible location; but time-consuming to go door-to-door to collect surveys	*Weakness*: it can take a while for mail to travel	*Strength*: delivery is instantaneous
Response rate	*Strength*: it can be harder to ignore someone in person	*Weakness*: it is easy to ignore junk mail, solicitations	*Weakness*: it's easy to ignore junk mail; spam filter may block you
Privacy	*Weakness*: it is very difficult to provide anonymity and people may have to respond in a public place, rather than privately in a safe place	*Depends*: it cannot provide true anonymity as other household members may see participants' mail, but people can likely respond privately in a safe place	*Strength*: can collect data anonymously and respond privately in a safe place
Reaching difficult populations	*Strength*: by going where your participants already gather, you increase your likelihood of getting responses	*Depends*: it reaches those without internet, but misses those who change addresses often (e.g., college students)	*Depends*: it misses those who change phone or emails often or don't use the internet; but reaches online communities
Interactivity	*Weakness*: paper questionnaires are not interactive	*Weakness*: paper questionnaires are not interactive	*Strength*: electronic questionnaires can include multimedia elements, interactive questions and response options
Data input	*Weakness*: researcher inputs data manually	*Weakness*: researcher inputs data manually	*Strength*: survey software inputs data automatically



Quantitative interviews: Researcher-administered questionnaires

There are some cases in which it is not feasible to provide a written questionnaire to participants, either on paper or digitally. In this case, the questionnaire can be administered verbally by the researcher to respondents. Rather than the participant reading questions independently on paper or digital screen, the researcher reads questions and answer choices aloud to participants and records their responses for analysis. Another word for this kind of questionnaire is an **interview schedule**. It's called a schedule because each question and answer is posed in the exact same way each time.

Consistency is key in **quantitative interviews**. By presenting each question and answer option in exactly the same manner to each interviewee, the researcher minimizes the potential for the **interviewer effect**, which encompasses any possible changes in interviewee responses based on how or when the researcher presents question-and-answer options. Additionally, in-person surveys may be video recorded and you can typically take notes without distracting the interviewee due to the closed-ended nature of survey questions, making them helpful for identifying how participants respond to the survey or which questions might be confusing.

Quantitative interviews can take place over the phone or in-person. Phone surveys are often conducted

by political polling firms to understand how the electorate feels about certain candidates or policies. In both cases, researchers verbally pose questions to participants. For many years, live-caller polls (a live human being calling participants in a phone survey) were the gold-standard in political polling. Indeed, phone surveys were excellent for drawing representative samples prior to mobile phones. Unlike landlines, cell phone numbers are portable across carriers, associated with individuals as opposed to households, and do not change their first three numbers when people move to a new geographical area. For this reason, many political pollsters have moved away from random-digit phone dialing and toward a mix of data collection strategies like texting-based surveys or online panels to recruit a representative sample and generalizable results for the target population (Silver, 2021).[9]

I guess I should admit that I often decline to participate in phone studies when I am called. In my defense, it's usually just a customer service survey! My point is that it is easy and even socially acceptable to abruptly hang up on an unwanted caller asking you to participate in a survey, and given the high incidence of spam calls, many people do not pick up the phone for numbers they do not know. We will discuss response rates in greater detail at the end of the chapter. One of the benefits of phone surveys is that a person can complete them in their home or a safe place. At the same time, a distracted participant who is cooking dinner, tending to children, or driving may not provide accurate answers to your questions. Phone surveys make it difficult to control the environment in which a person answers your survey. When administering a phone survey, the researcher can record responses on a paper questionnaire or directly into a computer program. For large projects in which many interviews must be conducted by research staff, computer-assisted telephone interviewing (CATI) ensures that each question and answer option are presented the same way and input into the computer for analysis. For student projects, you can read from a digital or paper copy of your questionnaire and record participants responses into a spreadsheet program like Excel or Google Sheets.

Interview schedules must be administered in such a way that the researcher asks the same question the same way each time. While questions on self-administered questionnaires may create an impression based on the way they are presented, having a researcher pose the questions verbally introduces additional variables that might influence a respondent. Controlling one's wording, tone of voice, and pacing can be difficult over the phone, but it is even more challenging in-person because the researcher must also control their non-verbal expressions and behaviors that may bias survey respondents. Even a slight shift in emphasis or wording may bias the respondent to answer differently. As we've mentioned earlier, consistency is key with quantitative data collection—and human beings are not necessarily known for their consistency. But what happens if a participant asks a question of the researcher? Unlike self-administered questionnaires, quantitative interviews allow the participant to speak directly with the researcher if they need more information about a question. While this can help participants respond accurately, it can also introduce inconsistencies between how the survey administered to each participant. Ideally, the researcher should draft sample responses researchers might provide to participants if they are confused on certain survey items. The strengths and weaknesses of phone and in-person quantitative interviews are summarized in Table 12.3 below.

Table 12.3 Strengths and weaknesses of delivery methods for quantitative interviews

	In-person	Phone
Cost	*Depends*: it's easy if your participants congregate in an accessible location; but costly to go door-to-door to collect surveys	*Strength:* phone calls are free or low-cost
Time	*Weakness*: quantitative interviews take a long time because each question must be read aloud to each participant	*Weakness*: quantitative interviews take a long time because each question must be read aloud to each participant
Response rate	*Strength*: it can be harder to ignore someone in person	*Weakness*: it is easy to ignore unwanted or unexpected calls
Privacy	*Weakness*: it is very difficult to provide anonymity and people will have to respond in a public place, rather than privately in a safe place	*Depends*: it is difficult for the researcher to control the context in which the participant responds, which might be private or public, safe or unsafe
Reaching difficult populations	*Strength*: by going where your participants already gather, you increase your likelihood of getting responses	*Weakness*: it is easy to ignore unwanted or unexpected calls
Interactivity	*Weakness*: interview schedules are kept simple because questions are read aloud	*Weakness*: interview schedules are kept simple because questions are read aloud
Data input	*Weakness*: researcher inputs data manually	*Weakness*: researcher inputs data manually

Students using survey design should settle on a delivery method that presents the most favorable tradeoff between strengths and challenges for their unique context. One key consideration is your sampling approach. If you already have the participant on the phone and they agree to be a part of your sample…you may as well ask them your survey questions right then if the participant can do so. These feasibility concerns make in-person quantitative interviews a poor fit for student projects. It is far easier and quicker to distribute paper surveys to a group of people it is to administer the survey verbally to each participant individually. Ultimately, you are the one who has to carry out your research design. Make sure you can actually follow your plan!

Key Takeaways

- Time is a factor in determining what type of survey a researcher administers; cross-sectional surveys are administered at one time, and longitudinal surveys are at multiple points in time.
- Retrospective surveys offer some of the benefits of longitudinal research while only collecting data once but may be less reliable.
- Self-administered questionnaires may be delivered in-person, online, or via mail.
- Interview schedules are used with in-person or phone surveys (a.k.a. quantitative interviews).
- Each way to administer surveys comes with benefits and drawbacks.

Exercises

In this section, we assume that you are using a cross-sectional survey design. But how will you deliver your survey? Recall your sampling approach you developed in Chapter 10. Consider the following questions when evaluating delivery methods for surveys.

- Can you attach your survey to your recruitment emails, calls, or other contacts with potential participants?
- What contact information (e.g., phone number, email address) do you need to deliver your survey?
- Do you need to maintain participant anonymity?
- Is there anything unique about your target population or sampling frame that may impact survey research?

Imagine you are a participant in your survey.

- Beginning with the first contact for recruitment into your study and ending with a completed survey, describe each step of the data collection process from the perspective of a person responding to your survey. You should be able to provide a pretty clear timeline of how your survey will proceed at this point, even if some of the details eventually change

12.3 Writing effective questions and questionnaires

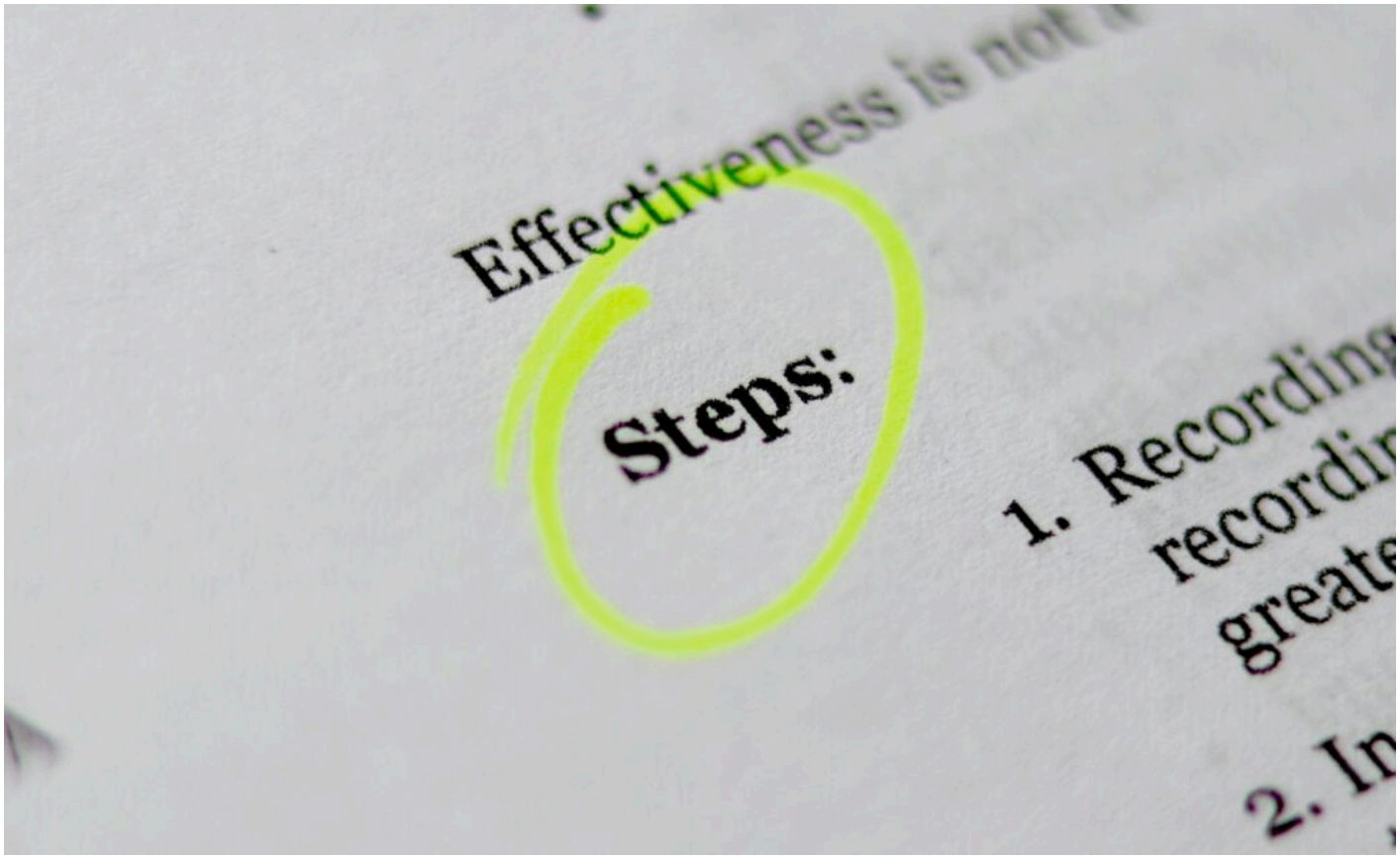
Learning Objectives

Learners will be able to...

- Describe some of the ways that survey questions might confuse respondents and how to word questions and responses clearly
- Create mutually exclusive, exhaustive, and balanced response options
- Define fence-sitting and floating
- Describe the considerations involved in constructing a well-designed questionnaire
- Discuss why pilot testing is important

In the previous section, we reviewed how researchers collect data using surveys. Guided by their sampling approach and research context, researchers should choose the survey approach that provides the most favorable tradeoffs in strengths and challenges. With this information in hand, researchers need to write their questionnaire and revise it before beginning data collection. Each method of delivery requires a questionnaire, but they vary a bit based on how they will be used by the researcher. Since phone surveys are read aloud, researchers will pay more attention to how the questionnaire sounds than how it looks. Online surveys can use advanced tools to require the completion of certain

questions, present interactive questions and answers, and otherwise afford greater flexibility in how questionnaires are designed. As you read this section, consider how your method of delivery impacts the type of questionnaire you will design. Because most student projects use paper or online surveys, this section will detail how to construct self-administered questionnaires to minimize the potential for bias and error.



Start with operationalization

The first thing you need to do to write effective survey questions is identify what exactly you wish to know. As silly as it sounds to state what seems so completely obvious, we can't stress enough how easy it is to forget to include important questions when designing a survey. Begin by looking at your research question and refreshing your memory of the operational definitions you developed for those variables from Chapter 11. You should have a pretty firm grasp of your operational definitions before starting the process of questionnaire design. You may have taken those operational definitions from other researchers' methods, found established scales and indices for your measures, or created your own questions and answer options.

Exercises

STOP! Make sure you have a complete operational definition for the dependent and independent variables in your research question. A complete operational definition contains the variable being measured, the measure used, and how the researcher interprets the measure. Let's make sure you have what you need from Chapter 11 to begin writing your questionnaire.

List all of the dependent and independent variables in your research question.

- It's normal to have one dependent or independent variable. It's also normal to have more than one of either.
- Make sure that your research question (and this list) contain all of the variables in your hypothesis. Your hypothesis should only include variables from you research question.

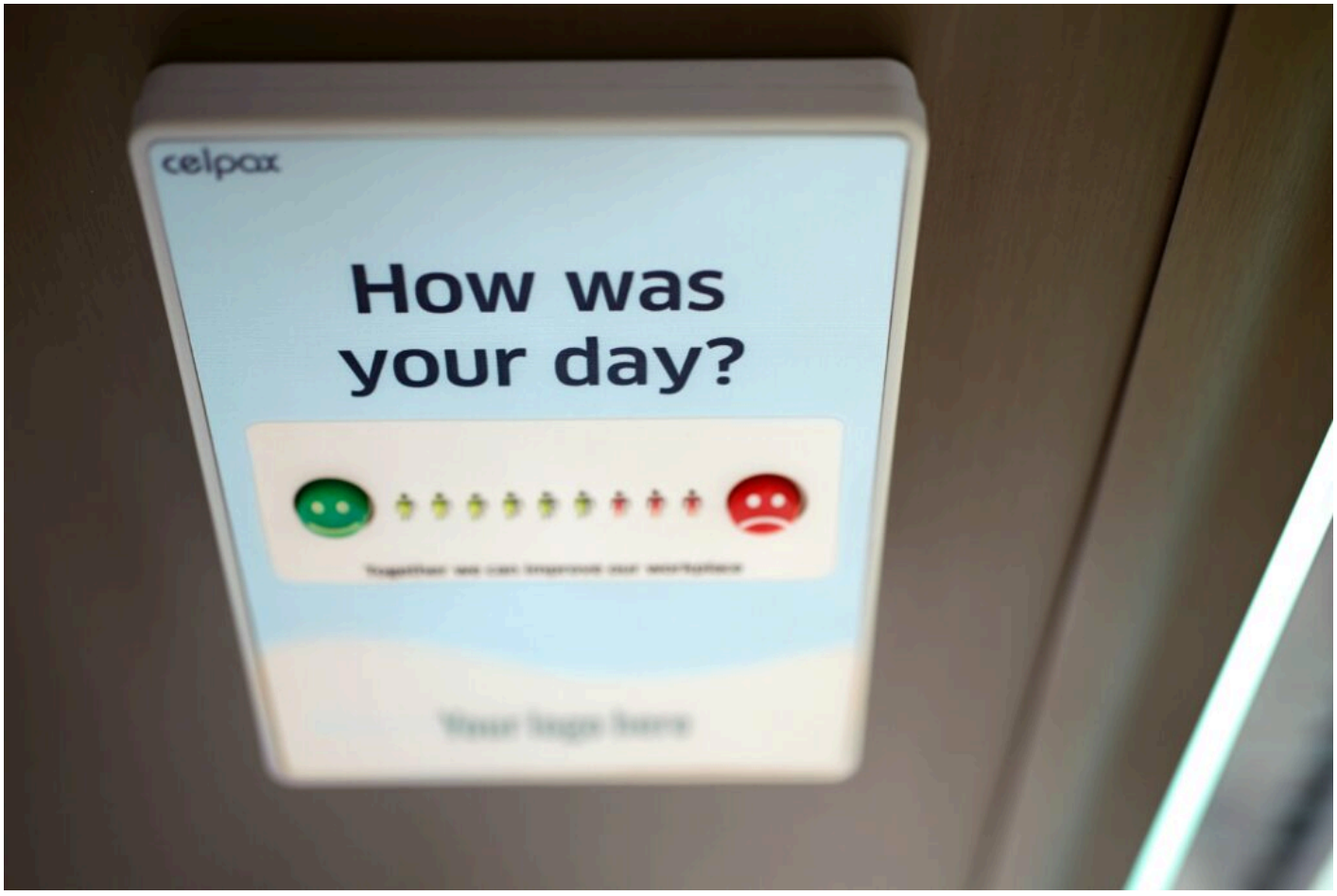
For each variable in your list:

- Write out the measure you will use (the specific questions and answers) for each variable.
    - If you don't have questions and answers finalized yet, write a first draft and revise it based on what you read in this section.
    - If you are using a measure from another researcher, you should be able to write out all of the questions and answers associated with that measure. If you only have the name of a scale or a few questions, you need to access to the full text and some documentation on how to administer and interpret it before you can finish your questionnaire.
- Describe how you will use each measure draw conclusions about the variable in the operational definition.
    - For example, an interpretation might be "there are five 7-point Likert scale questions…point values are added across all five items for each participant…and scores below 10 indicate the participant has low self-esteem"
    - Don't introduce other variables into the mix here. All we are concerned with is how you will measure each variable by itself. The connection between variables is done using statistical tests, not operational definitions.
- Detail any validity or reliability issues uncovered by previous researchers using the same measures. If you have concerns about validity and reliability, note them, as well.

If you completed the exercise above and listed out all of the questions and answer choices you will use to measure the variables in your research question, you have already produced a pretty solid first draft of your questionnaire! Congrats! In essence, questionnaires are all of the self-report measures in your operational definitions for the independent, dependent, and control variables in your study arranged into one document and administered to participants. There are a few questions on a questionnaire (like name or ID#) that are not associated with the measurement of variables. These are the exception, and it's useful to think of a questionnaire as a list of measures for variables. Of course, researchers often use more than one measure of a variable (i.e., **triangulation**) so they can more confidently assert that their findings are true. A questionnaire should contain all of the measures researchers plan to collect about their variables by asking participants to self-report. As we will discuss in the final section of this

chapter, triangulating across data sources (e.g., measuring variables using client files or student records) can avoid some of the common sources of bias in survey research.

Sticking close to your operational definitions is important because it helps you avoid an everything-but-the-kitchen-sink approach that includes every possible question that occurs to you. Doing so puts an unnecessary burden on your survey respondents. Remember that you have asked your participants to give you their time and attention and to take care in responding to your questions; show them your respect by only asking questions that you actually plan to use in your analysis. For each question in your questionnaire, ask yourself how this question measures a variable in your study. An operational definition should contain the questions, response options, and how the researcher will draw conclusions about the variable based on participants' responses.



Writing questions

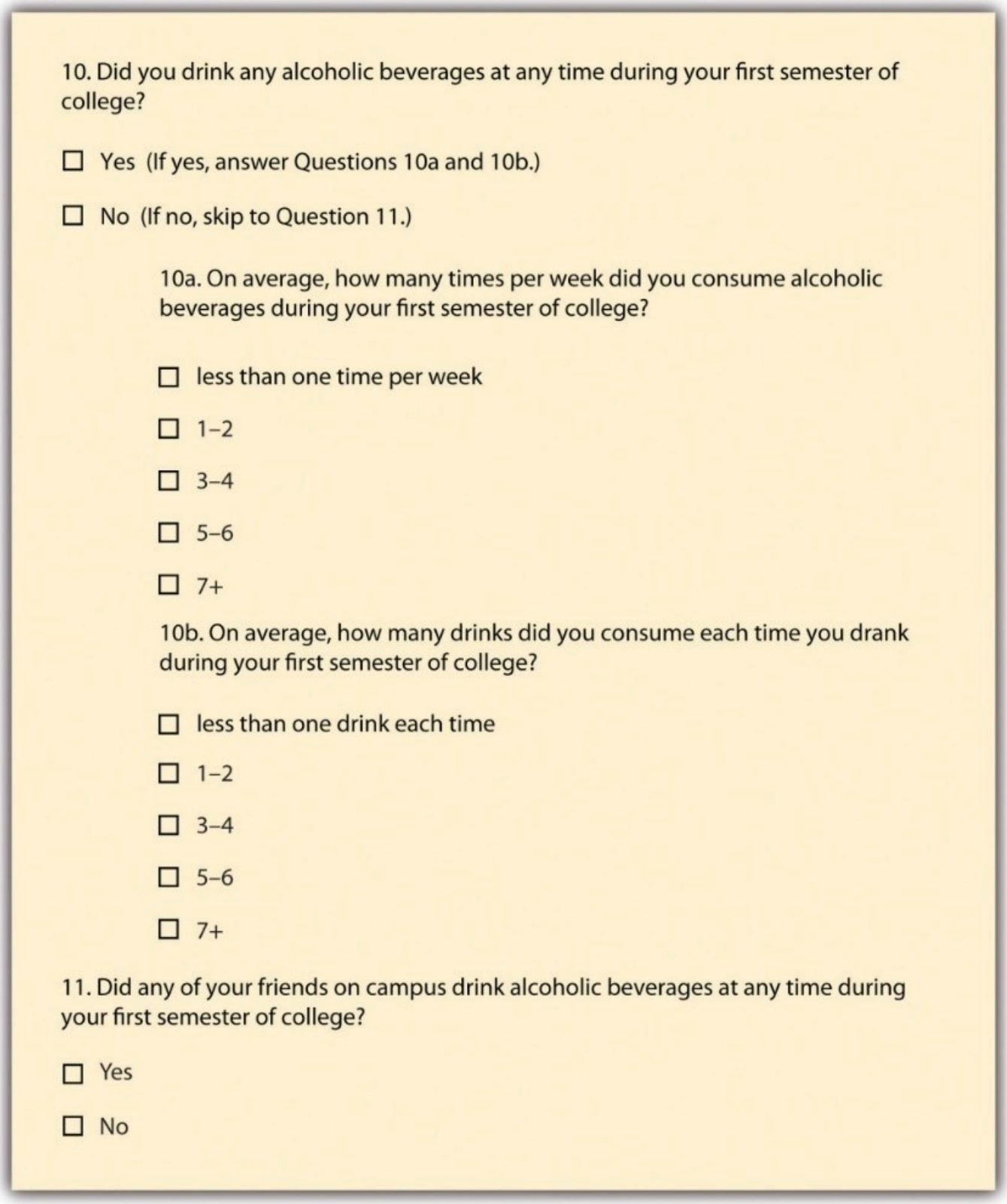
So, almost all of the questions on a questionnaire are measuring some variable. For many variables, researchers will create their own questions rather than using one from another researcher. This section

will provide some tips on how to create good questions to accurately measure variables in your study. First, questions should be as clear and to the point as possible. This is not the time to show off your creative writing skills; a survey is a technical instrument and should be written in a way that is as direct and concise as possible. As I've mentioned earlier, your survey respondents have agreed to give their time and attention to your survey. The best way to show your appreciation for their time is to not waste it. Ensuring that your questions are clear and concise will go a long way toward showing your respondents the gratitude they deserve. **Pilot testing** the questionnaire with friends or colleagues can help identify these issues. This process is commonly called pretesting, but to avoid any confusion with pretesting in experimental design, we refer to it as pilot testing.

Related to the point about not wasting respondents' time, make sure that every question you pose will be relevant to every person you ask to complete it. This means two things: first, that respondents have knowledge about whatever topic you are asking them about, and second, that respondents have experienced the events, behaviors, or feelings you are asking them to report. If you are asking participants for second-hand knowledge—asking clinicians about clients' feelings, asking teachers about students' feelings, and so forth—you may want to clarify that the variable you are asking about is the key informant's *perception* of what is happening in the target population. A well-planned sampling approach ensures that participants are the most knowledgeable population to complete your survey.

If you decide that you do wish to include questions about matters with which only a portion of respondents will have had experience, make sure you know why you are doing so. For example, if you are asking about MSW student study patterns, and you decide to include a question on studying for the social work licensing exam, you may only have a small subset of participants who have begun studying for the graduate exam or took the bachelor's-level exam. If you decide to include this question that speaks to a minority of participants' experiences, think about why you are including it. Are you interested in how studying for class and studying for licensure differ? Are you trying to triangulate study skills measures? Researchers should carefully consider whether questions relevant to only a subset of participants is likely to produce enough valid responses for quantitative analysis.

Many times, questions that are relevant to a subsample of participants are conditional on an answer to a previous question. A participant might select that they rent their home, and as a result, you might ask whether they carry renter's insurance. That question is not relevant to homeowners, so it would be wise not to ask them to respond to it. In that case, the question of whether someone rents or owns their home is a **filter question**, designed to identify some subset of survey respondents who are asked additional questions that are not relevant to the entire sample. Figure 12.1 presents an example of how to accomplish this on a paper survey by adding instructions to the participant that indicate what question to proceed to next based on their response to the first one. Using online survey tools, researchers can use filter questions to only present relevant questions to participants.


10. Did you drink any alcoholic beverages at any time during your first semester of college?

☐ Yes (If yes, answer Questions 10a and 10b.)

☐ No (If no, skip to Question 11.)

10a. On average, how many times per week did you consume alcoholic beverages during your first semester of college?

☐ less than one time per week

☐ 1–2

☐ 3–4

☐ 5–6

☐ 7+

10b. On average, how many drinks did you consume each time you drank during your first semester of college?

☐ less than one drink each time

☐ 1–2

☐ 3–4

☐ 5–6

☐ 7+

11. Did any of your friends on campus drink alcoholic beverages at any time during your first semester of college?

☐ Yes

☐ No

Figure 12.1 Filter question on a written survey

Researchers should eliminate questions that ask about things participants don't know to minimize

confusion. Assuming the question is relevant to the participant, other sources of confusion come from how the question is worded. The use of negative wording can be a source of potential confusion. Taking the question from Figure 12.1 about drinking as our example, what if we had instead asked, "Did you not abstain from drinking during your first semester of college?" This is a double negative, and it's not clear how to answer the question accurately. It is a good idea to avoid negative phrasing, when possible. For example, "did you not drink alcohol during your first semester of college?" is less clear than "did you drink alcohol your first semester of college?"

You should also avoid using terms or phrases that may be regionally or culturally specific (unless you are absolutely certain all your respondents come from the region or culture whose terms you are using). When I first moved to southwest Virginia, I didn't know what a holler was. Where I grew up in New Jersey, to holler means to yell. Even then, in New Jersey, we shouted and screamed, but we didn't holler much. In southwest Virginia, my home at the time, a holler also means a small valley in between the mountains. If I used holler in that way on my survey, people who live near me may understand, but almost everyone else would be totally confused. A similar issue arises when you use jargon, or technical language, that people do not commonly know. For example, if you asked adolescents how they experience imaginary audience, they would find it difficult to link those words to the concepts from David Elkind's theory. The words you use in your questions must be understandable to your participants. If you find yourself using jargon or slang, break it down into terms that are more universal and easier to understand.

Asking multiple questions as though they are a single question can also confuse survey respondents. There's a specific term for this sort of question; it is called a **double-barreled question**. Figure 12.2 shows a double-barreled question. Do you see what makes the question double-barreled? How would someone respond if they felt their college classes were more demanding but also more boring than their high school classes? Or less demanding but more interesting? Because the question combines "demanding" and "interesting," there is no way to respond yes to one criterion but no to the other.

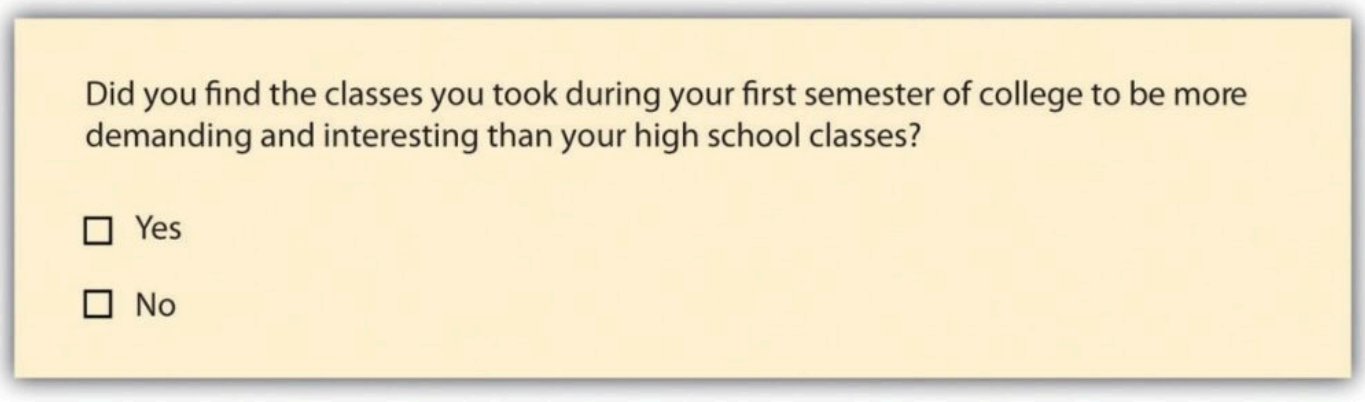


Figure 12.2 Double-barreled question

Another thing to avoid when constructing survey questions is the problem of **social desirability**. We all want to look good, right? And we all probably know the politically correct response to a variety of questions whether we agree with the politically correct response or not. In survey research, social desirability refers to the idea that respondents will try to answer questions in a way that will present them in a favorable light. (You may recall we covered social desirability bias in Chapter 11.)

Perhaps we decide that to understand the transition to college, we need to know whether respondents ever cheated on an exam in high school or college for our research project. We all know that cheating on exams is generally frowned upon (at least I hope we all know this). So, it may be difficult to get people to admit to cheating on a survey. But if you can guarantee respondents' confidentiality, or even better, their anonymity, chances are much better that they will be honest about having engaged in this socially undesirable behavior. Another way to avoid problems of social desirability is to try to phrase difficult questions in the most benign way possible. Earl Babbie (2010) [10] offers a useful suggestion for helping you do this—simply imagine how you would feel responding to your survey questions. If you would be uncomfortable, chances are others would as well.

Exercises

Try to step outside your role as researcher for a second, and imagine you were one of your participants. Evaluate the following:

- **Is the question too general?** Sometimes, questions that are too general may not accurately convey respondents' perceptions. If you asked someone how they liked a certain book and provide a response scale ranging from "not at all" to "extremely well", and if that person selected "extremely well," what do they mean? Instead, ask more specific behavioral questions, such as "Will you recommend this book to others?" or "Do you plan to read other books by the same author?"
- **Is the question too detailed?** Avoid unnecessarily detailed questions that serve no specific research purpose. For instance, do you need the age of each child in a household or is just the number of children in the household acceptable? However, if unsure, it is better to err on the side of details than generality.
- **Is the question presumptuous?** Does your question make assumptions? For instance, if you ask, "what do you think the benefits of a tax cut would be?" you are presuming that the participant sees the tax cut as beneficial. But many people may not view tax cuts as beneficial. Some might see tax cuts as a precursor to less funding for public schools and fewer public services such as police, ambulance, and fire department. Avoid questions with built-in presumptions.
- **Does the question ask the participant to imagine something? Is the question imaginary?** A popular question on many television game shows is "if you won a million dollars on this show, how will you plan to spend it?" Most participants have never been faced with this large amount of money and have never thought about this scenario. In fact, most don't even know that after taxes, the value of the million dollars will be greatly reduced. In addition, some game shows spread the amount over a 20-year period. Without understanding this "imaginary" situation, participants may not have the background information necessary to provide a meaningful response.

Finally, it is important to get feedback on your survey questions from as many people as possible, especially people who are like those in your sample. Now is not the time to be shy. Ask your friends for

help, ask your mentors for feedback, ask your family to take a look at your survey as well. The more feedback you can get on your survey questions, the better the chances that you will come up with a set of questions that are understandable to a wide variety of people and, most importantly, to those in your sample.

In sum, in order to pose effective survey questions, researchers should do the following:

- Identify how each question measures an independent, dependent, or control variable in their study.
- Keep questions clear and succinct.
- Make sure respondents have relevant lived experience to provide informed answers to your questions.
- Use filter questions to avoid getting answers from uninformed participants.
- Avoid questions that are likely to confuse respondents—including those that use double negatives, use culturally specific terms or jargon, and pose more than one question at a time.
- Imagine how respondents would feel responding to questions.
- Get feedback, especially from people who resemble those in the researcher's sample.

Exercises

Let's complete a first draft of your questions. In the previous exercise, you listed all of the questions and answers you will use to measure the variables in your research question.

- In the previous exercise, you wrote out the questions and answers for each measure of your independent and dependent variables. Evaluate each question using the criteria listed above on effective survey questions.
- Type out questions for your control variables and evaluate them, as well. Consider what response options you want to offer participants.

Now, let's revise any questions that do not meet your standards!

- Use the BRUSO model in Table 12.2 for an illustration of how to address deficits in question wording. Keep in mind that you are writing a first draft in this exercise, and it will take a few drafts and revisions before your questions are ready to distribute to participants.

Table 12.2 The BRUSO model of writing effective questionnaire items, with examples from a perceptions of gun ownership questionnaire

Criterion	Poor	Effective
B- Brief	"Are you now or have you ever been the possessor of a firearm?"	Have you ever possessed a firearm?
R- Relevant	"Who did you vote for in the last election?"	Note: Only include items that are relevant to your study.
U- Unambiguous	"Are you a gun person?"	Do you currently own a gun?"
S- Specific	How much have you read about the new gun control measure and sales tax?"	"How much have you read about the new sales tax on firearm purchases?"
O- Objective	"How much do you support the beneficial new gun control measure?"	"What is your view of the new gun control measure?"



Writing response options

While posing clear and understandable questions in your survey is certainly important, so too is providing respondents with unambiguous response options. **Response options** are the answers that you provide to the people completing your questionnaire. Generally, respondents will be asked to choose a

single (or best) response to each question you pose. We call questions in which the researcher provides all of the response options **closed-ended questions**. Keep in mind, closed-ended questions can also instruct respondents to choose multiple response options, rank response options against one another, or assign a percentage to each response option. But be cautious when experimenting with different response options! Accepting multiple responses to a single question may add complexity when it comes to quantitatively analyzing and interpreting your data.

Surveys need not be limited to closed-ended questions. Sometimes survey researchers include open-ended questions in their survey instruments as a way to gather additional details from respondents. An **open-ended question** does not include response options; instead, respondents are asked to reply to the question in their own way, using their own words. These questions are generally used to find out more about a survey participant's experiences or feelings about whatever they are being asked to report in the survey. If, for example, a survey includes closed-ended questions asking respondents to report on their involvement in extracurricular activities during college, an open-ended question could ask respondents why they participated in those activities or what they gained from their participation. While responses to such questions may also be captured using a closed-ended format, allowing participants to share some of their responses in their own words can make the experience of completing the survey more satisfying to respondents and can also reveal new motivations or explanations that had not occurred to the researcher. This is particularly important for mixed-methods research. It is possible to analyze open-ended response options quantitatively using content analysis (i.e., counting how often a theme is represented in a transcript looking for statistical patterns). However, for most researchers, qualitative data analysis will be needed to analyze open-ended questions, and researchers need to think through how they will analyze any open-ended questions as part of their data analysis plan. We will address qualitative data analysis in greater detail in Chapter 19.

To keep things simple, we encourage you to use only closed-ended response options in your study. While open-ended questions are not wrong, they are often a sign in our classrooms that students have not thought through all the way how to operationally define and measure their key variables. Open-ended questions cannot be operationally defined because you don't know what responses you will get. Instead, you will need to analyze the qualitative data using one of the techniques we discuss in Chapter 19 to interpret your participants' responses.

To write an effective response options for closed-ended questions, there are a couple of guidelines worth following. First, be sure that your response options are *mutually exclusive*. Look back at Figure 12.1, which contains questions about how often and how many drinks respondents consumed. Do you notice that there are no overlapping categories in the response options for these questions? This is another one of those points about question construction that seems fairly obvious but that can be easily overlooked. Response options should also be *exhaustive*. In other words, every possible response should be covered in the set of response options that you provide. For example, note that in question 10a in Figure 12.1, we have covered all possibilities—those who drank, say, an average of once per month can choose the first response option ("less than one time per week") while those who drank multiple times a day each day of the week can choose the last response option ("7+"). All the possibilities in between

these two extremes are covered by the middle three response options, and every respondent fits into one of the response options we provided.

Earlier in this section, we discussed double-barreled questions. Response options can also be double barreled, and this should be avoided. Figure 12.3 is an example of a question that uses double-barreled response options. Other tips about questions are also relevant to response options, including that participants should be knowledgeable enough to select or decline a response option as well as avoiding jargon and cultural idioms.

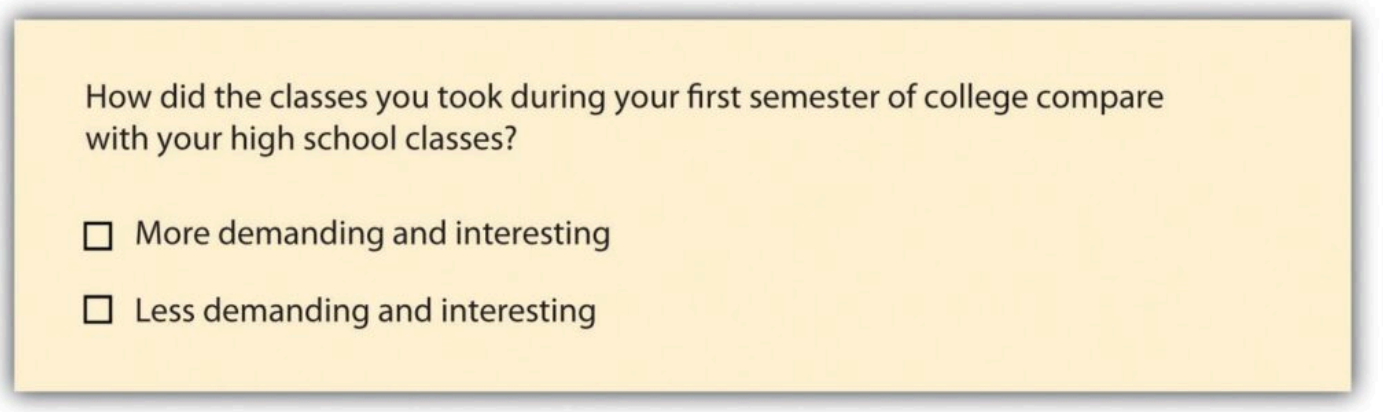


Figure 12.3 Double-barreled response options

Even if you phrase questions and response options clearly, participants are influenced by how many response options are presented on the questionnaire. For Likert scales, five or seven response options generally allow about as much precision as respondents are capable of. However, numerical scales with more options can sometimes be appropriate. For dimensions such as attractiveness, pain, and likelihood, a 0-to-10 scale will be familiar to many respondents and easy for them to use. Regardless of the number of response options, the most extreme ones should generally be "balanced" around a neutral or modal midpoint. An example of an unbalanced rating scale measuring perceived likelihood might look like this:

Unlikely | Somewhat Likely | Likely | Very Likely | Extremely Likely

Because we have four rankings of likely and only one ranking of unlikely, the scale is unbalanced and most responses will be biased toward "likely" rather than "unlikely." A balanced version might look like this:

Extremely Unlikely | Somewhat Unlikely | As Likely as Not | Somewhat Likely |Extremely Likely

In this example, the midpoint is halfway between likely and unlikely. Of course, a middle or neutral response option does not have to be included. Researchers sometimes choose to leave it out because

they want to encourage respondents to think more deeply about their response and not simply choose the middle option by default. **Fence-sitters** are respondents who choose neutral response options, even if they have an opinion. Some people will be drawn to respond, "no opinion" even if they have an opinion, particularly if their true opinion is the not a socially desirable opinion. **Floaters**, on the other hand, are those that choose a substantive answer to a question when really, they don't understand the question or don't have an opinion.

As you can see, floating is the flip side of fence-sitting. Thus, the solution to one problem is often the cause of the other. How you decide which approach to take depends on the goals of your research. Sometimes researchers specifically want to learn something about people who claim to have no opinion. In this case, allowing for fence-sitting would be necessary. Other times researchers feel confident their respondents will all be familiar with every topic in their survey. In this case, perhaps it is okay to force respondents to choose one side or another (e.g., agree or disagree) without a middle option (e.g., neither agree nor disagree) or to not include an option like "don't know enough to say" or "not applicable." There is no always-correct solution to either problem. But in general, including middle option in a response set provides a more exhaustive set of response options than one that excludes one.

The most important check before your finalize your response options is to align them with your operational definitions. As we've discussed before, your operational definitions include your measures (questions and responses options) as well as how to interpret those measures in terms of the variable being measured. In particular, you should be able to interpret all response options to a question based on your operational definition of the variable it measures. If you wanted to measure the variable "social class," you might ask one question about a participant's annual income and another about family size. Your operational definition would need to provide clear instructions on how to interpret response options. Your operational definition is basically like this social class calculator from Pew Research, though they include a few more questions in their definition.

To drill down a bit more, as Pew specifies in the section titled "how the income calculator works," the interval/ratio data respondents enter is interpreted using a formula combining a participant's four responses to the questions posed by Pew categorizing their household into three categories—upper, middle, or lower class. So, the operational definition includes the four questions comprising the measure and the formula or interpretation which converts responses into the three final categories that we are familiar with: lower, middle, and upper class.

It is interesting to note that even though participants inis an ordinal level of measurement. Whereas, Pew asks four questions that use an interval or ratio level of measurement (depending on the question). This means that respondents provide numerical responses, rather than choosing categories like lower, middle, and upper class. It's perfectly normal for operational definitions to change levels of measurement, and it's also perfectly normal for the level of measurement to stay the same. The important thing is that each response option a participant can provide is accounted for by the operational definition. Throw any combination of family size, location, or income at the Pew calculator, and it will define you into one of those three social class categories.

Unlike Pew's definition, the operational definitions in your study may not need their own webpage to define and describe. For many questions and answers, interpreting response options is easy. If you were measuring "income" instead of "social class," you could simply operationalize the term by asking people to list their total household income before taxes are taken out. Higher values indicate higher income, and lower values indicate lower income. Easy. Regardless of whether your operational definitions are simple or more complex, every response option to every question on your survey (with a few exceptions) should be interpretable using an operational definition of a variable. Just like we want to avoid an everything-but-the-kitchen-sink approach to questions on our questionnaire, you want to make sure your final questionnaire only contains response options that you will use in your study.

One note of caution on interpretation (sorry for repeating this). We want to remind you again that an operational definition should not mention more than one variable. In our example above, your operational definition could not say "a family of three making under $50,000 is lower class; therefore, they are more likely to experience food insecurity." That last clause about food insecurity may well be true, but it's not a part of the operational definition for social class. Each variable (food insecurity and class) should have its own operational definition. If you are talking about how to interpret the relationship between two variables, you are talking about your **data analysis plan**. We will discuss how to create your data analysis plan beginning in Chapter 14. For now, one consideration is that depending on the statistical test you use to test relationships between variables, you may need nominal, ordinal, or interval/ratio data. Your questions and response options should match the level of measurement you need with the requirements of the specific statistical tests in your data analysis plan. Once you finalize your data analysis plan, return to your questionnaire to match the level of measurement matches with the statistical test you've chosen.

In summary, to write effective response options researchers should do the following:

- Avoid wording that is likely to confuse respondents—including double negatives, use culturally specific terms or jargon, and double-barreled response options.
- Ensure response options are relevant to participants' knowledge and experience so they can make an informed and accurate choice.
- Present mutually exclusive and exhaustive response options.
- Consider fence-sitters and floaters, and the use of neutral or "not applicable" response options.
- Define how response options are interpreted as part of an operational definition of a variable.
- Check level of measurement matches operational definitions and the statistical tests in the data analysis plan (once you develop one in the future)

Exercises

Look back at the response options you drafted in the previous exercise. Make sure you have a first draft of response options for each closed-ended question on your questionnaire.

- Using the criteria above, evaluate the wording of the response options for each question on your questionnaire.
- Revise your questions and response options until you have a complete first draft.
- Do your first read-through and provide a dummy answer to each question. Make sure you can link each response option and each question to an operational definition.
- Look ahead to Chapter 14 and consider how each item on your questionnaire will inform your data analysis plan.

From this discussion, we hope it is clear why researchers using quantitative methods spell out all of their plans ahead of time. Ultimately, there should be a straight line from operational definition through measures on your questionnaire to the data analysis plan. If your questionnaire includes response options that are not aligned with operational definitions or not included in the data analysis plan, the responses you receive back from participants won't fit with your conceptualization of the key variables in your study. If you do not fix these errors and proceed with collecting unstructured data, you will lose out on many of the benefits of survey research and face overwhelming challenges in answering your research question.



Designing questionnaires

Based on your work in the previous section, you should have a first draft of the questions and response options for the key variables in your study. Now, you'll also need to think about how to present your written questions and response options to survey respondents. It's time to write a final draft of your questionnaire and make it look nice. Designing questionnaires takes some thought. First, consider the route of administration for your survey. What we cover in this section will apply equally to paper and online surveys, but if you are planning to use online survey software, you should watch tutorial videos and explore the features of of the survey software you will use.

Informed consent & instructions

Writing effective items is only one part of constructing a survey. For one thing, every survey should have a written or spoken introduction that serves two basic functions (Peterson, 2000).[11] One is to encourage respondents to participate in the survey. In many types of research, such encouragement is not necessary either because participants do not know they are in a study (as in naturalistic observation)

or because they are part of a subject pool and have already shown their willingness to participate by signing up and showing up for the study. Survey research usually catches respondents by surprise when they answer their phone, go to their mailbox, or check their e-mail–and the researcher must make a good case for why they should agree to participate. Thus, the introduction should briefly explain the purpose of the survey and its importance, provide information about the sponsor of the survey (university-based surveys tend to generate higher response rates), acknowledge the importance of the respondent's participation, and describe any incentives for participating.

The second function of the introduction is to establish **informed consent**. Remember that this involves describing to respondents everything that might affect their decision to participate. This includes the topics covered by the survey, the amount of time it is likely to take, the respondent's option to withdraw at any time, confidentiality issues, and other ethical considerations we covered in Chapter 6. Written consent forms are not always used in survey research (when the research is of minimal risk and completion of the survey instrument is often accepted by the IRB as evidence of consent to participate), so it is important that this part of the introduction be well documented and presented clearly and in its entirety to every respondent.

Organizing items to be easy and intuitive to follow

The introduction should be followed by the substantive questionnaire items. But first, it is important to present clear instructions for completing the questionnaire, including examples of how to use any unusual response scales. Remember that the introduction is the point at which respondents are usually most interested and least fatigued, so it is good practice to start with the most important items for purposes of the research and proceed to less important items. Items should also be grouped by topic or by type. For example, items using the same rating scale (e.g., a 5-point agreement scale) should be grouped together if possible to make things faster and easier for respondents. Demographic items are often presented last because they are least interesting to participants but also easy to answer in the event respondents have become tired or bored. Of course, any survey should end with an expression of appreciation to the respondent.

Questions are often organized thematically. If our survey were measuring social class, perhaps we'd have a few questions asking about employment, others focused on education, and still others on housing and community resources. Those may be the themes around which we organize our questions. Or perhaps it would make more sense to present any questions we had about parents' income and then present a series of questions about estimated future income. Grouping by theme is one way to be deliberate about how you present your questions. Keep in mind that you are surveying people, and these people will be trying to follow the logic in your questionnaire. Jumping from topic to topic can give people a bit of whiplash and may make participants less likely to complete it.

Using a matrix is a nice way of streamlining response options for similar questions. A **matrix** is a

question type that that lists a set of questions for which the answer categories are all the same. If you have a set of questions for which the response options are the same, it may make sense to create a matrix rather than posing each question and its response options individually. Not only will this save you some space in your survey but it will also help respondents progress through your survey more easily. A sample matrix can be seen in Figure 12.4.

Instructions: For each statement, please check whether you Strongly Agree, Agree, Disagree, or Strongly Disagree

My college classes are . . .	Strongly Agree	Agree	Disagree	Strongly Disagree
more demanding than my high school classes.	☐	☐	☐	☐
more interesting than my high school classes.	☐	☐	☐	☐
more interactive than my high school classes.	☐	☐	☐	☐
larger than my high school classes.	☐	☐	☐	☐

Figure 12.4 Survey questions utilizing matrix format

Once you have grouped similar questions together, you'll need to think about the order in which to present those question groups. Most survey researchers agree that it is best to begin a survey with

questions that will want to make respondents continue (Babbie, 2010; Dillman, 2000; Neuman, 2003).[12] In other words, don't bore respondents, but don't scare them away either. There's some disagreement over where on a survey to place demographic questions, such as those about a person's age, gender, and race. On the one hand, placing them at the beginning of the questionnaire may lead respondents to think the survey is boring, unimportant, and not something they want to bother completing. On the other hand, if your survey deals with some very sensitive topic, such as child sexual abuse or criminal convictions, you don't want to scare respondents away or shock them by beginning with your most intrusive questions.

Your participants are human. They will react emotionally to questionnaire items, and they will also try to uncover your research questions and hypotheses. In truth, the order in which you present questions on a survey is best determined by the unique characteristics of your research. When feasible, you should consult with key informants from your target population determine how best to order your questions. If it is not feasible to do so, think about the unique characteristics of your topic, your questions, and most importantly, your sample. Keeping in mind the characteristics and needs of the people you will ask to complete your survey should help guide you as you determine the most appropriate order in which to present your questions. None of your decisions will be perfect, and all studies have limitations.

Questionnaire length

You'll also need to consider the time it will take respondents to complete your questionnaire. Surveys vary in length, from just a page or two to a dozen or more pages, which means they also vary in the time it takes to complete them. How long to make your survey depends on several factors. First, what is it that you wish to know? Wanting to understand how grades vary by gender and year in school certainly requires fewer questions than wanting to know how people's experiences in college are shaped by demographic characteristics, college attended, housing situation, family background, college major, friendship networks, and extracurricular activities. Keep in mind that even if your research question requires a sizable number of questions be included in your questionnaire, do your best to keep the questionnaire as brief as possible. Any hint that you've thrown in a bunch of useless questions just for the sake of it will turn off respondents and may make them not want to complete your survey.

Second, and perhaps more important, how long are respondents likely to be willing to spend completing your questionnaire? If you are studying college students, asking them to use their very free time to complete your survey may mean they won't want to spend more than a few minutes on it. But if you find ask them to complete your survey during down-time between classes and there is little work to be done, students may be willing to give you a bit more of their time. Think about places and times that your sampling frame naturally gathers and whether you would be able to either recruit participants or distribute a survey in that context. Estimate how long your participants would reasonably have to complete a survey presented to them during this time. The more you know about your population (such as what weeks have less work and more free time), the better you can target questionnaire length.

The time that survey researchers ask respondents to spend on questionnaires varies greatly. Some researchers advise that surveys should not take longer than about 15 minutes to complete (as cited in Babbie 2010),[13] whereas others suggest that up to 20 minutes is acceptable (Hopper, 2010).[14] As with question order, there is no clear-cut, always-correct answer about questionnaire length. The unique characteristics of your study and your sample should be considered to determine how long to make your questionnaire. For example, if you planned to distribute your questionnaire to students in between classes, you will need to make sure it is short enough to complete before the next class begins.

When designing a questionnaire, a researcher should consider:

- Weighing strengths and limitations of the method of delivery, including the advanced tools in online survey software or the simplicity of paper questionnaires.
- Grouping together items that ask about the same thing.
- Moving any questions about sensitive items to the end of the questionnaire, so as not to scare respondents off.
- Moving any questions that engage the respondent to answer the questionnaire at the beginning, so as not to bore them.
- Timing the length of the questionnaire with a reasonable length of time you can ask of your participants.
- Dedicating time to visual design and ensure the questionnaire looks professional.

Exercises

Type out a final draft of your questionnaire in a word processor or online survey tool.

- Evaluate your questionnaire using the guidelines above, revise it, and get it ready to share with other student researchers.



Pilot testing and revising questionnaires

A good way to estimate the time it will take respondents to complete your questionnaire (and other potential challenges) is through **pilot testing**. Pilot testing allows you to get feedback on your questionnaire so you can improve it before you actually administer it. It can be quite expensive and time consuming if you wish to pilot test your questionnaire on a large sample of people who very much resemble the sample to whom you will eventually administer the finalized version of your questionnaire. But you can learn a lot and make great improvements to your questionnaire simply by pilot testing with a small number of people to whom you have easy access (perhaps you have a few friends who owe you a favor). By pilot testing your questionnaire, you can find out how understandable your questions are, get feedback on question wording and order, find out whether any of your questions are boring or offensive, and learn whether there are places where you should have included filter questions. You can also time pilot testers as they take your survey. This will give you a good idea about the estimate to provide respondents when you administer your survey and whether you have some wiggle room to add additional items or need to cut a few items.

Perhaps this goes without saying, but your questionnaire should also have an attractive design. A messy presentation style can confuse respondents or, at the very least, annoy them. Be brief, to the point, and

as clear as possible. Avoid cramming too much into a single page. Make your font size readable (at least 12 point or larger, depending on the characteristics of your sample), leave a reasonable amount of space between items, and make sure all instructions are exceptionally clear. If you are using an online survey, ensure that participants can complete it via mobile, computer, and tablet devices. Think about books, documents, articles, or web pages that you have read yourself—which were relatively easy to read and easy on the eyes and why? Try to mimic those features in the presentation of your survey questions. While online survey tools automate much of visual design, word processors are designed for writing all kinds of documents and may need more manual adjustment as part of visual design.

Realistically, your questionnaire will continue to evolve as you develop your data analysis plan over the next few chapters. By now, you should have a complete draft of your questionnaire grounded in an underlying logic that ties together each question and response option to a variable in your study. Once your questionnaire is finalized, you will need to submit it for ethical approval from your professor or the IRB. If your study requires IRB approval, it may be worthwhile to submit your proposal before your questionnaire is completely done. Revisions to IRB protocols are common and it takes less time to review a few changes to questions and answers than it does to review the entire study, so give them the whole study as soon as you can. Once the IRB approves your questionnaire, you cannot change it without their okay.

Key Takeaways

- A questionnaire is comprised of self-report measures of variables in a research study.
- Make sure your survey questions will be relevant to all respondents and that you use filter questions when necessary.
- Effective survey questions and responses take careful construction by researchers, as participants may be confused or otherwise influenced by how items are phrased.
- The questionnaire should start with informed consent and instructions, flow logically from one topic to the next, engage but not shock participants, and thank participants at the end.
- Pilot testing can help identify any issues in a questionnaire before distributing it to participants, including language or length issues.

Exercises

It's a myth that researchers work alone! Get together with a few of your fellow students and swap questionnaires for pilot testing.

- Use the criteria in each section above (questions, response options, questionnaires) and provide your peers with

the strengths and weaknesses of their questionnaires.
- See if you can guess their research question and hypothesis based on the questionnaire alone.

12.4 Bias and cultural considerations

Learning Objectives

Learners will be able to...

- Identify the logic behind survey design as it relates to nomothetic causal explanations and quantitative methods.
- Discuss sources of bias and error in surveys.
- Apply criticisms of survey design to ensure more equitable research.

The logic of survey design

As you may have noticed with survey designs, everything about them is intentional–from the delivery method, to question wording, to what response options are offered. It's helpful to spell out the underlying logic behind survey design and how well it meets the criteria for nomothetic causal explanations. Because we are trying to isolate the causal relationship between our dependent and independent variable, we must try to control for as many possible confounding factors as possible. Researchers using survey design do this in multiple ways:

- Using well-established, valid, and reliable measures of key variables, including triangulating variables using multiple measures
- Measuring control variables and including them in their statistical analysis
- Avoiding biased wording, presentation, or procedures that might influence the sample to respond differently
- Pilot testing questionnaires, preferably with people similar to the sample

In other words, survey researchers go through a lot of trouble to make sure *they* are not the ones causing the changes they observe in their study. Of course, every study falls a little short of this ideal

bias-free design, and some studies fall far short of it. This section is all about how bias and error can inhibit the ability of survey results to meaningfully tell us about causal relationships in the real world.

Bias in questionnaires, questions, and response options

The use of surveys is based on methodological assumptions common to research in the postpositivist paradigm. Figure 12.5 presents a model the methodological assumptions behind survey design—what researchers assume is the cognitive processes that people engage in when responding to a survey item (Sudman, Bradburn, & Schwarz, 1996).[15] Respondents must interpret the question, retrieve relevant information from memory, form a tentative judgment, convert the tentative judgment into one of the response options provided (e.g., a rating on a 1-to-7 scale), and finally edit their response as necessary.



Figure 12.5 Model of the cognitive processes involved in responding to a survey item

Consider, for example, the following questionnaire item:

1. How many alcoholic drinks do you consume in a typical day?
    - a lot more than average
    - somewhat more than average
    - average
    - somewhat fewer than average
    - a lot fewer than average

Although this item at first seems straightforward, it poses several difficulties for respondents. First, they must interpret the question. For example, they must decide whether "alcoholic drinks" include beer and wine (as opposed to just hard liquor) and whether a "typical day" is a typical weekday, typical weekend day, or both. Even though Chang and Krosnick (2003)[16] found that asking about "typical" behavior has been shown to be more valid than asking about "past" behavior, their study compared "typical week" to "past week" and may be different when considering typical weekdays or weekend days).

Once respondents have interpreted the question, they must retrieve relevant information from memory

to answer it. But what information should they retrieve, and how should they go about retrieving it? They might think vaguely about some recent occasions on which they drank alcohol, they might carefully try to recall and count the number of alcoholic drinks they consumed last week, or they might retrieve some existing beliefs that they have about themselves (e.g., "I am not much of a drinker"). Then they must use this information to arrive at a tentative judgment about how many alcoholic drinks they consume in a typical day. For example, this mental calculation might mean dividing the number of alcoholic drinks they consumed last week by seven to come up with an average number per day. Then they must format this tentative answer in terms of the response options actually provided. In this case, the options pose additional problems of interpretation. For example, what does "average" mean, and what would count as "somewhat more" than average? Finally, they must decide whether they want to report the response they have come up with or whether they want to edit it in some way. For example, if they believe that they drink a lot more than average, they might not want to report that for fear of looking bad in the eyes of the researcher, so instead, they may opt to select the "somewhat more than average" response option.

At first glance, this question is clearly worded and includes a set of mutually exclusive, exhaustive, and balanced response options. However, it is difficult to follow the logic of what is truly being asked. Again, this complexity can lead to unintended influences on respondents' answers. Confounds like this are often referred to as **context effects** because they are not related to the content of the item but to the context in which the item appears (Schwarz & Strack, 1990).[17] For example, there is an **item-order effect** when the order in which the items are presented affects people's responses. One item can change how participants interpret a later item or change the information that they retrieve to respond to later items. For example, researcher Fritz Strack and his colleagues asked college students about both their general life satisfaction and their dating frequency (Strack, Martin, & Schwarz, 1988).[18] When the life satisfaction item came first, the correlation between the two was only –.12, suggesting that the two variables are only weakly related. But when the dating frequency item came first, the correlation between the two was +.66, suggesting that those who date more have a strong tendency to be more satisfied with their lives. Reporting the dating frequency first made that information more accessible in memory so that they were more likely to base their life satisfaction rating on it.

The response options provided can also have unintended effects on people's responses (Schwarz, 1999).[19] For example, when people are asked how often they are "really irritated" and given response options ranging from "less than once a year" to "more than once a month," they tend to think of major irritations and report being irritated infrequently. But when they are given response options ranging from "less than once a day" to "several times a month," they tend to think of minor irritations and report being irritated frequently. People also tend to assume that middle response options represent what is normal or typical. So if they think of themselves as normal or typical, they tend to choose middle response options (i.e., fence-sitting). For example, people are likely to report watching more television when the response options are centered on a middle option of 4 hours than when centered on a middle option of 2 hours. To mitigate against order effects, rotate questions and response items when there is no natural order. Counterbalancing or randomizing the order of presentation of the questions in online

surveys are good practices for survey questions and can reduce response order effects that show that among undecided voters, the first candidate listed in a ballot receives a 2.5% boost simply by virtue of being listed first![20]

Other context effects that can confound the causal relationship under examination in a survey include social desirability bias, recall bias, and common method bias. As we discussed in Chapter 11, **social desirability bias** occurs when we create questions that lead respondents to answer in ways that don't reflect their genuine thoughts or feelings to avoid being perceived negatively. With negative questions such as, "do you think that your project team is dysfunctional?", "is there a lot of office politics in your workplace?", or "have you ever illegally downloaded music files from the Internet?", the researcher may not get truthful responses. This tendency among respondents to "spin the truth" in order to portray themselves in a socially desirable manner is called social desirability bias, which hurts the validity of responses obtained from survey research. There is practically no way of overcoming social desirability bias in a questionnaire survey outside of wording questions using nonjudgmental language. However, in a quantitative interview, a researcher may be able to spot inconsistent answers and ask probing questions or use personal observations to supplement respondents' comments.

As you can see, participants' responses to survey questions often depend on their motivation, memory, and ability to respond. Particularly when dealing with events that happened in the distant past, respondents may not adequately remember their own motivations or behaviors, or perhaps their memory of such events may have evolved with time and are no longer retrievable. This phenomenon is know as **recall bias**. For instance, if a respondent is asked to describe their utilization of computer technology one year ago, their response may not be accurate due to difficulties with recall. One possible way of overcoming the recall bias is by anchoring the respondent's memory in specific events as they happened, rather than asking them to recall their perceptions and motivations from memory.

Cross-sectional and retrospective surveys are particularly vulnerable to recall bias as well as common method bias. **Common method bias** can occur when measuring both independent and dependent variables at the same time (like a cross-section survey) and using the same instrument (like a questionnaire). In such cases, the phenomenon under investigation may not be adequately separated from measurement artifacts. Standard statistical tests are available to test for common method bias, such as Harmon's single-factor test (Podsakoff et al. 2003),[21], Lindell and Whitney's (2001)[22] market variable technique, and so forth. This bias can be potentially avoided if the independent and dependent variables are measured at different points in time, using a longitudinal survey design, or if these variables are measured using different data sources, such as medical or student records rather than self-report questionnaires.



Bias in recruitment and response to surveys

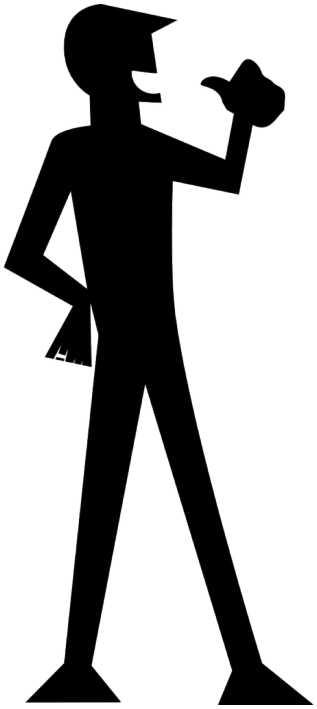
So far, we have discussed errors that researchers make when they design questionnaires that accidentally influence participants to respond one way or another. However, even well designed questionnaires can produce biased results when administered to survey respondents because of the biases in who actually responds to your survey.

Survey research is notorious for its low response rates. A response rate of 15-20% is typical in a mail survey, even after two or three reminders. If the majority of the targeted respondents fail to respond to a survey, then a legitimate concern is whether non-respondents are not responding due to a systematic reason, which may raise questions about the validity and generalizability of the study's results, especially as this relates to the representativeness of the sample. This is known as **non-response bias**. For instance, dissatisfied customers tend to be more vocal about their experience than satisfied customers, and are therefore more likely to respond to satisfaction questionnaires. Hence, any respondent sample is likely to have a higher proportion of dissatisfied customers than the underlying population from which it is drawn.[23] In this instance, the results would not be generalizable beyond this one biased sample. Here are several strategies for addressing non-response bias:

- Advance notification: A short letter sent in advance to the targeted respondents soliciting their participation in an upcoming survey can prepare them and improve likelihood of response. The letter should state the purpose and importance of the study, mode of data collection (e.g., via a phone call, a survey form in the mail, etc.), and appreciation for their cooperation. A variation of this technique may request the respondent to return a postage-paid postcard indicating whether or not they are willing to participate in the study.
- Ensuring that content is relevant: If a survey examines issues of relevance or importance to respondents, then they are more likely to respond.
- Creating a respondent-friendly questionnaire: Shorter survey questionnaires tend to elicit higher response rates than longer questionnaires. Furthermore, questions that are clear, inoffensive, and easy to respond to tend to get higher response rates.
- Having the project endorsed: For organizational surveys, it helps to gain endorsement from a senior executive attesting to the importance of the study to the organization. Such endorsements can be in the form of a cover letter or a letter of introduction, which can improve the researcher's credibility in the eyes of the respondents.
- Providing follow-up requests: Multiple follow-up requests may coax some non-respondents to respond, even if their responses are late.
- Ensuring that interviewers are properly trained: Response rates for interviews can be improved with skilled interviewers trained on how to request interviews, use computerized dialing techniques to identify potential respondents, and schedule callbacks for respondents who could not be reached.
- Providing incentives: Response rates, at least with certain populations, may increase with the use of incentives in the form of cash or gift cards, giveaways such as pens or stress balls, entry into a lottery, draw or contest, discount coupons, the promise of contribution to charity, and so forth.
- Providing non-monetary incentives: Organizations in particular are more prone to respond to non-monetary incentives than financial incentives. An example of such a non-monetary incentive sharing trainings and other resources based on the results of a project with a key stakeholder.
- Making participants fully aware of confidentiality and privacy: Finally, assurances that respondents' private data or responses will not fall into the hands of any third party may help improve response rates.

Nonresponse bias impairs the ability of the researcher to generalize from the total number of respondents in the sample to the overall sampling frame. Of course, this assumes that the sampling frame is itself representative and generalizable to the larger target population. **Sampling bias** is present when the people in our sampling frame or the approach we use to sample them results in a sample that does not represent our population in some way. Telephone surveys conducted by calling a random sample of publicly available telephone numbers will systematically exclude people with unlisted telephone numbers, mobile phone numbers, and will include a disproportionate number of respondents who have land-line telephone service and stay home during much of the day, such as people who are unemployed, disabled, or of advanced age. Likewise, online surveys tend to include a disproportionate number of students and younger people who are more digitally connected, and systematically exclude

people with limited or no access to computers or the Internet, such as the poor and the elderly. A different kind of sampling bias relates to generalizing from key informants to a target population, such as asking teachers (or parents) about the academic learning of their students (or children) or asking CEOs about operational details in their company. These sampling frames may provide a clearer picture of what key informants think and feel, rather than the target population.



Cultural bias

The acknowledgement that most research in social work and other adjacent fields is overwhelmingly based on so-called WEIRD (Western, educated, industrialized, rich and democratic) populations–a topic we discussed in Chapter 10–has given way to intensified research funding, publication, and visibility of collaborative cross-cultural studies across the social sciences that expand the geographical range of study populations. Many of the so-called non-WEIRD communities who increasingly participate in research are Indigenous, from low- and middle-income countries in the global South, live in post-colonial contexts, and/or are marginalized within their political systems, revealing and reproducing power differentials between researchers and researched (Whiteford & Trotter, 2008).[24] Cross-cultural research has historically been rooted in racist, capitalist ideas and motivations (Gordon, 1991).[25] Scholars have long debated whether research aiming to standardize cross-cultural measurements and analysis is tacitly engaged and/or continues to be rooted in colonial and imperialist practices (Kline et al., 2018; Stearman, 1984).[26] Given this history, it is critical that scientists reflect upon these issues and be accountable to their participants and colleagues for their research practices. We argue that cross-

cultural research be grounded in the recognition of the historical, political, sociological and cultural forces acting on the communities and individuals of focus. These perspectives are often contrasted with 'science'; here we argue that they are necessary as a foundation for the study of human behavior.

We stress that our goal is not to review the literature on colonial or neo-colonial research practices, to provide a comprehensive primer on decolonizing approaches to field research, nor to identify or admonish past harms in these respects—harms to which many of the authors of this piece would readily admit. Furthermore, we acknowledge that we ourselves are writing from a place of privilege as researchers educated and trained in disciplines with colonial pasts. Our goal is simply to help students understand the broader issues in cross-cultural studies for appropriate consideration of diverse communities and culturally appropriate methodologies for student research projects.

Equivalence of measures across cultures

Data collection methods largely stemming from WEIRD intellectual traditions are being exported to a range of cultural contexts. This is often done with insufficient consideration of the translatability (e.g. equivalence or applicability) or implementation of such concepts and methods in different contexts, as already well documented (e.g., Hruschka et al., 2018).[27] For example, in a developmental psychology study conducted by Broesch and colleagues (2011),[28] the research team exported a task to examine the development and variability of self-recognition in children across cultures. Typically, this milestone is measured by surreptitiously placing a mark on a child's forehead and allowing them to discover their reflective image and the mark in a mirror. While self-recognition in WEIRD contexts typically manifests in children by 18 months of age, the authors tested found that only 2 out of 82 children (aged 1–6 years) 'passed' the test by removing the mark using the reflected image. The authors' interpretation of these results was that the test produced false negatives and instead measured implicit compliance to the local authority figure who placed the mark on the child. This raises the possibility that the mirror test may lack construct validity in cross-cultural contexts—in other words, that it may not measure the theoretical construct it was designed to measure.

As we discussed previously, survey researchers want to make sure everyone receives the same questionnaire, but how can we be sure everyone understands the questionnaire in the same way? **Cultural equivalence** means that a measure produces comparable data when employed in different cultural populations (Van de Vijver & Poortinga, 1992).[29] If concepts differ in meaning across cultures, **cultural bias** may better explain what is going on with your key variables better than your hypotheses. Cultural bias may result because of poor item translation, inappropriate content of items, and unstandardized procedures (Waltz et al., 2010).[30] Of particular importance is **construct bias**, or "when the construct measured is not identical across cultures or when behaviors that characterize the construct are not identical across cultures" (Meiring et al., 2005, p. 2)[31] Construct bias emerges when there is: a) disagreement about the appropriateness of content, b) inadequate sampling, c)

underrepresentation of the construct, and d) incomplete overlap of the construct across cultures (Van de Vijver & Poortinga, 1992).[32]



Addressing cultural bias

To address these issues, we propose that careful scrutiny of (a) study site selection, (b) community involvement and (c) culturally appropriate research methods. Particularly for those initiating collaborative cross-cultural projects, we focus here on pragmatic and implementable steps. For student researchers, it is important to be aware of these issues and assess for them in the strengths and limitations of your own study, though the degree to which you can feasibly implement some of these measures will be impaired by a lack of resources.

Study site selection

Researchers are increasingly interested in cross-cultural research applicable outside of WEIRD

contexts., but this has sometimes led to an uncritical and haphazard inclusion of 'non-WEIRD' populations in cross-cultural research without further regard for why specific populations should be included (Barrett, 2020).[33] One particularly egregious example is the grouping of all non-Western populations as a comparative sample to the cultural West (i.e. the 'West versus rest' approach) is often unwittingly adopted by researchers performing cross-cultural research (Henrich, 2010).[34] Other researcher errors include the exoticization of particular cultures or viewing non-Western cultures as a window into the past rather than cultures that have co-evolved over time.

Thus, some of the cultural biases in survey research emerge when researchers fail to identify a clear *theoretical justification* for inclusion of any subpopulation—WEIRD or not—based on knowledge of the relevant cultural and/or environmental context (see Tucker, 2017[35] for a good example). For example, a researcher asking about satisfaction with daycare must acquire the relevant cultural and environmental knowledge about a daycare that caters exclusively to Orthodox Jewish families. Simply including this study site without doing appropriate background research and identifying a specific aspect of this cultural group that is of theoretical interest in your study (e.g., spirituality and parenthood) indicates a lack of rigor in research. It undercuts the validity and generalizability of your findings by introducing sources of cultural bias that are unexamined in your study.

Sampling decisions are also important as they involve unique ethical and social challenges. For example, foreign researchers (as sources of power, information and resources) represent both opportunities for and threats to community members. These relationships are often complicated by power differentials due to unequal access to wealth, education and historical legacies of colonization. As such, it is important that investigators are alert to the possible bias among individuals who initially interact with researchers, to the potential negative consequences for those excluded, and to the (often unspoken) power dynamics between the researcher and their study participants (as well as among and between study participants).

We suggest that a necessary first step is to carefully consult existing resources outlining best practices for ethical principles of research before engaging in cross-cultural research. Many of these resources have been developed over years of dialogue in various academic and professional societies (e.g. American Anthropological Association, International Association for Cross Cultural Psychology, International Union of Psychological Science). Furthermore, communities themselves are developing and launching research-based codes of ethics and providing carefully curated open-access materials such as those from the Indigenous Peoples' Health Research Centre, often written in consultation with ethicists in low- to middle-income countries (see Schroeder et al., 2019).[36]

Community involvement

Too often researchers engage in 'extractive' research, whereby a researcher selects a study community and collects the necessary data to exclusively further their own scientific and/or professional goals without benefiting the community. This reflects a long history of colonialism in social science.

Extractive methods lead to methodological flaws and alienate participants from the scientific process, poisoning the well of scientific knowledge on a macro level. Many researchers are associated with institutions tainted with colonial, racist and sexist histories, sentiments and in some instances perpetuating into the present. Much cross-cultural research is carried out in former or contemporary colonies, and in the colonial language. Explicit and implicit power differentials create ethical challenges that can be acknowledged by researchers and in the design of their study (see Schuller, 2010[37] for an example in which the power and politics of various roles played by researchers).

An understanding of cultural norms may ensure that data collection and questionnaire design are culturally and linguistically relevant. This can be achieved by implementing several complementary strategies. A first step may be to collaborate with members of the study community to check the relevance of the instruments being used. Incorporating perspectives from the study community from the outset can reduce the likelihood of making scientific errors in measurement and inference (First Nations Information Governance Centre, 2014).[38]

An additional approach is to use mixed methods in data collection, such that each method 'checks' the data collected using the other methods. A recent paper by Fisher and Poortinga (2018)[39] provides suggestions for a rigorous methodological approach to conducting cross-cultural comparative psychology, underscoring the importance of using multiple methods with an eye towards a convergence of evidence. A mixed-method approach can incorporate a variety of qualitative methods over and on top of a quantitative survey including open-ended questions, focus groups, and interviews.

Research design and methods

It is critical that researchers translate the language, technological references and stimuli as well as examine the underlying cultural context of the original method for assumptions that rely upon WEIRD epistemologies (Hrushcka, 2020).[40] This extends to non-complex visual aids, attempting to ensure that even scales measure what the researcher is intending (see Purzycki and Lang, 2019[41] for discussion on the use of a popular economic experiment in small-scale societies).

For more information on assessing cultural equivalence, consult this free training from RTI International, a well-regarded non-profit research firm, entitled "The essential role of language in survey design" and this free training from the Center for Capacity Building in Survey Methods and Statistics entitled "Questionnaire design: For surveys in 3MC (multinational, multiregional, and multi cultural) contexts. These trainings guide researchers using survey design through the details of evaluating and writing survey questions using culturally sensitive language. Moreover, if you are planning to conduct cross-cultural research, you should consult this guide for assessing measurement equivalency and bias across cultures, as well.

Key Takeaways

- Bias can come from both how questionnaire items are presented to participants as well as how participants are recruited and respond to surveys.
- Cultural bias emerges from the differences in how people think and behave across cultures.
- Cross-cultural research requires a theoretically-informed sampling approach, evaluating measurement equivalency across cultures, and generalizing findings with caution.

Exercises

Review your questionnaire and assess it for potential sources of bias.

- Include the results of pilot testing from the previous exercise.
- Make any changes to your questionnaire (or sampling approach) you think would reduce the potential for bias in your study.

Create a first draft of your limitations section by identifying sources of bias in your survey.

- Write a bulleted list or paragraph or the potential sources of bias in your study.
- Remember that all studies, especially student-led studies, have limitations. To the extent you can address these limitations now and feasibly make changes, do so. But keep in mind that your goal should be more to correctly describe the bias in your study than to collect bias-free results. Ultimately, your study needs to get done!

Media Attributions

- to-do-4483048_1920 © Mohamed Hassan
- assessment-6078645_1280 © Mohamed Hassan
- man-3591573_1920 © Geralt
- polaroid-1277003_1920 © Pete Linforth
- photographer-2032135_1920 © Gerd Altmann
- human-2944065_1920 © Gerd Altmann
- survey-1594962_1920 © Andreas Breitling
- christina-wocintechchat-com-LQ1t-8Ms5PY-unsplash © Christina
- clayton-robbins-7r7-7RLdwCU-unsplash © Clayton Robbins
- celpax-OtV1OXDX94I-unsplash © Celpax
- Figure 12.2 Double-barreled question © Amy Blackstone adapted by Matt DeCarlo is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license

- hadija-saidi-jCfDzOQ2-C8-unsplash © Hadija Saidi
- Figure 12.3 Double-barreled response options © Amy Blackstone adapted by Matt DeCarlo is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- experience-3239623_1920 © Mohamed Hassan
- feedback-4062738_1920 © Mohamed Hassan
- 9.1 © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, and Dana C. Leighton is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- email-4009691_1920 © Gerd Altmann
- me-150143_1280 © OpenClipart-Vectors
- 41789870962_5240bba38e_k © Giulia Forsythe is licensed under a CC BY (Attribution) license

Notes

1. Unless researchers change the order of questions as part of their methodology and ensuring accurate responses to questions
2. Not that there are any personal vendettas I'm aware of in academia...everyone gets along great here...
3. Blackstone, A. (2013). Harassment of older adults in the workplace. In P. Brownell & J. J. Kelly (eds.) *Ageism and mistreatment of older workers*. Springer
4. Smith, T. W. (2009). Trends in willingness to vote for a Black and woman for president, 1972–2008. *GSS Social Change Report No. 55*. Chicago, IL: National Opinion Research Center
5. Enriquez , L. E., Rosales , W. E., Chavarria, K., Morales Hernandez, M., & Valadez, M. (2021). COVID on Campus: Assessing the Impact of the Pandemic on Undocumented College Students. AERA Open. https://doi.org/10.1177/23328584211033576
6. Mortimer, J. T. (2003). *Working and growing up in America*. Cambridge, MA: Harvard University Press.
7. Lindert, J., Lee, L. O., Weisskopf, M. G., McKee, M., Sehner, S., & Spiro III, A. (2020). Threats to Belonging—Stressful Life Events and Mental Health Symptoms in Aging Men—A Longitudinal Cohort Study. *Frontiers in psychiatry*, 11, 1148.
8. Kleschinsky, J. H., Bosworth, L. B., Nelson, S. E., Walsh, E. K., & Shaffer, H. J. (2009). Persistence pays off: follow-up methods for difficult-to-track longitudinal samples. *Journal of studies on alcohol and drugs*, 70(5), 751-761.
9. Silver, N. (2021, March 25). The death of polling is greatly exaggerated. *FiveThirtyEight*. Retrieved from: https://fivethirtyeight.com/features/the-death-of-polling-is-greatly-exaggerated/
10. Babbie, E. (2010). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.
11. Peterson, R. A. (2000). *Constructing effective questionnaires*. Thousand Oaks, CA: Sage.
12. Babbie, E. (2010). The practice of social research (12th ed.). Belmont, CA: Wadsworth; Dillman, D. A. (2000). Mail and Internet surveys: The tailored design method (2nd ed.). New York, NY: Wiley; Neuman, W. L. (2003). *Social research methods: Qualitative and quantitative approaches* (5th ed.). Boston, MA: Pearson.
13. Babbie, E. (2010). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.
14. Hopper, J. (2010). How long should a survey be? Retrieved from http://www.verstaresearch.com/blog/how-long-should-a-survey-be
15. Sudman, S., Bradburn, N. M., & Schwarz, N. (1996). *Thinking about answers: The application of cognitive processes to survey methodology*. San Francisco, CA: Jossey-Bass.
16. Chang, L., & Krosnick, J.A. (2003). Measuring the frequency of regular behaviors: Comparing the 'typical week' to the 'past week'. *Sociological Methodology*, 33, 55-80.
17. Schwarz, N., & Strack, F. (1990). Context effects in attitude surveys: Applying cognitive theory to social research.

In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 2, pp. 31–50). Chichester, UK: Wiley.

18. Strack, F., Martin, L. L., & Schwarz, N. (1988). Priming and communication: The social determinants of information use in judgments of life satisfaction. *European Journal of Social Psychology*, 18, 429–442.
19. Schwarz, N. (1999). Self-reports: How the questions shape the answers. *American Psychologist*, 54, 93–105.
20. Miller, J.M. & Krosnick, J.A. (1998). The impact of candidate name order on election outcomes. *Public Opinion Quarterly*, 62(3), 291-330.
21. Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.
22. Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114.
23. This is why my ratemyprofessor.com score is so low. Or that's what I tell myself.
24. Whiteford, L. M., & Trotter II, R. T. (2008). *Ethics for anthropological research and practice*. Waveland Press.
25. Gordon, E. T. (1991). Anthropology and liberation. In F V Harrison (ed.) *Decolonizing anthropology: Moving further toward an anthropology for liberation* (pp. 149-167). Arlington, VA: American Anthropological Association.
26. Kline, M. A., Shamsudheen, R., & Broesch, T. (2018). Variation is the universal: Making cultural evolution work in developmental psychology. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1743), 20170059. Stearman, A. M. (1984). The Yuquí connection: Another look at Sirionó deculturation. *American Anthropologist*, 86(3), 630-650.
27. Hruschka, D. J., Munira, S., Jesmin, K., Hackman, J., & Tiokhin, L. (2018). Learning from failures of protocol in cross-cultural research. *Proceedings of the National Academy of Sciences*, 115(45), 11428-11434.
28. Broesch, T., Callaghan, T., Henrich, J., Murphy, C., & Rochat, P. (2011). Cultural variations in children's mirror self-recognition. *Journal of Cross-Cultural Psychology*, 42(6), 1018-1029.
29. Van de Vijver, F. J., & Poortinga, Y. H. (1992). Testing in culturally heterogeneous populations: When are cultural loadings undesirable?. *European Journal of Psychological Assessment*.
30. Waltz, C. F., Strickland, O. L., & Lenz, E. R. (Eds.). (2010). *Measurement in nursing and health research (4th ed.)*. Springer.
31. Meiring, D., Van de Vijver, A. J. R., Rothmann, S., & Barrick, M. R. (2005). Construct, item and method bias of cognitive and personality tests in South Africa. *SA Journal of Industrial Psychology*, 31(1), 1-8.
32. Van de Vijver, F. J., & Poortinga, Y. H. (1992). Testing in culturally heterogeneous populations: When are cultural loadings undesirable?. *European Journal of Psychological Assessment*.
33. Barrett, H. C. (2020). Deciding what to observe: Thoughts for a post-WEIRD generation. *Evolution and Human Behavior*, 41(5), 445-453.
34. Henrich, J., Heine, S. J., & Norenzayan, A. (2010). Beyond WEIRD: Towards a broad-based behavioral science. *Behavioral and Brain Sciences*, 33(2-3), 111.
35. Tucker, B. (2017). From risk and time preferences to cultural models of causality: on the challenges and possibilities of field experiments, with examples from rural Southwestern Madagascar. *Impulsivity*, 61-114.
36. Schroeder, D., Chatfield, K., Singh, M., Chennells, R., & Herissone-Kelly, P. (2019). *Equitable research partnerships: a global code of conduct to counter ethics dumping*. Springer Nature.
37. Schuller, M. (2010). From activist to applied anthropologist to anthropologist? On the politics of collaboration. *Practicing Anthropology*, 32(1), 43-47.
38. First Nations Information Governance Centre. (2014). *Ownership, control, access and possession (OCAP): The path to First Nations information governance.*
39. Fischer, R., & Poortinga, Y. H. (2018). Addressing methodological challenges in culture-comparative research. *Journal of Cross-Cultural Psychology*, 49(5), 691-712.
40. Hruschka, D. J. (2020). What we look with" is as important as "What we look at. *Evolution and Human Behavior*, 41(5), 458-459.
41. Purzycki, B. G., & Lang, M. (2019). Identity fusion, outgroup relations, and sacrifice: a cross-cultural test. *Cognition*, 186, 1-6.

13. Experimental design

Chapter Outline

1. What is an experiment and when should you use one? (8 minute read)
2. True experimental designs (7 minute read)
3. Quasi-experimental designs (8 minute read)
4. Non-experimental designs (5 minute read)
5. Critical, ethical, and critical considerations (5 minute read)

Content warning: examples in this chapter contain references to non-consensual research in Western history, including experiments conducted during the Holocaust and on African Americans (section 13.6).

13.1 What is an experiment and when should you use one?

Learning Objectives

Learners will be able to...

- Identify the characteristics of a basic experiment
- Describe causality in experimental design
- Discuss the relationship between dependent and independent variables in experiments
- Explain the links between experiments and generalizability of results
- Describe advantages and disadvantages of experimental designs

The basics of experiments

The first experiment I can remember using was for my fourth grade science fair. I wondered if latex- or oil-based paint would hold up to sunlight better. So, I went to the hardware store and got a few small cans of paint and two sets of wooden paint sticks. I painted one with oil-based paint and the other with latex-based paint of different colors and put them in a sunny spot in the back yard. My hypothesis was

that the oil-based paint would fade the most and that more fading would happen the longer I left the paint sticks out. (I know, it's obvious, but I was only 10.)

I checked in on the paint sticks every few days for a month and wrote down my observations. The first part of my hypothesis ended up being wrong—it was actually the latex-based paint that faded the most. But the second part was right, and the paint faded more and more over time. This is a simple example, of course—experiments get a heck of a lot more complex than this when we're talking about real research.

Merriam-Webster defines an **experiment** as "an operation or procedure carried out under controlled conditions in order to discover an unknown effect or law, to test or establish a hypothesis, or to illustrate a known law." Each of these three components of the definition will come in handy as we go through the different types of experimental design in this chapter. Most of us probably think of the physical sciences when we think of experiments, and for good reason—these experiments can be pretty flashy! But social science and psychological research follow the same scientific methods, as we've discussed in this book.

> This video is an introduction to some basics about experiments. As you're watching, think about ways that you could use this information to conceptualize an experiment for your research question.

As the video discusses, experiments can be used in social sciences just like they can in physical sciences. It makes sense to use an experiment when you want to determine the cause of a phenomenon with as much accuracy as possible. Some types of experimental designs do this more precisely than others, as we'll see throughout the chapter. If you'll remember back to Chapter 11 and the discussion of validity, experiments are the best way to ensure internal validity, or the extent to which a change in your independent variable causes a change in your dependent variable.

Experimental designs for research projects are most appropriate when trying to uncover or test a hypothesis about the cause of a phenomenon, so they are best for **explanatory research** questions. As we'll learn throughout this chapter, different circumstances are appropriate for different types of experimental designs. Each type of experimental design has advantages and disadvantages, and some are better at controlling the effect of **extraneous variables**—those variables and characteristics that have an effect on your dependent variable, but aren't the primary variable whose influence you're interested in testing. For example, in a study that tries to determine whether aspirin lowers a person's risk of a fatal heart attack, a person's race would likely be an extraneous variable because you primarily want to know the effect of aspirin.

In practice, many types of experimental designs can be logistically challenging and resource-intensive. As practitioners, the likelihood that we will be involved in some of the types of experimental designs discussed in this chapter is fairly low. However, it's important to learn about these methods, even if we might not ever use them, so that we can be thoughtful consumers of research that uses experimental designs.

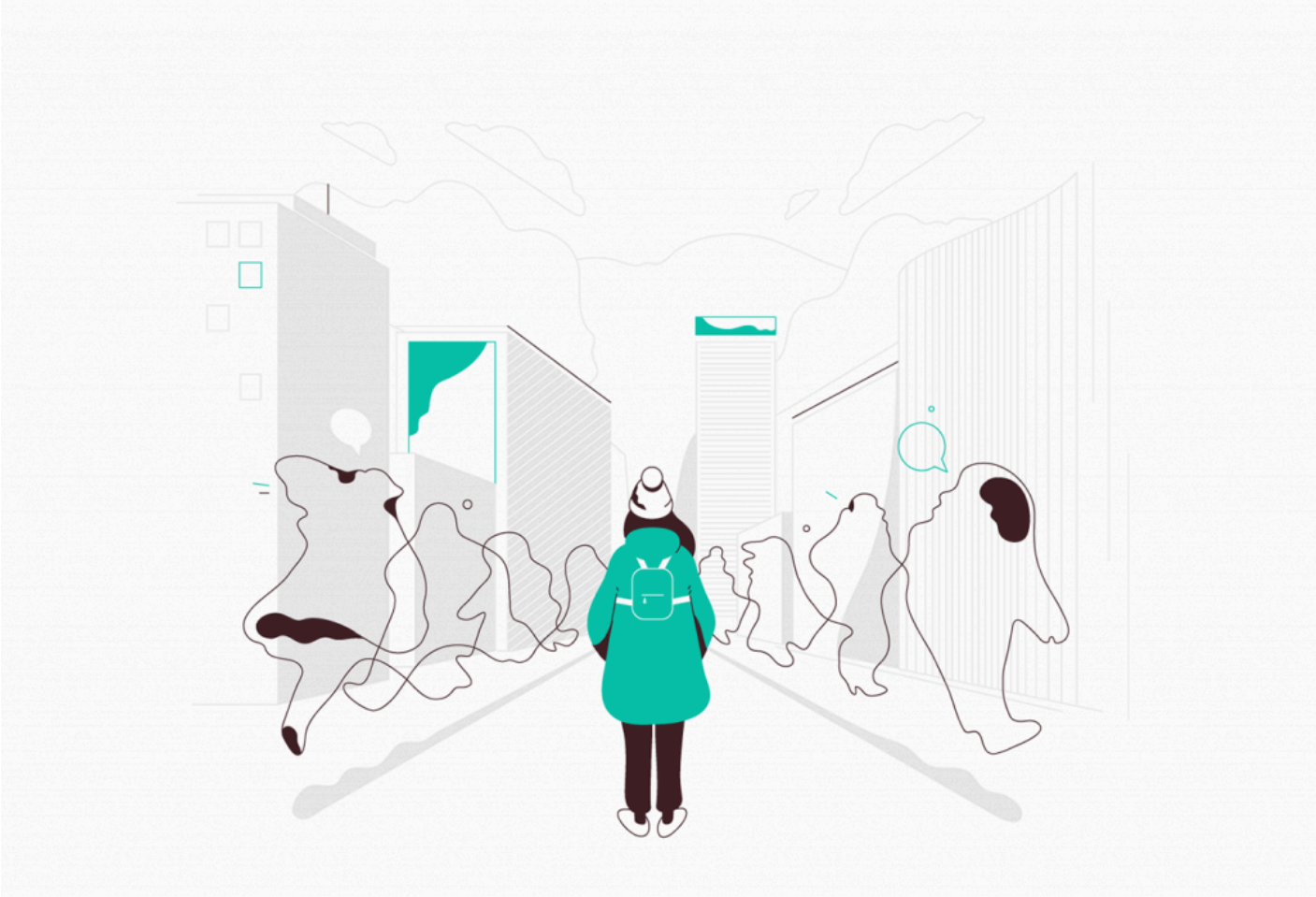
While we might not use all of these types of experimental designs, many of us will engage in evidence-based practice during our time as social workers. A lot of research developing evidence-based practice, which has a strong emphasis on generalizability, will use experimental designs. You've undoubtedly seen one or two in your literature search so far.

The logic of experimental design

How do we know that one phenomenon causes another? The complexity of the social world in which we practice and conduct research means that causes of social problems are rarely cut and dry. Uncovering explanations for social problems is key to helping clients address them, and experimental research designs are one road to finding answers.

As you read about in Chapter 8 (and as we'll discuss again in Chapter 15), just because two phenomena are related in some way doesn't mean that one causes the other. Ice cream sales increase in the summer, and so does the rate of violent crime; does that mean that eating ice cream is going to make me murder someone? Obviously not, because ice cream is great. The reality of that relationship is far more complex—it could be that hot weather makes people more irritable and, at times, violent, while also making people want ice cream. More likely, though, there are other social factors not accounted for in the way we just described this relationship.

Experimental designs can help clear up at least some of this fog by allowing researchers to isolate the effect of interventions on dependent variables by controlling **extraneous variables**. In true experimental design (discussed in the next section) and some quasi-experimental designs, researchers accomplish this with the **control group** and the **experimental group**. (The experimental group is sometimes called the "treatment group," but we will call it the experimental group in this chapter.) The control group does not receive the intervention you are testing (they may receive no intervention or what is known as "treatment as usual"), while the experimental group does. (You will hopefully remember our earlier discussion of control variables in Chapter 8—conceptually, the use of the word "control" here is the same.)



There are lots of choices to make in experimental research.

In a well-designed experiment, your control group should look almost identical to your experimental group in terms of demographics and other relevant factors. What if we want to know the effect of CBT on social anxiety, but we have learned in prior research that men tend to have a more difficult time overcoming social anxiety? We would want our control and experimental groups to have a similar gender mix because it would limit the effect of gender on our results, since ostensibly, both groups' results would be affected by gender in the same way. If your control group has 5 women, 6 men, and 4 non-binary people, then your experimental group should be made up of roughly the same gender balance to help control for the influence of gender on the outcome of your intervention. (In reality, the groups should be similar along other dimensions, as well, and your group will likely be much larger.) The researcher will use the same outcome measures for both groups and compare them, and assuming the experiment was designed correctly, get a pretty good answer about whether the intervention had an effect on social anxiety.

You will also hear people talk about **comparison groups**, which are similar to control groups. The primary difference between the two is that a control group is populated using random assignment, but a comparison group is not. **Random assignment** entails using a random process to decide which

participants are put into the control or experimental group (which participants receive an intervention and which do not). By randomly assigning participants to a group, you can reduce the effect of extraneous variables on your research because there won't be a systematic difference between the groups.

Do not confuse random assignment with random sampling. Random sampling is a method for selecting a sample from a population, and is rarely used in psychological research. Random assignment is a method for assigning participants in a sample to the different conditions, and it is an important element of all experimental research in psychology and other related fields. Random sampling also helps a great deal with **generalizability**, whereas random assignment increases **internal validity**.

We have already learned about **internal validity** in Chapter 11. The use of an experimental design will bolster internal validity since it works to isolate causal relationships. As we will see in the coming sections, some types of experimental design do this more effectively than others. It's also worth considering that true experiments, which most effectively show **causality**, are often difficult and expensive to implement. Although other experimental designs aren't perfect, they still produce useful, valid evidence and may be more feasible to carry out.

Key Takeaways

- Experimental designs are useful for establishing causality, but some types of experimental design do this better than others.
- Experiments help researchers isolate the effect of the independent variable on the dependent variable by controlling for the effect of **extraneous variables**.
- Experiments use a control/comparison group and an experimental group to test the effects of interventions. These groups should be as similar to each other as possible in terms of demographics and other relevant factors.
- True experiments have control groups with randomly assigned participants, while other types of experiments have comparison groups to which participants are *not* randomly assigned.

Exercises

- Think about the research project you've been designing so far. How might you use a basic experiment to answer your question? If your question isn't explanatory, try to formulate a new explanatory question and consider the usefulness of an experiment.
- Why is establishing a simple relationship between two variables not indicative of one causing the other?

13.2 True experimental design

Learning Objectives

Learners will be able to...

- Describe a true experimental design in social work research
- Understand the different types of true experimental designs
- Determine what kinds of research questions true experimental designs are suited for
- Discuss advantages and disadvantages of true experimental designs

True experimental design, often considered to be the "gold standard" in research designs, is thought of as one of the most rigorous of all research designs. In this design, one or more independent variables are manipulated by the researcher (as treatments), subjects are randomly assigned to different treatment levels (random assignment), and the results of the treatments on outcomes (dependent variables) are observed. The unique strength of experimental research is its **internal validity** and its ability to establish (**causality**) through treatment manipulation, while controlling for the effects of extraneous variable. Sometimes the treatment level is no treatment, while other times it is simply a different treatment than that which we are trying to evaluate. For example, we might have a control group that is made up of people who will not receive any treatment for a particular condition. Or, a control group could consist of people who consent to treatment with DBT when we are testing the effectiveness of CBT.

As we discussed in the previous section, a true experiment has a **control group** with participants **randomly assigned**, and an **experimental group**. This is the most basic element of a true experiment. The next decision a researcher must make is when they need to gather data during their experiment. Do they take a baseline measurement and then a measurement after treatment, or just a measurement after treatment, or do they handle measurement another way? Below, we'll discuss the three main types of true experimental designs. There are sub-types of each of these designs, but here, we just want to get you started with some of the basics.

Using a true experiment in social work research is often pretty difficult, since as I mentioned earlier, true experiments can be quite resource intensive. True experiments work best with relatively large sample sizes, and random assignment, a key criterion for a true experimental design, is hard (and unethical) to execute in practice when you have people in dire need of an intervention. Nonetheless, some of the strongest evidence bases are built on true experiments.

For the purposes of this section, let's bring back the example of CBT for the treatment of social anxiety. We have a group of 500 individuals who have agreed to participate in our study, and we have randomly assigned them to the control and experimental groups. The folks in the experimental group will receive

CBT, while the folks in the control group will receive more unstructured, basic talk therapy. These designs, as we talked about above, are best suited for explanatory research questions.

Before we get started, take a look at the table below. When explaining experimental research designs, we often use diagrams with abbreviations to visually represent the experiment. Table 13.1 starts us off by laying out what each of the abbreviations mean.

Table 13.1 Experimental research design notations

R	Randomly assigned group (control/comparison or experimental)
O	Observation/measurement taken of dependent variable
X	Intervention or treatment
X_e	Experimental or new intervention
X_i	Typical intervention/treatment as usual
A, B, C, etc.	Denotes different groups (control/comparison and experimental)

Pretest and post-test control group design

In **pretest and post-test control group design**, participants are given a **pretest** of some kind to measure their baseline state before their participation in an intervention. In our social anxiety experiment, we would have participants in both the experimental and control groups complete some measure of social anxiety—most likely an established scale and/or a structured interview—before they start their treatment. As part of the experiment, we would have a defined time period during which the treatment would take place (let's say 12 weeks, just for illustration). At the end of 12 weeks, we would give both groups the same measure as a **post-test**.



Figure 13.1 Pretest and post-test control group design

In the diagram, RA (random assignment group A) is the experimental group and RB is the control group. O_1 denotes the pre-test, X_e denotes the experimental intervention, and O_2 denotes the post-test. Let's

look at this diagram another way, using the example of CBT for social anxiety that we've been talking about.

RA: Experimental group	O_1 : Pretest	X_e: CBT	O_2: Post-test
RB: Control group	O_1 : Pretest		O_2: Post-test

Figure 13.2 Pretest and post-test control group design testing CBT an intervention

In a situation where the control group received treatment as usual instead of no intervention, the diagram would look this way, with X_i denoting treatment as usual (Figure 13.3).

RA	O_1	X_e	O_2
RB	O_1	X_i	O_2

Figure 13.3 Pretest and post-test control group design with treatment as usual instead of no treatment

Hopefully, these diagrams provide you a visualization of how this type of experiment establishes **time order**, a key component of a causal relationship. Did the change occur after the intervention? Assuming there is a change in the scores between the pretest and post-test, we would be able to say that yes, the change did occur after the intervention. Causality can't exist if the change happened before the intervention—this would mean that something else led to the change, not our intervention.

Post-test only control group design

Post-test only control group design involves only giving participants a post-test, just like it sounds (Figure 13.4).

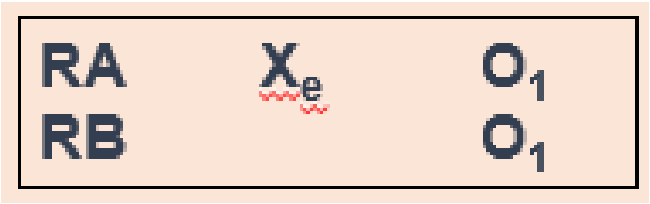


Figure 13.4 Post-test only control group design

But why would you use this design instead of using a pretest/post-test design? One reason could be the testing effect that can happen when research participants take a pretest. In research, the **testing effect** refers to "measurement error related to how a test is given; the conditions of the testing, including environmental conditions; and acclimation to the test itself" (Engel & Schutt, 2017, p. 444)[1] (When we say "measurement error," all we mean is the accuracy of the way we measure the dependent variable.) Figure 13.4 is a visualization of this type of experiment. The testing effect isn't always bad in practice—our initial assessments might help clients identify or put into words feelings or experiences they are having when they haven't been able to do that before. In research, however, we might want to control its effects to isolate a cleaner causal relationship between intervention and outcome.

Going back to our CBT for social anxiety example, we might be concerned that participants would learn about social anxiety symptoms by virtue of taking a pretest. They might then identify that they have those symptoms on the post-test, even though they are not new symptoms for them. That could make our intervention look less effective than it actually is.

However, without a baseline measurement establishing causality can be more difficult. If we don't know someone's state of mind before our intervention, how do we know our intervention did anything at all? Establishing **time order** is thus a little more difficult. You must balance this consideration with the benefits of this type of design.

Solomon four group design

One way we can possibly measure how much the testing effect might change the results of the experiment is with the Solomon four group design. Basically, as part of this experiment, you have two control groups and two experimental groups. The first pair of groups receives both a pretest and a post-test. The other pair of groups receives only a post-test (Figure 13.5). This design helps address the problem of establishing time order in post-test only control group designs.

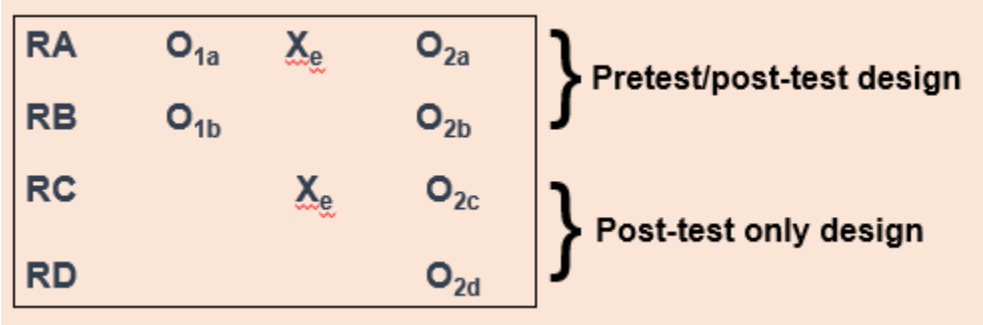


Figure 13.5 Solomon four-group design

For our CBT project, we would randomly assign people to four different groups instead of just two. Groups A and B would take our pretest measures and our post-test measures, and groups C and D would take only our post-test measures. We could then compare the results among these groups and see if they're significantly different between the folks in A and B, and C and D. If they are, we may have identified some kind of testing effect, which enables us to put our results into full context. We don't want to draw a strong causal conclusion about our intervention when we have major concerns about testing effects without trying to determine the extent of those effects.

Solomon four group designs are less common in social work research, primarily because of the logistics and resource needs involved. Nonetheless, this is an important experimental design to consider when we want to address major concerns about testing effects.

Key Takeaways

- True experimental design is best suited for explanatory research questions.
- True experiments require random assignment of participants to control and experimental groups.
- Pretest/post-test research design involves two points of measurement—one pre-intervention and one post-intervention.
- Post-test only research design involves only one point of measurement—post-intervention. It is a useful design to minimize the effect of testing effects on our results.
- Solomon four group research design involves both of the above types of designs, using 2 pairs of control and experimental groups. One group receives both a pretest and a post-test, while the other receives only a post-test. This can help uncover the influence of testing effects.

Exercises

- Think about a true experiment you might conduct for your research project. Which design would be best for your research, and why?
- What challenges or limitations might make it unrealistic (or at least very complicated!) for you to carry your true experimental design in the real-world as a student researcher?
- What hypothesis(es) would you test using this true experiment?

13.4 Quasi-experimental designs

Learning Objectives

Learners will be able to...

- Describe a quasi-experimental design in social work research
- Understand the different types of quasi-experimental designs
- Determine what kinds of research questions quasi-experimental designs are suited for
- Discuss advantages and disadvantages of quasi-experimental designs

Quasi-experimental designs are a lot more common in social work research than true experimental designs. Although quasi-experiments don't do as good a job of giving us robust proof of **causality**, they still allow us to establish **time order**, which is a key element of causality. The prefix *quasi* means "resembling," so quasi-experimental research is research that resembles experimental research, but is not true experimental research. Nonetheless, given proper research design, quasi-experiments can still provide extremely rigorous and useful results.

There are a few key differences between true experimental and quasi-experimental research. The primary difference between quasi-experimental research and true experimental research is that quasi-experimental research does not involve random assignment to control and experimental groups. Instead, we talk about **comparison groups** in quasi-experimental research instead. As a result, these types of experiments don't control the effect of **extraneous variables** as well as a true experiment.

Quasi-experiments are most likely to be conducted in field settings in which random assignment is difficult or impossible. They are often conducted to evaluate the effectiveness of a treatment—perhaps a type of psychotherapy or an educational intervention. We're able to eliminate some threats to internal

validity, but we can't do this as effectively as we can with a true experiment. Realistically, our CBT-social anxiety project is likely to be a quasi experiment, based on the resources and participant pool we're likely to have available.

It's important to note that not all quasi-experimental designs have a comparison group. There are many different kinds of quasi-experiments, but we will discuss the three main types below: nonequivalent comparison group designs, time series designs, and *ex post facto* comparison group designs.

Nonequivalent comparison group design

You will notice that this type of design looks *extremely* similar to the pretest/post-test design that we discussed in section 13.3. But instead of random assignment to control and experimental groups, researchers use other methods to construct their comparison and experimental groups. A diagram of this design will also look very similar to pretest/post-test design, but you'll notice we've removed the "R" from our groups, since they are not randomly assigned (Figure 13.6).



Figure 13.6 Nonequivalent comparison group design

Researchers using this design select a comparison group that's as close as possible based on relevant factors to their experimental group. Engel and Schutt (2017)[2] identify two different selection methods:

1. **Individual matching:** Researchers take the time to match individual cases in the experimental group to similar cases in the comparison group. It can be difficult, however, to match participants on all the variables you want to control for.
2. **Aggregate matching:** Instead of trying to match individual participants to each other, researchers try to match the population profile of the comparison and experimental groups. For example, researchers would try to match the groups on average age, gender balance, or median income. This is a less resource-intensive matching method, but researchers have to ensure that participants aren't choosing which group (comparison or experimental) they are a part of.

As we've already talked about, this kind of design provides weaker evidence that the intervention itself leads to a change in outcome. Nonetheless, we are still able to establish time order using this method,

and can thereby show an association between the intervention and the outcome. Like true experimental designs, this type of quasi-experimental design is useful for explanatory research questions.

What might this look like in a practice setting? Let's say you're working at an agency that provides CBT and other types of interventions, and you have identified a group of clients who are seeking help for social anxiety, as in our earlier example. Once you've obtained consent from your clients, you can create a comparison group using one of the matching methods we just discussed. If the group is small, you might match using individual matching, but if it's larger, you'll probably sort people by demographics to try to get similar population profiles. (You can do aggregate matching more easily when your agency has some kind of electronic records or database, but it's still possible to do manually.)

Time series design

Another type of quasi-experimental design is a time series design. Unlike other types of experimental design, time series designs do not have a comparison group. A **time series** is a set of measurements taken at intervals over a period of time (Figure 13.7). Proper time series design should include at least three pre- and post-intervention measurement points. While there are a few types of time series designs, we're going to focus on the most common: interrupted time series design.



Figure 13.7 Time series design

But why use this method? Here's an example. Let's think about elementary student behavior throughout the school year. As anyone with children or who is a teacher knows, kids get very excited and animated around holidays, days off, or even just on a Friday afternoon. This fact might mean that around those times of year, there are more reports of disruptive behavior in classrooms. What if we took our one and only measurement in mid-December? It's possible we'd see a higher-than-average rate of disruptive behavior reports, which could bias our results if our next measurement is around a time of year students are in a different, less excitable frame of mind. When we take multiple measurements throughout the first half of the school year, we can establish a more accurate baseline for the rate of these reports by looking at the trend over time.

We may want to test the effect of extended recess times in elementary school on reports of disruptive behavior in classrooms. When students come back after the winter break, the school extends recess by 10 minutes each day (the intervention), and the researchers start tracking the monthly reports

of disruptive behavior again. These reports could be subject to the same fluctuations as the pre-intervention reports, and so we once again take multiple measurements over time to try to control for those fluctuations.

This method improves the extent to which we can establish causality because we are accounting for a major extraneous variable in the equation—the passage of time. On its own, it does not allow us to account for other extraneous variables, but it does establish **time order** and association between the intervention and the trend in reports of disruptive behavior. Finding a stable condition before the treatment that changes after the treatment is evidence for causality between treatment and outcome.

Ex post facto comparison group design

Ex post facto (Latin for "after the fact") designs are extremely similar to nonequivalent comparison group designs. There are still comparison and experimental groups, pretest and post-test measurements, and an intervention. But in *ex post facto* designs, participants are assigned to the comparison and experimental groups once the intervention has already happened. This type of design often occurs when interventions are already up and running at an agency and the agency wants to assess effectiveness based on people who have already completed treatment.

In most clinical agency environments, social workers conduct both initial and exit assessments, so there are usually some kind of pretest and post-test measures available. We also typically collect demographic information about our clients, which could allow us to try to use some kind of matching to construct comparison and experimental groups.

In terms of internal validity and establishing causality, *ex post facto* designs are a bit of a mixed bag. The ability to establish causality depends partially on the ability to construct comparison and experimental groups that are demographically similar so we can control for these **extraneous variables**.

Conclusion

Quasi-experimental designs are common in social work intervention research because, when designed correctly, they balance the intense resource needs of true experiments with the realities of research in practice. They still offer researchers tools to gather robust evidence about whether interventions are having positive effects for clients.

Key Takeaways

- Quasi-experimental designs are similar to true experiments, but do not require random assignment to experimental and control groups.
- In quasi-experimental projects, the group not receiving the treatment is called the comparison group, not the control group.
- Nonequivalent comparison group design is nearly identical to pretest/post-test experimental design, but participants are not randomly assigned to the experimental and control groups. As a result, this design provides slightly less robust evidence for causality.
- Nonequivalent groups can be constructed by **individual matching** or **aggregate matching**.
- Time series design does not have a control or experimental group, and instead compares the condition of participants before and after the intervention by measuring relevant factors at multiple points in time. This allows researchers to mitigate the error introduced by the passage of time.
- *Ex post facto* comparison group designs are also similar to true experiments, but experimental and comparison groups are constructed after the intervention is over. This makes it more difficult to control for the effect of extraneous variables, but still provides useful evidence for causality because it maintains the **time order[/pb_glossary] of the experiment.**

Exercises

- Think back to the experiment you considered for your research project in Section 13.3. Now that you know more about quasi-experimental designs, do you still think it's a true experiment? Why or why not?
- What should you consider when deciding whether an experimental or quasi-experimental design would be more feasible or fit your research question better?

13.5 Non-experimental designs

Learning Objectives

Learners will be able to...

- Describe non-experimental designs in social work research
- Discuss how non-experimental research differs from true and quasi-experimental research
- Demonstrate an understanding the different types of non-experimental designs

- Determine what kinds of research questions non-experimental designs are suited for
- Discuss advantages and disadvantages of non-experimental designs

The previous sections have laid out the basics of some rigorous approaches to establish that an intervention is responsible for changes we observe in research participants. This type of evidence is extremely important to build an evidence base for social work interventions, but it's not the only type of evidence to consider. We will discuss qualitative methods, which provide us with rich, contextual information, in Part 4 of this text. The designs we'll talk about in this section are sometimes used in [pb_glossary id="851"]**qualitative** research, but in keeping with our discussion of experimental design so far, we're going to stay in the quantitative research realm for now. Non-experimental is also often a stepping stone for more rigorous experimental design in the future, as it can help test the feasibility of your research.

In general, non-experimental designs do not strongly support causality and don't address threats to internal validity. However, that's not really what they're intended for. Non-experimental designs are useful for a few different types of research, including explanatory questions in program evaluation. Certain types of non-experimental design are also helpful for researchers when they are trying to develop a new assessment or scale. Other times, researchers or agency staff did not get a chance to gather any assessment information before an intervention began, so a pretest/post-test design is not possible.



One-on-one assessments are a key part of pre- and non-experimental designs.

A significant benefit of these types of designs is that they're pretty easy to execute in a practice or agency setting. They don't require a comparison or control group, and as Engel and Schutt (2017)[3] point out, they "flow from a typical practice model of assessment, intervention, and evaluating the impact of the intervention" (p. 177). Thus, these designs are fairly intuitive for social workers, even when they aren't expert researchers. Below, we will go into some detail about the different types of non-experimental design.

One group pretest/post-test design

Also known as a before-after one-group design, this type of research design does not have a comparison group and everyone who participates in the research receives the intervention (Figure 13.8). This is a common type of design in program evaluation in the practice world. Controlling for extraneous variables is difficult or impossible in this design, but given that it is still possible to establish some measure of time order, it does provide weak support for causality.

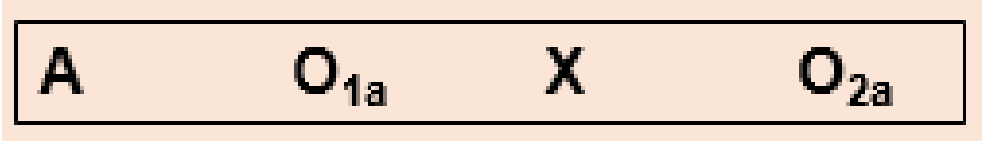


Figure 13.7 One group pretest/post-test design

Imagine, for example, a researcher who is interested in the effectiveness of an anti-drug education program on elementary school students' attitudes toward illegal drugs. The researcher could assess students' attitudes about illegal drugs (O_1), implement the anti-drug program (X), and then immediately after the program ends, the researcher could once again measure students' attitudes toward illegal drugs (O_2). You can see how this would be relatively simple to do in practice, and have probably been involved in this type of research design yourself, even if informally. But hopefully, you can also see that this design would not provide us with much evidence for causality because we have no way of controlling for the effect of extraneous variables. A lot of things could have affected any change in students' attitudes—maybe girls already had different attitudes about illegal drugs than children of other genders, and when we look at the class's results as a whole, we couldn't account for that influence using this design.

All of that doesn't mean these results aren't useful, however. If we find that children's attitudes didn't change at all after the drug education program, then we need to think seriously about how to make it more effective or whether we should be using it at all. (This immediate, practical application of our results highlights a key difference between program evaluation and research, which we will discuss in Chapter 23.)

After-only design

As the name suggests, this type of non-experimental design involves measurement only after an intervention. There is no comparison or control group, and everyone receives the intervention. I have seen this design repeatedly in my time as a program evaluation consultant for nonprofit organizations, because often these organizations realize too late that they would like to or need to have some sort of measure of what effect their programs are having.

Because there is no pretest and no comparison group, this design is not useful for supporting causality since we can't establish the time order and we can't control for extraneous variables. However, that doesn't mean it's not useful at all! Sometimes, agencies need to gather information about how their programs are functioning. A classic example of this design is satisfaction surveys—realistically, these can

only be administered after a program or intervention. Questions regarding satisfaction, ease of use or engagement, or other questions that don't involve comparisons are best suited for this type of design.

Static-group design

A final type of non-experimental research is the static-group design. In this type of research, there are both comparison and experimental groups, which are not randomly assigned. There is no pretest, only a post-test, and the comparison group has to be constructed by the researcher. Sometimes, researchers will use matching techniques to construct the groups, but often, the groups are constructed by convenience of who is being served at the agency.

Conclusion

Non-experimental research designs are easy to execute in practice, but we must be cautious about drawing causal conclusions from the results. A positive result may still suggest that we should continue using a particular intervention (and no result or a negative result should make us reconsider whether we should use that intervention at all). You have likely seen non-experimental research in your daily life or at your agency, and knowing the basics of how to structure such a project will help you ensure you are providing clients with the best care possible.

Key Takeaways

- Non-experimental designs are useful for describing phenomena, but cannot demonstrate causality.
- After-only designs are often used in agency and practice settings because practitioners are often not able to set up pre-test/post-test designs.
- Non-experimental designs are useful for explanatory questions in program evaluation and are helpful for researchers when they are trying to develop a new assessment or scale.
- Non-experimental designs are well-suited to qualitative methods.

Exercises

- If you were to use a non-experimental design for your research project, which would you choose? Why?
- Have you conducted non-experimental research in your practice or professional life? Which type of non-

experimental design was it?

13.6 Critical, ethical, and cultural considerations

Learning Objectives

Learners will be able to...

- Describe critiques of experimental design
- Identify ethical issues in the design and execution of experiments
- Identify cultural considerations in experimental design

As I said at the outset, experiments, and especially true experiments, have long been seen as the gold standard to gather scientific evidence. When it comes to research in the biomedical field and other physical sciences, true experiments are subject to far less nuance than experiments in the social world. This doesn't mean they are easier–just subject to different forces. However, as a society, we have placed the most value on quantitative evidence obtained through empirical observation and especially experimentation.

Major critiques of experimental designs tend to focus on true experiments, especially randomized controlled trials (RCTs), but many of these critiques can be applied to quasi-experimental designs, too. Some researchers, even in the biomedical sciences, question the view that RCTs are inherently superior to other types of quantitative research designs. RCTs are far less flexible and have much more stringent requirements than other types of research. One seemingly small issue, like incorrect information about a research participant, can derail an entire RCT. RCTs also cost a great deal of money to implement and don't reflect “real world” conditions. The cost of true experimental research or RCTs also means that some communities are unlikely to ever have access to these research methods. It is then easy for people to dismiss their research findings because their methods are seen as "not rigorous."

Obviously, controlling outside influences is important for researchers to draw strong conclusions, but what if those outside influences are actually *important* for how an intervention works? Are we missing really important information by focusing solely on control in our research? Is a treatment going to work the same for white women as it does for indigenous women? With the myriad effects of our societal structures, you should be very careful ever assuming this will be the case. This doesn't mean

that cultural differences will negate the effect of an intervention; instead, it means that you should remember to practice cultural humility implementing all interventions, even when we "know" they work.

How we build evidence through experimental research reveals a lot about our values and biases, and historically, much experimental research has been conducted on white people, and especially white men.[4] This makes sense when we consider the extent to which the sciences and academia have historically been dominated by white patriarchy. This is especially important for marginalized groups that have long been ignored in research literature, meaning they have also been ignored in the development of interventions and treatments that are accepted as "effective." There are examples of marginalized groups being experimented on without their consent, like the Tuskegee Experiment or Nazi experiments on Jewish people during World War II. We cannot ignore the collective consciousness situations like this can create about experimental research for marginalized groups.

None of this is to say that experimental research is inherently bad or that you shouldn't use it. Quite the opposite—use it when you can, because there are a lot of benefits, as we learned throughout this chapter. As a social work researcher, you are uniquely positioned to conduct experimental research while applying social work values and ethics to the process and be a leader for others to conduct research in the same framework. It can conflict with our professional ethics, especially respect for persons and beneficence, if we do not engage in experimental research with our eyes wide open. We also have the benefit of a great deal of practice knowledge that researchers in other fields have not had the opportunity to get. As with all your research, always be sure you are fully exploring the limitations of the research.

Key Takeaways

- While true experimental research gathers strong evidence, it can also be inflexible, expensive, and overly simplistic in terms of important social forces that affect the resources.
- Marginalized communities' past experiences with experimental research can affect how they respond to research participation.
- Social work researchers should use both their values and ethics, and their practice experiences, to inform research and push other researchers to do the same.

Exercises

- Think back to the true experiment you sketched out in the exercises for Section 13.3. Are there cultural or historical considerations you hadn't thought of with your participant group? What are they? Does this change the type of experiment you would want to do?
- How can you as a social work researcher encourage researchers in other fields to consider social work ethics

and values in their experimental research?

Media Attributions

- Being kinder to yourself © Evgenia Makarova is licensed under a CC BY-NC-ND (Attribution NonCommercial NoDerivatives) license
- therapist © Zackary Drucker is licensed under a CC BY-NC-ND (Attribution NonCommercial NoDerivatives) license

Notes

1. Engel, R. & Schutt, R. (2016). *The practice of research in social work.* Thousand Oaks, CA: SAGE Publications, Inc.
2. Engel, R. & Schutt, R. (2016). *The practice of research in social work.* Thousand Oaks, CA: SAGE Publications, Inc.
3. Engel, R. & Schutt, R. (2016). *The practice of research in social work.* Thousand Oaks, CA: SAGE Publications, Inc.
4. Sullivan, G. M. (2011). Getting off the "gold standard": Randomized controlled trials and education research. *Journal of Graduate Medical Education*, 3(3), 285-289.

14. Univariate analysis

Chapter Outline

1. Where do I start with quantitative data analysis? (12 minute read)
2. Measures of central tendency (17 minute read, including 5-minute video)
3. Frequencies and variability (13 minute read)

Content warning: examples in this chapter contain references to depression and self-esteem.

People often dread quantitative data analysis because—oh no—it's math. And true, you're going to have to work with numbers. For years, I thought I was terrible at math, and then I started working with data and statistics, and it turned out I had a real knack for it. (I have a statistician friend who claims statistics is not math, which is a math joke that's way over my head, but there you go.) This chapter, and the subsequent quantitative analysis chapters, are going to focus on helping you understand descriptive statistics and a few statistical tests, NOT calculate them (with a couple of exceptions). Future research classes will focus on teaching you to calculate these tests for yourself. So take a deep breath and clear your mind of any doubts about your ability to understand and work with numerical data.



Well… we do!

In this chapter, we're going to discuss the first step in analyzing your quantitative data: univariate data analysis. **Univariate data analysis** is a quantitative method in which a variable is examined individually to determine its **distribution,** or the way the scores are distributed across the levels of that variable. When we talk about **levels,** what we are talking about are the possible values of the variable—like a participant's age, income or gender. (Note that this is different than our earlier discussion in Chaper 10 of **levels of measurement**, but the level of measurement of your variables *absolutely* affects what kinds of analyses you can do with it.) Univariate analysis is **non-relational**, which just means that we're not looking into how our variables relate to each other. Instead, we're looking at variables in isolation to try to understand them better. For this reason, univariate analysis is best for descriptive research questions.

So when do you use univariate data analysis? Always! It should be the first thing you do with your quantitative data, whether you are planning to move on to more sophisticated statistical analyses or are conducting a study to describe a new phenomenon. You need to understand what the values of each variable look like—what if one of your variables has a lot of missing data because participants didn't answer that question on your survey? What if there isn't much variation in the gender of your sample? These are things you'll learn through univariate analysis.

14.1 Where do I start with quantitative data analysis?

Learning Objectives

Learners will be able to...

- Define and construct a data analysis plan
- Define key data management terms–variable name, data dictionary, primary and secondary data, observations/cases

No matter how large or small your data set is, quantitative data can be intimidating. There are a few ways to make things manageable for yourself, including creating a data analysis plan and organizing your data in a useful way. We'll discuss some of the keys to these tactics below.

The data analysis plan

As part of planning for your research, and to help keep you on track and make things more manageable, you should come up with a data analysis plan. You've basically been working on doing this in writing your research proposal so far. A **data analysis plan** is an ordered outline that includes your research question, a description of the data you are going to use to answer it, and the exact step-by-step analyses, that you plan to run to answer your research question. This last part–which includes choosing your quantitative analyses–is the focus of this and the next two chapters of this book.

A basic data analysis plan might look something like what you see in Table 14.1. Don't panic if you don't yet understand some of the statistical terms in the plan; we're going to delve into them throughout the next few chapters. Note here also that this is what **operationalizing** your variables and moving through your research with them looks like on a basic level.

Table 14.1 A basic data analysis plan

Research question: What is the relationship between a person's race and their likelihood to graduate from high school?

Data: Individual-level U.S. American Community Survey data for 2017 from IPUMS, which includes race/ethnicity and other demographic data (i.e., educational attainment, family income, employment status, citizenship, presence of both parents, etc.). Only including individuals for which race and educational attainment data is available.

Steps in Data Analysis Plan

1. **Univariate and descriptive statistics**, including mean, median, mode, range, distribution of interval/ratio variables, and missing values
2. **Bivarate statistical tests** between the variables I am interested in to see if there are any relationships that warrant further exploration. For instance, Chi-square test between race and high school graduation (both nominal variables), ANOVA on income and race. Correlations between interval/ratio variables.
3. **Multivariate statistical analysis,** like logistic regression, with high school graduation (yes/no) as my dependent variable and multiple independent variables I think are relevant based on step 2
4. **Interpretation** of logistic regression results in consultation with professor and **reporting** of results.

An important point to remember is that you should never get stuck on using a particular statistical method because you or one of your co-researchers thinks it's cool or it's the hot thing in your field right now. You should certainly go into your data analysis plan with ideas, but in the end, you need to let your research question and the actual content of your data guide what statistical tests you use. Be prepared to be flexible if your plan doesn't pan out because the data is behaving in unexpected ways.

Managing your data

Whether you've collected your own data or are using someone else's data, you need to make sure it is well-organized in a database in a way that's actually usable. "Database" can be kind of a scary word, but really, I just mean an Excel spreadsheet or a data file in whatever program you're using to analyze your data (like SPSS, SAS, or r). (I would avoid Excel if you've got a very large data set—one with millions of records or hundreds of variables—because it gets very slow and can only handle a certain number of cases and variables, depending on your version. But if your data set is smaller and you plan to keep your analyses simple, you can definitely get away with Excel.) Your database or data set should be organized with variables as your columns and observations/cases as your rows. For example, let's say we did a survey on ice cream preferences and collected the following information in Table 14.2:

Table 14.2 Results of our ice cream survey

Name	Age	Gender	Hometown	Fav_Ice_Cream
Tom	54	0	1	Rocky Road
Jorge	18	2	0	French Vanilla
Melissa	22	1	0	Espresso
Amy	27	1	0	Black Cherry

There are a few key data management terms to understand:

- **Variable name**: Just what it sounds like—the name of your variable. Make sure this is something useful, short and, if you're using something other than Excel, all one word. Most statistical programs will automatically rename variables for you if they aren't one word, but the names are usually a little ridiculous and long.
- **Observations/cases**: The rows in your data set. In social work, these are often your study participants (people), but can be anything from census tracts to black bears to trains. When we talk about sample size, we're talking about the number of observations/cases. In our mini data set, each person is an observation/case.
- **Primary data:** Data you have collected yourself.
- **Secondary data:** Data someone else has collected that you have permission to use in your research. For example, for my student research project in my MSW program, I used data from a local probation program to determine if a shoplifting prevention group was reducing the rate at which people were re-offending. I had data on who participated in the program and then received their criminal history six months after the end of their probation period. This was secondary data I used to determine whether the shoplifting prevention group had any effect on an individual's likelihood of re-offending.
- **Data dictionary (sometimes called a code book)**: This is the document where you list your variable names, what the variables actually measure or represent, what each of the values of the variable mean if the meaning isn't obvious (i.e., if there are numbers assigned to gender), the level of measurement and anything special to know about the variables (for instance, the source if you mashed two data sets together). If you're using secondary data, the data dictionary should be available to you.

When considering what data you might want to collect as part of your project, there are two important considerations that can create dilemmas for researchers. You might only get one chance to interact with your participants, so you must think comprehensively in your planning phase about what information you need and collect as much relevant data as possible. At the same time, though, especially when collecting sensitive information, you need to consider how onerous the data collection is for participants and whether you *really* need them to share that information. Just because something is interesting to us doesn't mean it's related enough to our research question to chase it down. Work with your research team and/or faculty early in your project to talk through these issues before you get to

this point. And if you're using secondary data, make sure you have access to all the information you need in that data before you use it.

Let's take that mini data set we've got up above and I'll show you what your data dictionary might look like in Table 14.3.

Table 14.3 Sample data dictionary/code book

Variable name	Description	Values/Levels	Level of measurement	Notes
Name	Participant's first name	n/a	n/a	First names only. If names appear more than once, a random number has been attached to the end of the name to distinguish.
Age	Participant's age at time of survey	n/a	Interval/ Ratio	Self-reported
Gender	Participant's self-identified gender	0=cisgender female1=cisgender male2=non-binary3=transgender female4=transgender male5=another gender	Nominal	Self-reported
Hometown	Participant's hometown—this town or another town	0=This town 1=Another town	Nominal	Self-reported
Fav_Ice_Cream	Participant's favorite ice cream	n/a	n/a	Self-reported

Key Takeaways

- Getting organized at the beginning of your project with a data analysis plan will help keep you on track. Data analysis plans should include your research question, a description of your data, and a step-by-step outline of what you're going to do with it.
- Be flexible with your data analysis plan—sometimes data surprises us and we have to adjust the statistical tests we are using.
- Always make a data dictionary or, if using secondary data, get a copy of the data dictionary so you (or someone else) can understand the basics of your data.

Exercises

- Make a data analysis plan for your project. Remember this should include your research question, a description of the data you will use, and a step-by-step outline of what you're going to do with your data once you have it, including statistical tests (non-relational and relational) that you plan to use. You can do this exercise whether you're using quantitative or qualitative data! The same principles apply.
- Make a data dictionary for the data you are proposing to collect as part of your study. You can use the example above as a template.

14.2 Measures of central tendency

Learning Objectives

Learners will be able to...

- Explain measures of central tendency—mean, median and mode—and when to use them to describe your data
- Explain the importance of examining the range of your data
- Apply the appropriate measure of central tendency to a research problem or question

A **measure of central tendency** is one number that can give you an idea about the distribution of your data. The video below gives a more detailed introduction to central tendency. Then we'll talk more specifically about our three measures of central tendency—mean, median and mode.

Watch the video on measures of central tendency linked here for an introduction to measures of central tendency.

One quick note: the narrator in the video mentions *skewness* and *kurtosis*. Basically, these refer to a particular shape for a distribution when you graph it out. That gets into some more advanced multivariate analysis that we aren't tackling in this book, so just file them away for a more advanced class, if you ever take on additional statistics coursework.

There are three key measures of central tendency, which we'll go into now.

Mean

The **mean**, also called the average, is calculated by adding all your cases and dividing the sum by the number of cases. You've undoubtedly calculated a mean at some point in your life. The mean is the most widely used measure of central tendency because it's easy to understand and calculate. It can only be used with interval/ratio variables, like age, test scores or years of post-high school education. (If you think about it, using it with a nominal or ordinal variable doesn't make much sense—why do we care about the average of our numerical values we assigned to certain races?)

The biggest drawback of using the mean is that it's extremely sensitive to **outliers**, or extreme values in your data. And the smaller your data set is, the more sensitive your mean is to these outliers. One thing to remember about outliers—they are not inherently bad, and can sometimes contain really important information. Don't automatically discard them because they skew your data.

Let's take a minute to talk about how to locate outliers in your data. If your data set is very small, you can just take a look at it and see outliers. But in general, you're probably going to be working with data sets that have at least a couple dozen cases, which makes just looking at your values to find outliers difficult. The best way to quickly look for outliers is probably to make a **scatter plot** with excel or whatever database management program you're using.

Let's take a very small data set as an example. Oh hey, we had one before! I've re-created it in Table 14.5. We're going to add some more cases to it so it's a little easier to illustrate what we're doing.

Table 14.5 Results of our ice cream survey, expanded

Name	Age	Gender	Hometown	Fav_Ice_Cream
Tom	54	0	1	Rocky Road
Jorge	18	2	0	French Vanilla
Melissa	22	1	0	Espresso
Amy	27	1	0	Black Cherry
Akiko	28	3	0	Chocolate
Michael	32	0	1	Pistachio
Jess	29	1	0	Chocolate
Subasri	34	1	0	Vanilla Bean
Brian	21	0	1	Moose Tracks
Crystal	18	1	0	Strawberry

Let's say we're interested in knowing more about the distribution of participant age. Let's see a

scatterplot of age (Figure 14.1). On our y-axis (the vertical one) is the value of age, and on our x-axis (the horizontal one) is the frequency of each age, or the number of times it appears in our data set.

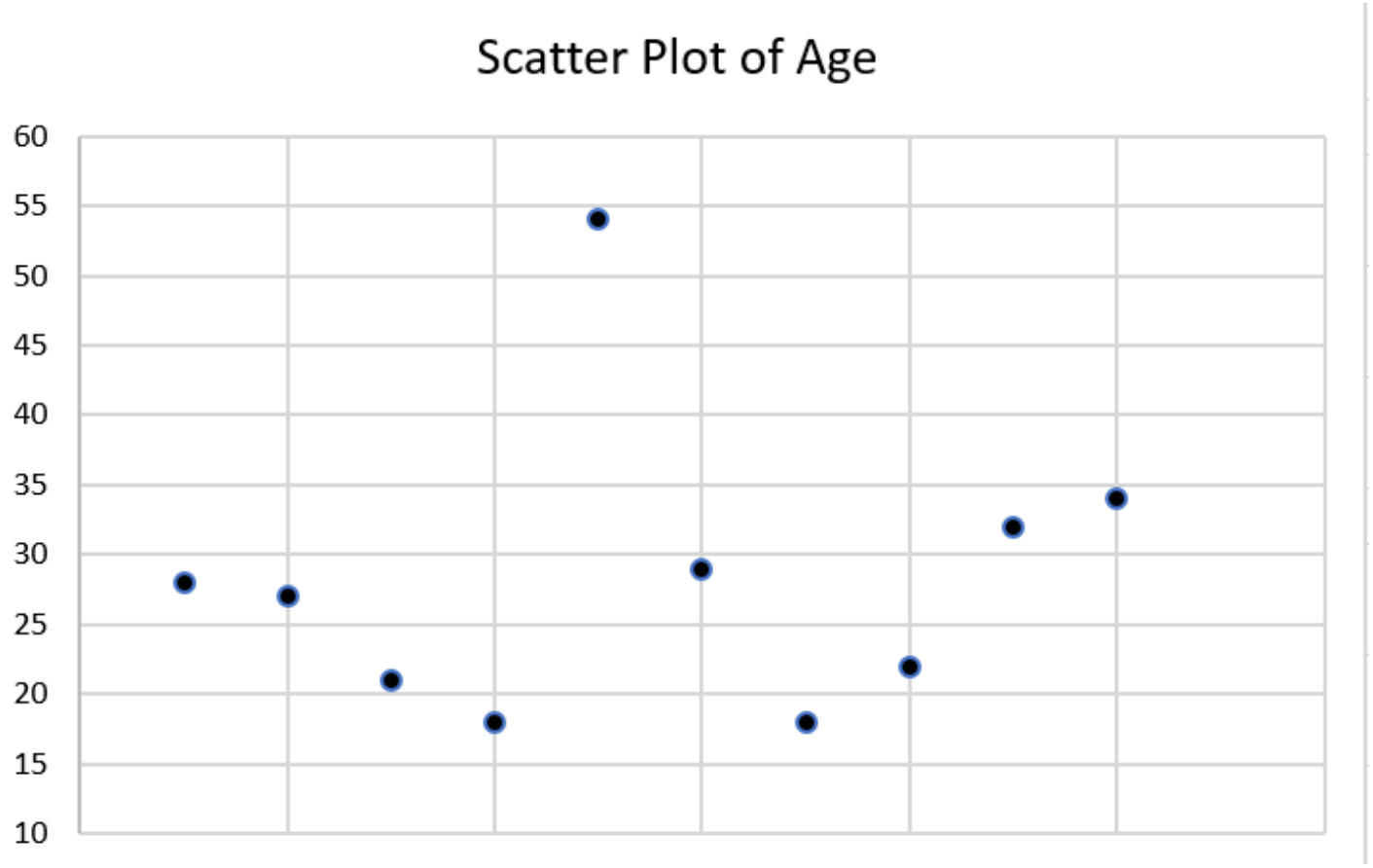


Figure 14.1 Scatter plot of age

Do you see any outliers in the scatter plot? There is one participant who is significantly older than the rest at age 54. Let's think about what happens when we calculate our mean with and without that outlier. Complete the two exercises below by using the ages listed in our mini-data set in this section.

An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=323

Next, let's try it without the outlier.

An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=323

With our outlier, the average age of our participants is 28, and without it, the average age is 25. That might not seem enormous, but it illustrates the effects of outliers on the mean.

Just because Tom is an outlier at age 54 doesn't mean you should exclude him. The most important thing about outliers is to think critically about them and how they could affect your analysis. Finding outliers should prompt a couple of questions. First, could the data have been entered incorrectly? Is Tom actually 24, and someone just hit the "5" instead of the "2" on the number pad? What might be special about Tom that he ended up in our group, given how that he is different? Are there other relevant ways in which Tom differs from our group (is he an outlier in other ways)? Does it really matter than Tom is much older than our other participants? If we don't think age is a relevant factor in ice cream preferences, then it probably doesn't. If we do, then we probably should have made an effort to get a wider range of ages in our participants.

Median

The **median** (also called the 50th percentile) is the middle value when all our values are placed in numerical order. If you have five values and you put them in numerical order, the third value will be the median. When you have an even number of values, you'll have to take the average of the middle two values to get the median. So, if you have 6 values, the average of values 3 and 4 will be the median. Keep in mind that for large data sets, you're going to want to use either Excel or a statistical program to calculate the median—otherwise, it's nearly impossible logistically.

Like the mean, you can only calculate the median with interval/ratio variables, like age, test scores or years of post-high school education. The median is also a lot less sensitive to outliers than the mean. While it can be more time intensive to calculate, the median is preferable in most cases to the mean for this reason. It gives us a more accurate picture of where the middle of our distribution sits in most cases. In my work as a policy analyst and researcher, I rarely, if ever, use the mean as a measure of central tendency. Its main value for me is to compare it to the median for statistical purposes. So get used to the median, unless you're specifically asked for the mean. (When we talk about *t*-tests in the next chapter, we'll talk about when the mean can be useful.)

Let's go back to our little data set and calculate the median age of our participants (Table 14.6).

Table 14.6 Results of our ice cream survey, expanded

Name	Age	Gender	Hometown	Fav_Ice_Cream
Tom	54	0	1	Rocky Road
Jorge	18	2	0	French Vanilla
Melissa	22	1	0	Espresso
Amy	27	1	0	Black Cherry
Akiko	28	3	0	Chocolate
Michael	32	0	1	Pistachio
Jess	29	1	0	Chocolate
Subasri	34	1	0	Vanilla Bean
Brian	21	0	1	Moose Tracks
Crystal	18	1	0	Strawberry

Remember, to calculate the median, you put all the values in numerical order and take the number in the middle. When there's an even number of values, take the average of the two middle values.

An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=323

What happens if we remove Tom, the outlier?

An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=323

With Tom in our group, the median age is 27.5, and without him, it's 27. You can see that the median was far less sensitive to him being included in our data than the mean was.

Mode

The **mode** of a variable is the most commonly occurring value. While you can calculate the mode for interval/ratio variables, it's mostly useful when examining and describing nominal or ordinal variables. Think of it this way—do we really care that there are two people with an income of $38,000 per year, or do we care that these people fall into a certain category related to that value, like above or below the federal poverty level?

Let's go back to our ice cream survey (Table 14.7).

Table 14.7 Results of our ice cream survey, expanded

Name	Age	Gender	Hometown	Fav_Ice_Cream
Tom	54	0	1	Rocky Road
Jorge	18	2	0	French Vanilla
Melissa	22	1	0	Espresso
Amy	27	1	0	Black Cherry
Akiko	28	3	0	Chocolate
Michael	32	0	1	Pistachio
Jess	29	1	0	Chocolate
Subasri	34	1	0	Vanilla Bean
Brian	21	0	1	Moose Tracks
Crystal	18	1	0	Strawberry

We can use the mode for a few different variables here: gender, hometown and fav_ice_cream. The cool thing about the mode is that you can use it for numeric/quantitative and text/quantitative variables.

So let's find some modes. For hometown—or whether the participant's hometown is the one in which the survey was administered or not—the mode is 0, or "no" because that's the most common answer. For gender, the mode is 0, or "female." And for fav_ice_cream, the mode is Chocolate, although there's a lot of variation there. Sometimes, you may have more than one mode, which is still useful information.

One final thing I want to note about these three measures of central tendency: if you're using something like a ranking question or a Likert scale, depending on what you're measuring, you might use a mean or median, even though these look like they will only spit out ordinal variables. For example, say you're a car designer and want to understand what people are looking for in new cars. You conduct a survey asking participants to rank the characteristics of a new car in order of importance (an ordinal question). The most commonly occurring answer—the mode—really tells you the information you need to design a car that people will want to buy. On the flip side, if you have a scale of 1 through 5 measuring a person's satisfaction with their most recent oil change, you may want to know the mean score because it will tell you, relative to most or least satisfied, where most people fall in your survey. To know what's most helpful, think critically about the question you want to answer and about what the actual values of your variable can tell you.

Key Takeaways

- The mean is the average value for a variable, calculated by adding all values and dividing the total by the number of cases. While the mean contains useful information about a variable's distribution, it's also susceptible to outliers, especially with small data sets.
- In general, the mean is most useful with interval/ratio variables.
- The median, or 50th percentile, is the exact middle of our distribution when the values of our variable are placed in numerical order. The median is usually a more accurate measurement of the middle of our distribution because outliers have a much smaller effect on it.
- In general, the median is only useful with interval/ratio variables.
- The mode is the most commonly occurring value of our variable. In general, it is only useful with nominal or ordinal variables.

Exercises

- Say you want to know the income of the typical participant in your study. Which measure of central tendency would you use? Why?
- Find an interval/ratio variable and calculate the mean and median. Make a scatter plot and look for outliers.
- Find a nominal variable and calculate the mode.

14.3 Frequencies and variability

Learning Objectives

Learners will be able to...

- Define descriptive statistics and understand when to use these methods.
- Produce and describe visualizations to report quantitative data.

Descriptive statistics refer to a set of techniques for summarizing and displaying data. We've already been through the measures of central tendency, (which are considered descriptive statistics) which got their own chapter because they're such a big topic. Now, we're going to talk about other descriptive statistics and ways to visually represent data.

Frequency tables

One way to display the distribution of a variable is in a **frequency table**. Table 14.2, for example, is a frequency table showing a hypothetical distribution of scores on the Rosenberg Self-Esteem Scale for a sample of 40 college students. The first column lists the values of the variable—the possible scores on the Rosenberg scale—and the second column lists the frequency of each score. This table shows that there were three students who had self-esteem scores of 24, five who had self-esteem scores of 23, and so on. From a frequency table like this, one can quickly see several important aspects of a distribution, including the range of scores (from 15 to 24), the most and least common scores (22 and 17, respectively), and any extreme scores that stand out from the rest.

Table 14.8—Frequency table showing a hypothetical distribution of scores on the Rosenberg Self-Esteem Scale

Self-esteem score (out of 30)	Frequency
24	3
23	5
22	10
21	8
20	5
19	3
18	3
17	0
16	2
15	1

There are a few other points worth noting about frequency tables. First, the levels listed in the first column usually go from the highest at the top to the lowest at the bottom, and they usually do not extend beyond the highest and lowest scores in the data. For example, although scores on the Rosenberg scale can vary from a high of 30 to a low of 0, Table 14.8 only includes levels from 24 to 15 because that range includes all the scores in this particular data set. Second, when there are many different scores across a wide range of values, it is often better to create a grouped frequency table, in which the first column lists ranges of values and the second column lists the frequency of scores in each range. Table 14.9, for example, is a grouped frequency table showing a hypothetical distribution of simple reaction times for a sample of 20 participants. In a grouped frequency table, the ranges must all be of equal width, and there are usually between five and 15 of them. Finally, frequency tables can also be used for nominal or ordinal variables, in which case the levels are category labels. The order of the

category labels is somewhat arbitrary, but they are often listed from the most frequent at the top to the least frequent at the bottom.

Table 14.9—A grouped frequency table showing a hypothetical distribution of reaction times[1]

Reaction time (ms)	Frequency
241–260	1
221–240	2
201–220	2
181–200	9
161–180	4
141–160	2

Histograms

A **histogram** is a graphical display of a distribution. It presents the same information as a frequency table but in a way that is grasped more quickly and easily. The histogram in Figure 14.2 presents the distribution of self-esteem scores in Table 14.8. The *x*-axis (the horizontal one) of the histogram represents the variable and the *y*-axis (the vertical one) represents frequency. Above each level of the variable on the *x*-axis is a vertical bar that represents the number of individuals with that score. When the variable is quantitative, as it is in this example, there is usually no gap between the bars. When the variable is nominal or ordinal, however, there is usually a small gap between them. (The gap at 17 in this histogram reflects the fact that there were no scores of 17 in this data set.)

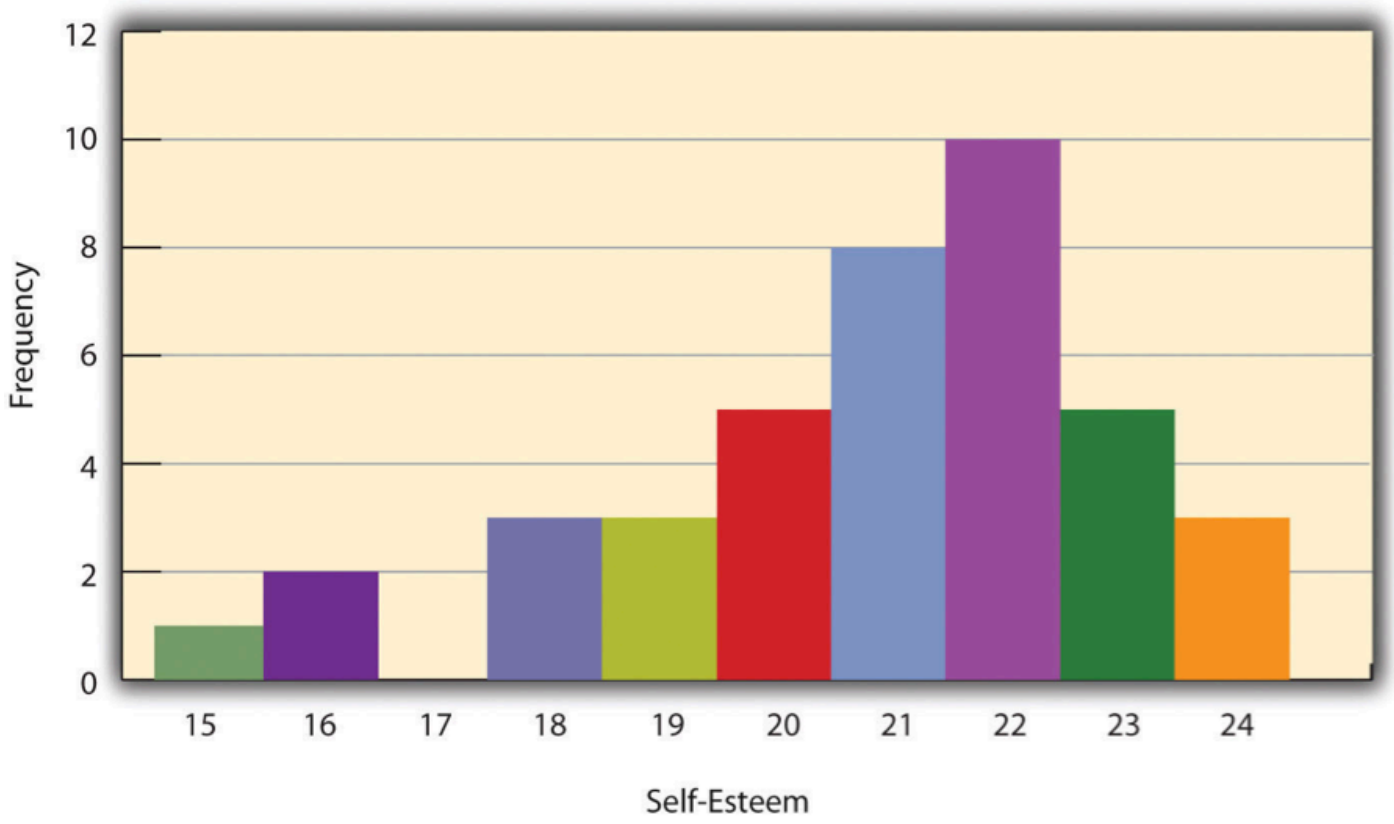


Figure 14.2 Histogram showing the distribution of self-esteem scores

Distribution shapes

When the distribution of a quantitative variable is displayed in a histogram, it has a shape. The shape of the distribution of self-esteem scores in Figure 14.2 is typical. There is a peak somewhere near the middle of the distribution and "tails" that taper in either direction from the peak. The distribution of Figure 14.2 is **unimodal**, meaning it has one distinct peak, but distributions can also be **bimodal**, as in Figure 14.3, meaning they have two distinct peaks. Figure 14.3, for example, shows a hypothetical bimodal distribution of scores on the Beck Depression Inventory. I know we talked about the mode mostly for nominal or ordinal variables, but you can actually use histograms to look at the distribution of interval/ratio variables, too, and still have a unimodal or bimodal distribution even if you aren't calculating a mode. Distributions can also have more than two distinct peaks, but these are relatively rare in social work research.

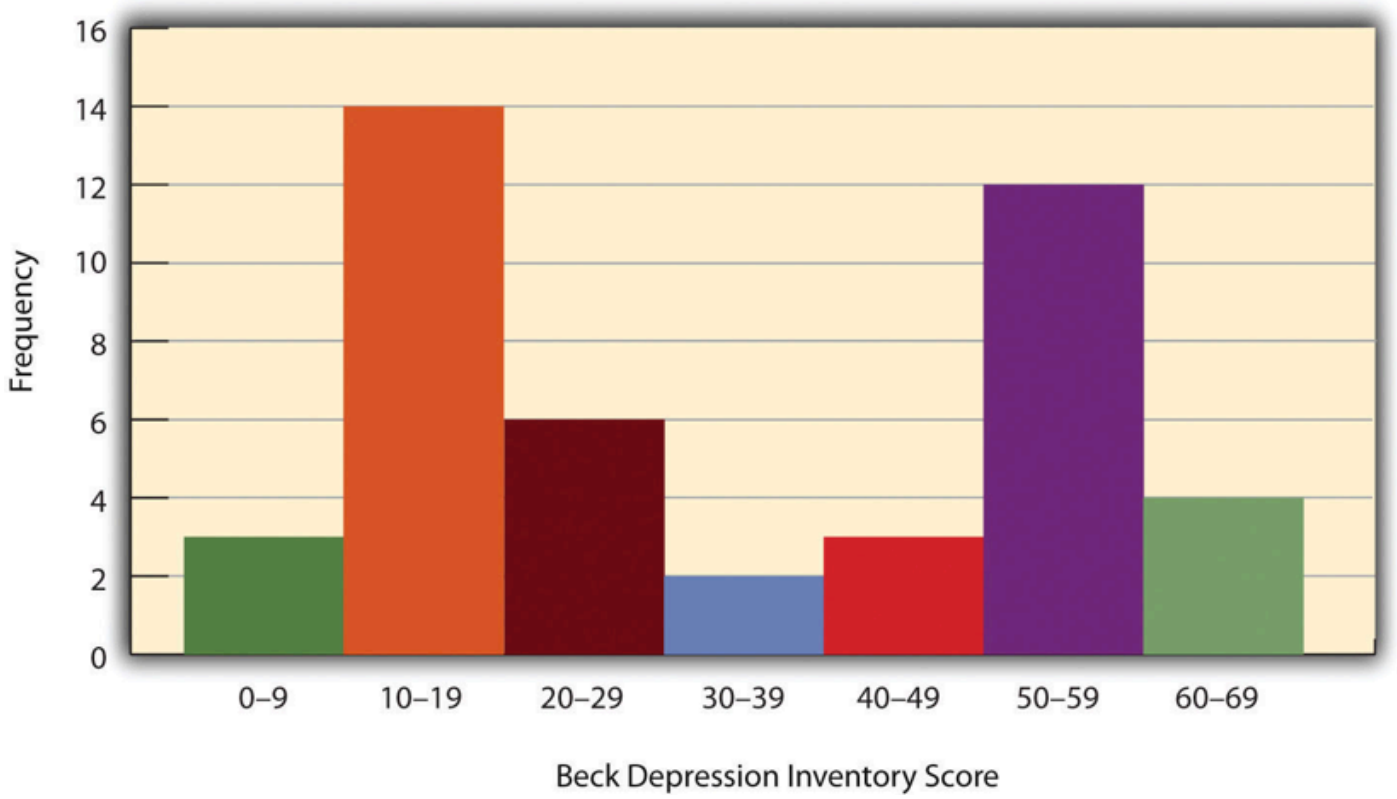


Figure 14.3 Histogram showing a hypothetical bimodal distribution of scores on the Beck Depression Inventory

Another characteristic of the shape of a distribution is whether it is symmetrical or skewed. The distribution in the center of Figure 14.4 is **symmetrical**. Its left and right halves are mirror images of each other. The distribution on the left is negatively **skewed**, with its peak shifted toward the upper end of its range and a relatively long negative tail. The distribution on the right is positively skewed, with its peak toward the lower end of its range and a relatively long positive tail.

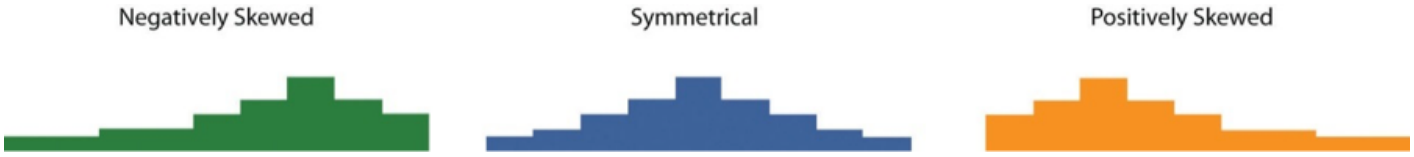


Figure 14.4 Histograms showing negatively skewed, symmetrical, and positively skewed distributions

Range: A simple measure of variability

The **variability** of a distribution is the extent to which the scores vary around their central tendency. Consider the two distributions in Figure 14.5, both of which have the same central tendency. The mean, median, and mode of each distribution are 10. Notice, however, that the two distributions differ in terms of their variability. The top one has relatively low variability, with all the scores relatively close to the center. The bottom one has relatively high variability, with the scores are spread across a much greater range.

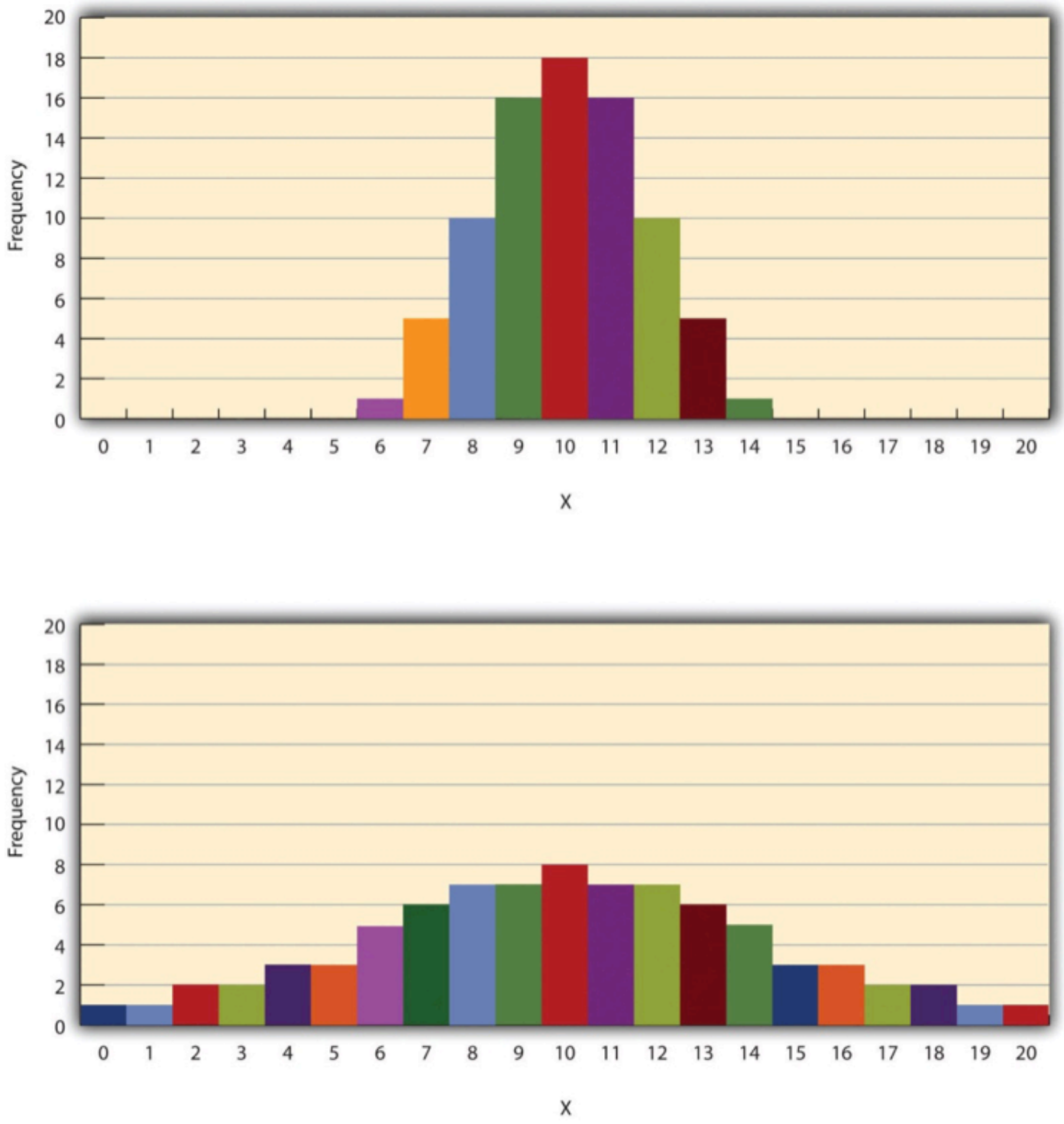


Figure 14.5 Histograms showing hypothetical distributions with the same mean, median, and mode (10) but with low variability (top) and high variability (bottom)

One simple measure of variability is the **range**, which is simply the difference between the highest and lowest scores in the distribution. The range of the self-esteem scores in Table 12.1, for example, is the difference between the highest score (24) and the lowest score (15). That is, the range is 24 – 15 = 9. Although the range is easy to compute and understand, it can be misleading when there are outliers.

Imagine, for example, an exam on which all the students scored between 90 and 100. It has a range of 10. But if there was a single student who scored 20, the range would increase to 80—giving the impression that the scores were quite variable when in fact only one student differed substantially from the rest.

Key Takeaways

- Descriptive statistics are a way to summarize and display data, and are essential to understand and report your data.
- A frequency table is useful for nominal and ordinal variables and is needed to produce a histogram
- A histogram is a graphic representation of your data that shows how many cases fall into each level of your variable.
- Variability is important to understand in analyzing your data because studying a phenomenon that does not vary for your population does not provide a lot of information.

Exercises

- Think about the dependent variable in your project. What would you do if you analyzed its variability for people of different genders, and there was very little variability?
- What do you think it would mean if the distribution of the variable were bimodal?

Media Attributions

- "Scooter Rider Math Fan" by Alan Levine is licensed under CC BY 4.0 © Alan Levine
- Figure 12.1 Histogram Showing the Distribution of Self-Esteem Scores © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, and Dana C. Leighton is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- Figure 12.2 Histogram Showing a Hypothetical Bimodal Distribution of Scores on the Beck Depression Inventory © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, and Dana C. Leighton
- Figure 12.3 Histograms Showing Negatively Skewed, Symmetrical, and Positively Skewed Distributions © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, and Dana C. Leighton is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license
- Figure 12.4 Histograms Showing Hypothetical Distributions With the Same Mean, Median, and Mode (10) but With Low Variability (Top) and High Variability (Bottom) © Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, and Dana C. Leighton is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license

Notes

1. https://fetzer.org/sites/default/files/images/stories/pdf/selfmeasures/Self_Measures_for_Self-Esteem_ROSENBERG_SELF-ESTEEM.pdf

15. Bivariate analysis

Chapter Outline

1. What is bivariate data analysis? (5 minute read)
2. Chi-square (4 minute read)
3. Correlations (5 minute read)
4. T-tests (5 minute read)
5. ANOVA (6 minute read)

Content warning: examples in this chapter include discussions of anxiety symptoms.

So now we get to the math! Just kidding. Mostly. In this chapter, you are going to learn more about **bivariate analysis**, or analyzing the relationship between two variables. I don't expect you to finish this chapter and be able to execute everything you just read about–instead, the big goal here is for you to be able to understand what bivariate analysis is, what kinds of analyses are available, and how you can use them in your research.

Take a deep breath, and let's look at some numbers!

15.1 What is bivariate analysis?

Learning Objectives

Learners will be able to...

- Define bivariate analysis
- Explain when we might use bivariate analysis in social work research

Did you know that ice cream causes shark attacks? It's true! When ice cream sales go up in the summer, so does the rate of shark attacks. So you'd better put down that ice cream cone, unless you want to make yourself look more delicious to a shark.



He's politely asking for some Ben & Jerry's.

Ok, so it's quite obviously *not* true that ice cream causes shark attacks. But if you looked at these two variables and how they're related, you'd notice that during times of the year with high ice cream sales, there are also the most shark attacks. Despite the fact that the conclusion we drew about the relationship was wrong, it's nonetheless true that these two variables appear related, and researchers figured that out through the use of bivariate analysis. (For a refresher on correlation versus causation, head back to Chapter 8.)

Bivariate analysis consists of a group of statistical techniques that examine the relationship between two variables. We could look at how anti-depressant medications and appetite are related, whether there is a relationship between having a pet and emotional well-being, or if a policy-maker's level of education is related to how they vote on bills related to environmental issues.

Bivariate analysis forms the foundation of multivariate analysis, which we don't get to in this book. All you really need to know here is that there are steps beyond bivariate analysis, which you've undoubtedly seen in scholarly literature already! But before we can move forward with multivariate analysis, we need to understand whether there are any relationships between our variables that are worth testing.

A study from Kwate, Loh, White, and Saldana (2012) illustrates this point. These researchers were interested in whether the lack of retail stores in predominantly Black neighborhoods in New York City could be attributed to the racial differences of those neighborhoods. Their hypothesis was that race had a significant effect on the presence of retail stores in a neighborhood, and that Black neighborhoods experience "retail redlining"—when a retailer decides not to put a store somewhere because the area is predominantly Black.

The researchers needed to know if the predominant race of a neighborhood's residents was even related to the number of retail stores. With bivariate analysis, they found that "predominantly Black areas faced greater distances to retail outlets; percent Black was positively associated with distance to nearest store for 65 % (13 out of 20) stores" (p. 640). With this information in hand, the researchers moved on to multivariate analysis to complete their research.

Statistical significance

Before we dive into analyses, let's talk about statistical significance. **Statistical significance** is the extent to which our statistical analysis has produced a result that is likely to represent a real relationship instead of some random occurrence. But just because a relationship isn't random doesn't mean it's useful for drawing a sound conclusion.

We went into detail about statistical significance in Chapter 5. You'll hopefully remember that there, we laid out some key principles from the American Statistical Association for understanding and using p-values in social science:

1. P-values can indicate how incompatible the data are with a specified statistical model. P-values can provide evidence against the null hypothesis or the underlying assumptions of the statistical model the researchers used.
2. P-values do not measure the probability that the studied hypothesis is true, or the probability that the data were produced by random chance alone. Both are inaccurate, though common, misconceptions about statistical significance.
3. Scientific conclusions and business or policy decisions should not be based only on whether a p-value passes a specific threshold. More nuance is needed to interpret scientific findings, as a conclusion does not become true or false when it passes from p=0.051 to p=0.049.
4. Proper inference requires full reporting and transparency, rather than cherry-picking promising findings or conducting multiple analyses and only reporting those with significant findings. For the authors of this textbook, we believe the best response to this issue is for researchers make their data openly available to reviewers and general public and register their hypotheses in a public database prior to conducting analyses.
5. A p-value, or statistical significance, does not measure the size of an effect or the importance of a result. In our culture, to call something significant is to say it is larger or more important, but any

effect, no matter how tiny, can produce a small p-value if the study is rigorous enough. Statistical significance is not equivalent to scientific, human, or economic significance.
6. By itself, a p-value does not provide a good measure of evidence regarding a model or hypothesis. For example, a p-value near 0.05 taken by itself offers only weak evidence against the null hypothesis. Likewise, a relatively large p-value does not imply evidence in favor of the null hypothesis; many other hypotheses may be equally or more consistent with the observed data. (adapted from Wasserstein & Lazar, 2016, p. 131-132).[1]

A statistically significant result is not necessarily a strong one. Even a very weak result can be statistically significant if it is based on a large enough sample. The word *significant* can cause people to interpret these differences as strong and important, to the extent that they might even affect someone's behavior. As we have seen however, these statistically significant differences are actually quite weak—perhaps even "trivial." The correlation between ice cream sales and shark attacks is statistically significant, but practically speaking, it's meaningless.

There is debate about acceptable *p*-values in some disciplines. In medical sciences, a *p*-value even smaller than 0.05 is often favored, given the stakes of biomedical research. Some researchers in social sciences and economics argue that a higher *p*-value of up to 0.10 still constitutes strong evidence. Other researchers think that *p*-values are entirely overemphasized and that there are better measures of statistical significance. At this point in your research career, it's probably best to stick with 0.05 because you're learning a lot at once, but it's important to know that there is some debate about *p*-values and that you shouldn't automatically discount relationships with a *p*-value of 0.06.



If you've ever had to work on probability in a statistics class, dice still probably give you chills.

A note about "assumptions"

For certain types of bivariate, and in general for multivariate, analysis, we assume a few things about our data and the way it's distributed. The characteristics we assume about our data that makes it suitable for certain types of statistical tests are called **assumptions.** For instance, we assume that our data has a normal distribution. While I'm not going to go into detail about these assumptions because it's beyond the scope of the book, I want to point out that it is important to check these assumptions before your analysis.

> Most of the assumptions for these tests are the same, and the video at this link goes through the assumptions for linear regression. You may not understand these yet, but it will be a good resource for you as you move through your research classes.

Something else that's important to note is that going through this chapter, the data analyses presented

are merely for illustrative purposes–the necessary assumptions have not been checked. So don't draw any conclusions based on the results shared.

For this chapter, I'm going to use a data set from IPUMS USA, where you can get individual-level, de-identified U.S. Census and American Community Survey data. The data are clean and the data sets are large, so it can be a good place to get data you can use for practice.

Key Takeaways

- Bivariate analysis is a group of statistical techniques that examine the relationship between two variables.
- You need to conduct bivariate analyses before you can begin to draw conclusions from your data, including in future multivariate analyses.
- Statistical significance and p-values help us understand the extent to which the relationships we see in our analyses are real relationships, and not just random or **spurious**.

Exercises

- Find a study from your literature review that uses quantitative analyses. What kind of bivariate analyses did the authors use? You don't have to understand everything about these analyses yet!
- What do the *p*-values of their analyses tell you?

15.2 Chi-square

Learning Objectives

Learners will be able to…

- Explain the uses of Chi-square test for independence
- Explain what kind of variables are appropriate for a Chi-square test
- Interpret results of a Chi-square test and draw a conclusion about a hypothesis from the results

The first test we're going to introduce you to is known as a Chi-square test (sometimes denoted as χ^2) and is foundational to analyzing relationships between nominal or ordinal variables. A **Chi-square test for independence** (Chi-square for short) is a statistical test to determine whether there is a significant relationship between two nominal or ordinal variables. The "test for independence" refers to the null hypothesis of our comparison—that the two variables are independent and have no relationship.

A Chi-square can *only* be used for the relationship between two nominal or ordinal variables—there are other tests for relationships between other types of variables that we'll talk about later in this chapter. For instance, you could use a Chi-square to determine whether there is a significant relationship between a person's self-reported race and whether they have health insurance through their employer. (We will actually take a look at this a little later.)

Chi-square tests the hypothesis that there is a relationship between two **categorical variables** by comparing the values we actually observed and the value we would expect to occur based on our null hypothesis. The expected value is a calculation based on your data when it's in a summarized form called a **contingency table**, which is a visual representation of a cross-tabulation of categorical variables to demonstrate all the possible occurrences of your categories. I know that sounds complex, so let's look at an example.

Earlier, we talked about looking at the relationship between a person's race and whether they have health insurance through an employer. Based on 2017 American Community Survey data from IPUMS, this is what a contingency table for these two variables would look like.

Table 15.1 Contingency table for race and health insurance source

Race	No insurance through employer/union	Has insurance through employer/union	Total
White	1,037,071	1,401,453	2,438,524
Black/African American	177,648	177,648	317,308
American Indian or Alaska Native	24,123	12,142	36,265
Asian or Pacific Islander	71,155	105,596	176,751
Another race	75,117	46,699	121,816
Two or more major races	46,107	53,269	87,384
Total	**1,431,221**	**1,758,819**	**3,190,040**

So now we know what our observed values for these categories are. Next, let's think about our expected values. We don't need to get so far into it as to put actual numbers to it, but we can come up with a hypothesis based on some common knowledge about racial differences in employment. (We're going to be making some generalizations here, so remember that there can be exceptions.)

An applied example

Let's say research shows that people who identify as black, indigenous, and people of color (BIPOC) tend to hold multiple part-time jobs and have a higher unemployment rate in general. Given that, our hypothesis based on this data could be that BIPOC people are less likely to have employer-provided health insurance. Before we can assess a likelihood, we need to know if these to variables are even significantly related. Here's where our Chi-square test comes in!

I've used SPSS to run these tests, so depending on what statistical program you use, your outputs might look a little different.

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	43629.220[a]	5	.000
Likelihood Ratio	43505.505	5	.000
Linear-by-Linear Association	13318.937	1	.000
N of Valid Cases	3190040		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16270.40.

Figure 14.1 SPSS output of a Chi-square test

There are a number of different statistics reported here. What I want you to focus on is the first line, the Pearson Chi-Square, which is the most commonly used statistic for larger samples that have more than two categories each. (The other two lines are alternatives to Pearson that SPSS puts out automatically, but they are appropriate for data that is different from ours, so you can ignore them. You can also ignore the "df" column for now, as it's a little advanced for what's in this chapter.)

The last column gives us our statistical significance level, which in this case is 0.00. So what conclusion can we draw here? The significant Chi-square statistic means we can reject the null hypothesis (which is that our two variables are not related). There is likely a strong relationship between our two variables that is probably not random, meaning that we should further explore the relationship between a

person's race and whether they have employer-provided health insurance. Are there other factors that affect the relationship between these two variables? That seems likely. (One thing to keep in mind is that this is a large data set, which can inflate statistical significance levels. However, for the purposes of our exercises, we'll ignore that for now.)

What we *cannot* conclude is that these two variables are causally related. That is, someone's race doesn't cause them to have employer-provided health insurance or not. It just appears to be a contributing factor, but we are not accounting for the effect of other variables on the relationship we observe (yet).

Key Takeaways

- The Chi-square test is designed to test the null hypothesis that our two variables are not related to each other.
- The Chi-square test is only appropriate for nominal and/or ordinal variables.
- A statistically significant Chi-square statistic means we can reject the null hypothesis and assume our two variables are, in fact, related.
- A Chi-square test doesn't let us draw any conclusions about causality because it does not account for the influence of other variables on the relationship we observe.

Exercises

Think about the data you could collect or have collected for your research project. If you were to conduct a chi-square test, consider:

- Which two variables would you most like to use in the analysis?
- What about the relationship between these two variables interests you in light of what your literature review has shown so far?

15.3 Correlations

Learning Objectives

Learners will be able to...

- Define correlation and understand how to use it in quantitative analysis
- Explain what kind of variables are appropriate for a correlation
- Interpret a correlation coefficient
- Define the different types of correlation–positive and negative
- Interpret results of a correlation and draw a conclusion about a hypothesis from the results

A **correlation** is a relationship between two variables in which their values change together. For instance, we might expect education and income to be correlated–as a person's educational attainment (how much schooling they have completed) goes up, so does their income. What about minutes of exercise each week and blood pressure? We would probably expect those who exercise more have lower blood pressures than those who don't. We can test these relationships using correlation analyses. Correlations are appropriate only for two interval/ratio variables.



Exercise isn't the only thing that affects blood pressure–sometimes, it's just genetic!

It's very important to understand that correlations can tell you about relationships, but not causes—as you've probably already heard, correlation is not causation! Go back to our example about shark attacks and ice cream sales from the beginning of the chapter. Clearly, ice cream sales don't cause shark attacks, but the two are strongly correlated (most likely because both increase in the summer for other reasons). This relationship is an example of a **spurious relationship**, or a relationship that appears to exist between to variables, but in fact does not and is caused by other factors. We hear about these all the time in the news and correlation analyses are often misrepresented. As we talked about in Chapter 4 when discussing critical information literacy, your job as a researcher and informed social worker is to make sure people aren't misstating what these analyses actually mean, especially when they are being used to harm vulnerable populations.

An applied example

Let's say we're looking at the relationship between age and income among indigenous people in the United States. In the data set we've been using so far, these folks generally fall into the racial category of American Indian/Alaska native, so we'll use that category because it's the best we can do. Using SPSS, this is the output you'd get with these two variables for this group. We'll also limit the analysis to people age 18 and over since children are unlikely to report an individual income.

Correlations

		Age	Total personal income
Age	Pearson Correlation	1	.108**
	Sig. (2-tailed)		.000
	N	26117	26117
Total personal income	Pearson Correlation	.108**	1
	Sig. (2-tailed)	.000	
	N	26117	26117

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 14.2 Correlation output from SPSS

Here's Pearson again, but don't be confused—this is **not** the same test as the Chi-square, it just happens to be named after the same person. First, let's talk about the number next to Pearson Correlation, which is the correlation coefficient. The **correlation coefficient** is a statistically derived value between -1 and 1 that tells us the magnitude and direction of the relationship between two variables. A statistically significant correlation coefficient like the one in this table (denoted by a *p*-value of 0.01) means the relationship is not random.

The **magnitude** of the relationship is how strong the relationship is and can be determined by the absolute value of the coefficient. In the case of our analysis in the table above, the correlation coefficient is 0.108, which denotes a pretty weak relationship. This means that, among the population in our sample, age and income don't have much of an effect on each other. (If the correlation coefficient were -0.108, the conclusion about its strength would be the same.)

In general, you can say that a correlation coefficient with an absolute value below 0.5 represents a weak correlation. Between 0.5 and 0.75 represents a moderate correlation, and above 0.75 represents a strong correlation. Although the relationship between age and income in our population is statistically significant, it's also very weak.

The sign on your correlation coefficient tells you the direction of your relationship. A **positive correlation** or **direct relationship** occurs when two variables move together in the same direction—as one increases, so does the other, or, as one decreases, so does the other. Correlation coefficients will be positive, so that means the correlation we calculated is a positive correlation and the two variables have a direct, though very weak, relationship. For instance, in our example about shark attacks and ice cream, the number of both shark attacks and pints of ice cream sold would go up, meaning there is a direct relationship between the two.

A **negative correlation** or **inverse relationship** occurs when two variables change in opposite directions—one goes up, the other goes down and vice versa. The correlation coefficient will be negative. For example, if you were studying social media use and found that time spent on social media corresponded to lower scores on self-esteem scales, this would represent an inverse relationship.



An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=325



An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=325

An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=325

Correlations are important to run at the outset of your analyses so you can start thinking about how variables relate to each other and whether you might want to include them in future multivariate analyses. For instance, if you're trying to understand the relationship between receipt of an intervention and a particular outcome, you might want to test whether client characteristics like race or gender are correlated with your outcome; if they are, they should be plugged into subsequent multivariate models. If not, you might want to consider whether to include them in multivariate models.

A final note

Just because the correlation between your dependent variable and your primary independent variable is weak or not statistically significant doesn't mean you should stop your work. For one thing, disproving your hypothesis is important for knowledge-building. For another, the relationship can change when you consider other variables in multivariate analysis, as they could mediate or moderate the relationships.

Key Takeaways

- Correlations are a basic measure of the strength of the relationship between two interval/ratio variables.
- A correlation between two variables does not mean one variable causes the other one to change. Drawing conclusions about causality from a simple correlation is likely to lead to you to describing a spurious relationship, or one that exists at face value, but doesn't hold up when more factors are considered.
- Correlations are a useful starting point for almost all data analysis projects.
- The magnitude of a correlation describes its strength and is indicated by the correlation coefficient, which can range from -1 to 1.
- A positive correlation, or direct relationship, occurs when the values of two variables move together in the same direction.
- A negative correlation, or inverse relationship, occurs when the value of one variable moves one direction, while the value of the other variable moves the opposite direction.

Exercises

Think about the data you could collect or have collected for your research project. If you were to conduct a correlation analysis, consider:

- Which two variables would you most like to use in the analysis?
- What about the relationship between these two variables interests you in light of what your literature review has shown so far?

15.4 T-tests

Learning Objectives

Learners will be able to...

- Describe the three different types of t-tests and when to use them.
- Explain what kind of variables are appropriate for t-tests.

At a very basic level, t-tests compare the means between two groups, the same group at two points in time, or a group and a hypothetical mean. By doing so using this set of statistical analyses, you can learn whether these differences are reflective of a real relationship or not (whether they are statistically significant).

Say you've got a data set that includes information about marital status and personal income (which we do!). You want to know if married people have higher personal (not family) incomes than non-married people, and whether the difference is statistically significant. Essentially, you want to see if the difference in average income between these two groups is down to chance or if it warrants further exploration. What analysis would you run to find this information? A t-test!

A lot of social work research focuses on the effect of interventions and programs, so t-tests can be particularly useful. Say you were studying the effect of a smoking cessation hotline on the number of days participants went without smoking a cigarette. You might want to compare the effect for men and women, in which case you'd use an independent samples t-test. If you wanted to compare the effect of *your* smoking cessation hotline to others in the country and knew the results of those, you would use a one-sample t-test. And if you wanted to compare the average number of cigarettes per day for your

participants before they started a tobacco education group and then again when they finished, you'd use a paired-samples t-test. Don't worry—we're going into each of these in detail below.

So why are they called t-tests? Basically, when you conduct a t-test, you're comparing your data to a theoretical distribution of data known as the *t* distribution to get the *t* statistic. The *t* distribution is normal, so when your data are not normally distributed, a *t* distribution can approximate a normal distribution well enough for you to test some hypotheses. (Remember our discussion of assumptions in section 15.1—one of them is that data be normally distributed.) Ultimately, the *t* statistic that the test produces allows you to determine if any differences are statistically significant.

For t-tests, you need to have an interval/ratio dependent variable and a nominal or ordinal independent variable. Basically, you need an average (using an interval or ratio variable) to compare across mutually exclusive groups (using a nominal or ordinal variable).

Let's jump into the three different types of *t*-tests.

Paired samples *t*-test

The paired samples *t*-test is used to compare two means for the same sample tested at two different times or under two different conditions. This comparison is appropriate for pretest-post-test designs or within-subjects experiments. The null hypothesis is that the means at the two times or under the two conditions are the same in the population. The alternative hypothesis is that they are not the same.

For example, say you are testing the effect of pet ownership on anxiety symptoms. You have access to a group of people who have the same diagnosis involving anxiety who do not have pets, and you give them a standardized anxiety inventory questionnaire. Then, each of these participants gets some kind of pet and after 6 months, you give them the same standardized anxiety questionnaire.

To compare their scores on the questionnaire at the beginning of the study and after 6 months of pet ownership, you would use paired samples t-test. Since the sample includes the same people, the samples are "paired" (hence the name of the test). If the t-statistic is statistically significant, there is evidence that owning a pet has an effect on scores on your anxiety questionnaire.

Independent samples/two samples t-test

An independent/two samples t-test is used to compare the means of two separate samples. The two samples might have been tested under different conditions in a between-subjects experiment, or they could be pre-existing groups in a cross-sectional design (e.g., women and men, extroverts and

introverts). The null hypothesis is that the means of the two populations are the same. The alternative hypothesis is that they are not the same.

Let's go back to our example related to anxiety diagnoses and pet ownership. Say you want to know if people who own pets have different scores on certain elements of your standard anxiety questionnaire than people who don't own pets.

You have access to two groups of participants: pet owners and non-pet owners. These groups both fit your other study criteria. You give both groups the same questionnaire at one point in time. You are interested in two questions, one about self-worth and one about feelings of loneliness. You can calculate mean scores for the questions you're interested in and then compare them across two groups. If the t-statistic is statistically significant, then there is evidence of a difference in these scores that may be due to pet ownership.

One-sample t-test

Finally, let's talk about a one sample t-test. This t-test is appropriate when there is an external benchmark to use for your comparison mean, either known or hypothesized. The null hypothesis for this kind of test is that the mean in your sample is different from the mean of the population. The alternative hypothesis is that the means are different.

Let's say you know the average years of post-high school education for Black women, and you're interested in learning whether the Black women in your study are on par with the average. You could use a one-sample t-test to determine how your sample's average years of post-high school education compares to the known value in the population. This kind of t-test is useful when a phenomenon or intervention has already been studied, or to see how your sample compares to your larger population.



An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=325

Key Takeaways

- There are three types of t-tests that are each appropriate for different situations. T-tests can only be used with an interval/ratio dependent variable and a nominal/ordinal independent variable.
- T-tests in general compare the means of one variable between either two points in time or conditions for one group, two different groups, or one group to an external benchmark variable..
- In a paired-samples t-test, you are comparing the means of one variable in your data for the same group, either at two different times or under two different conditions, and testing whether the difference is statistically significant.
- In an independent samples t-test, you are comparing the means of one variable in your data for two different groups to determine if any difference is statistically significant.
- In a one-sample t-test, you are comparing the mean of one variable in your data to an external benchmark, either observed or hypothetical.

Exercises

Think about the data you could collect or have collected for your research project. If you were to conduct a t-test, consider:

- Which t-test makes the most sense for your data and research design? Why?
- Which variable would be an appropriate dependent variable? Why?
- Which variable would be an interesting independent variable? Why?

15.5 ANOVA (ANalysis Of VAriance)

Learning Objectives

Learners will be able to...

- Explain what kind of variables are appropriate for ANOVA
- Explain the difference between one-way and two-way ANOVA
- Come up with an example of when each type of ANOVA is appropriate

Analysis of variance, generally abbreviated to ANOVA for short, is a statistical method to examine how

a dependent variable changes as the value of a **categorical** independent variable changes. It serves the same purpose as the t-tests we learned in 15.4: it tests for differences in group means. ANOVA is more flexible in that it can handle any number of groups, unlike t-tests, which are limited to two groups (independent samples) or two time points (dependent samples). Thus, the purpose and interpretation of ANOVA will be the same as it was for t-tests.

There are two types of ANOVA: a one-way ANOVA and a two-way ANOVA. One-way ANOVAs are far more common than two-way ANOVAs.

One-way ANOVA

The most common type of ANOVA that researchers use is the **one-way ANOVA**, which is a statistical procedure to compare the means of a variable across three or more groups of an independent variable. Let's take a look at some data about income of different racial and ethnic groups in the United States. The data in Table 15.2 below comes from the US Census Bureau's 2018 American Community Survey[2]. The racial and ethnic designations in the table reflect what's reported by the Census Bureau, which is not fully representative of how people identify racially.

Table 15.2 ACS income data, 2018

Race	Average income
American Indian and Alaska Native	$20,709
Asian	$40,878
Black/ African American	$23,303
Native Hawaiian or Other Pacific Islander	$25,304
White	$36,962
Two or more races	$19,162
Another race	$20,482

Off the bat, of course, we can see a difference in the average income between these groups. Now, we want to know if the difference between average income of these racial and ethnic groups is statistically significant, which is the perfect situation to use one-way ANOVA. To conduct this analysis, we need the person-level data that underlies this table, which I was able to download from IPUMS. For this analysis, race is the independent variable (nominal) and total income is the dependent variable (interval/ratio). Let's assume for this exercise that we have no other data about the people in our data set besides their race and income. (If we did, we'd probably do another type of analysis.)

I used SPSS to run a one-way ANOVA using this data. With the basic analysis, the first table in the output was the following.

ANOVA

FTOTINC

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.234E+16	6	7.057E+15	1395.572	.000
Within Groups	4.303E+18	850965	5.057E+12		
Total	4.346E+18	850971			

Figure 14.3 Basic ANOVA table from SPSS.

Without going deep into the statistics, the column labeled "F" represents our F statistic, which is similar to the T statistic in a t-test in that it gives a statistical point of comparison for our analysis. The important thing to noticed here, however, is our significance level, which is .000. Sounds great! But we actually get very little information here—all we know is that the between-group differences are statistically significant as a whole, but not anything about the individual groups.

This is where post hoc tests come into the picture. Because we are comparing each race to each other race, that adds up to *a lot* of comparisons, and statistically, this increases the likelihood of a type I error. A post hoc test in ANOVA is a way to correct and reduce this error after the fact (hence "post hoc"). I'm only going to talk about one type—the Bonferroni correction—because it's commonly used. However, there are other types of post hoc tests you may encounter.

When I tell SPSS to run the ANOVA with a Bonferroni correction, in addition to the table above, I get a very large table that runs through every single comparison I asked it to make among the groups in my independent variable—in this case, the different races. Figure 15.4 below is the first grouping in that table—they will all give the same conceptual information, though some of the signs on the mean difference and, consequently the confidence intervals, will vary.

Multiple Comparisons

Dependent Variable: FTOTINC

Bonferroni

(I) RACE	(J) RACE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
White	Black or African American	-743932.735*	8244.359	.000	-768979.77	-718885.70
	American Indian and Alaska Native	-131743.344*	22413.385	.000	-199837.04	-63649.64
	Asian	2689.611	16576.040	1.000	-47669.76	53048.98
	Native Hawaiian and Other Pacific Islander	-84884.566	31111.267	.134	-179403.14	9634.01
	Another race	54573.489*	10326.658	.000	23200.26	85946.72
	Two or more races	-44042.401*	10568.771	.001	-76151.19	-11933.61

Figure 14.2 Portion of ANOVA post hoc table with Bonferroni correction

Now we see some points of interest. As you'd expect knowing what we know from prior research, race seems to have a pretty strong influence on a person's income. (Notice I didn't say "effect"—we don't have enough information to establish causality!) The significance levels for the mean of White people's incomes compared to the mean of several races are .000. Interestingly, for Asian people in the US, race appears to have no influence on their income compared to White people in the US. The significance level for Native Hawaiians and Pacific Islanders is also relatively high.

So what does this mean? We can say with some confidence that, overall, race seems to influence a person's income. In our hypothetical data set, since we only have race and income, this is a great analysis to conduct. But do we think that's the *only* thing that influences a person's income? Probably not. To look at other factors if we have them, we can use a two-way ANOVA.

Two-way ANOVA and *n*-way ANOVA

A **two-way ANOVA** is a statistical procedure to compare the means of a variable across groups using multiple independent variables to distinguish among groups. For instance, we might want to examine income by both race *and* gender, in which case, we would use a two-way ANOVA. Fundamentally, the procedures and outputs for two-way ANOVA are almost identical to one-way ANOVA, just with more cross-group comparisons, so I am not going to run through an example in SPSS for you.

You may also see textbooks or scholarly articles refer to *n*-way ANOVAs. Essentially, just like you've seen

throughout this book, the n can equal just about any number. However, going far beyond a two-way ANOVA increases your likelihood of a type I error, for the reasons discussed in the previous section.

A final note

You may notice that this book doesn't get into multivariate analysis at all. Regression analysis, which you've no doubt seen in many academic articles you've read, is an incredibly complex topic. There are entire courses and textbooks on the multiple different types of regression analysis, and we did not think we could adequately cover regression analysis at this level. Don't let that scare you away from learning about it–just understand that we don't expect you to know about it at this point in your research learning.

Key Takeaways

- One-way ANOVA is a statistical procedure to compare the means of a variable across three or more categories of an independent variable. This analysis can help you understand whether there are meaningful differences in your sample based on different categories like race, geography, gender, or many others.
- Two-way ANOVA is almost identical to one-way ANOVA, except that you can compare the means of a variable across multiple independent variables.

Exercises

Think about the data you could collect or have collected for your research project. If you were to conduct a one-way ANOVA, consider:

- Which variable would be an appropriate dependent variable? Why?
- Which variable would be an interesting independent variable? Why?
- Would you want to conduct a two-way or n-way ANOVA? If so, what other independent variables would you use, and why?

Media Attributions

- Great White Shark in South Africa © travelbagltd
- Dices © martin.brazdil
- Community Fitness Exercise © P.L. Tandon

Notes

1. Wasserstein, R. L., & Lazar, N. A. (2016). The ASA statement on p-values: context, process, and purpose. *The American Statistician*, 70, p. 129-133.
2. Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: *Version* 10.0 [dataset]. Minneapolis, MN: IPUMS, 2020. https://doi.org/10.18128/D010.V10.0

16. Reporting quantitative results

Chapter Outline

1. Additional resources for quantitative data analysis (3 minute read)
2. Reporting quantitative results (8 minute read)

Content warning: examples in this chapter contain a brief discussion of violence against women.

16.1 Additional resources for quantitative data analysis

Learning Objectives

Learners will be able to...

- Identify open textbooks and resources to assist with statistical analysis.
- Identify open source and commercial software used to perform statistical analysis.

While you are affiliated with a university, it is likely that you will have access to some kind of commercial statistics software. Examples in the previous section uses SPSS, the most common one our authoring team has seen in social work education. Like its competitors SAS and STATA, SPSS is expensive and your license to the software must be renewed every year (like a subscription). Even if you are able to install commercial statistics software on your computer, once your license expires, your program will no longer work. We believe that forcing students to learn software they will never use is wasteful and contributes to the (accurate, in many cases) perception from students that research class is unrelated to real-world practice. SPSS is more accessible due to its graphical user interface and does not require researcher to learn to learn basic computer programming, but it is prohibitively costly if a student wanted to use it to measure practice data in their agency post-graduation.

Instead, we suggest getting familiar with JASP Statistics, a free and open-source alternative to SPSS developed and supported by the University of Amsterdam. It has a similar user interface as SPSS, and should be similarly easy to learn. Moreover, usability upgrades from SPSS like generating APA formatted tables make it a compelling option. While a great many of my students will rely on statistical analyses

of their programs and practices in reports to funders, it is unlikely that any will use SPSS. Browse JASP's how-to guide or consult this textbook *Learning Statistics with JASP: A Tutorial for Psychology Students and Other Beginners*, written by Danielle J. Navarro, David R. Foxcroft, and Thomas J. Faulkenberry.

Another open source statistics software package is R (a.k.a. The R Project for Statistical Computing). R uses a command line interface, so you will need to learn how to program computer code in order to use it. Luckily, R is the most commonly used statistics software in the world, and the community of support and guides for using R are omnipresent online. For beginning researchers, consult the textbook *Learning Statistics with R: A tutorial for psychology students and other beginners* by Danielle J. Navarro.

While statistics software is sometimes needed to perform advanced statistical tests, most univariate and bivariate tests can be performed in spreadsheet software like Microsoft Excel, Google Sheets, or the free and open source LibreOffice Calc. Microsoft offers a includes a ToolPak to perform complex data analysis as an add-on to Excel. For more information on using spreadsheet software to perform statistics, the open textbook Collaborative Statistics Using Spreadsheets by Susan Dean, Irene Mary Duranczyk, Barbara Illowsky, Suzanne Loch, and Janet Stottlemyer.

Statistical analysis is performed in just about every discipline, and as a result, there are a lot of openly licensed, free resources to assist you with your data analysis. We have endeavored to provide you the basics in the past few chapters, but ultimately, you will likely need additional support in completing quantitative data analysis from an instructor, textbook, or other resource. Browse the Open Textbook Library for statistics resources or look for video tutorials from reputable instructors like this video textbook on statistics by Bryan Koenig.

Key Takeaways

- While the statistics software your school purchases is very expensive, there are free and easy-to-use alternatives you can learn and continue to use post-graduation.
- There are a lot of high quality and free online resources to learn and perform statistical analysis.

16.2 Reporting quantitative results

Learning Objectives

Learners will be able to...

- Write a comprehensive and reputable quantitative research report

So you've completed your quantitative analyses and are ready to report your results. We're going to spend some time talking about what matters in quantitative research reports, but the very first thing to understand is this: openness with your data and analyses is key. You should never hide what you did to get to a particular conclusion and, if someone wanted to and could ethically access your data, they should be able to replicate more or less exactly what you did. While your quantitative report won't have *every single* step you took to get to your conclusion, it should have plenty of detail so someone can get the picture.

Below, I'm going to take you through the key elements of a quantitative research report. This overview is pretty general and conceptual, and it will be helpful for you to look at existing scholarly articles that deal with quantitative research (like ones in your literature review) to see the structure applied. Also keep in mind that your instructor may want the sections broken out slightly differently; nonetheless, the content I outline below should be in your research report.

A good example template for a quantitative research report can be found from Partners for Prevention, a coalition of UN agencies working to eliminate violence against women.

Introduction and literature review

These are what you're working on building with your research proposal this semester. They should be included as part of your research report so that readers have enough information to evaluate your research for themselves. What's here should be very similar to the introduction and literature review from your research proposal, where you described the literature relevant to the study you wanted to do. With your results in hand, though, you may find that you have to add information to the literature you wrote previously to help orient the reader of the report to important topics needed to understand the results of your study.

Methods

In this section, you should explicitly lay out your study design—for instance, if it was experimental, be specific about the type of experimental design. Discuss the type of sampling that you used, if that's applicable to your project. You should also go into a general description of your data, including the time period, any exclusions you made from the original data set and the source—i.e., did you collect it yourself or was it secondary data? Next, talk about the specific statistical methods you used, like *t*-tests, Chi-square tests, or regression analyses. For descriptive statistics, you can be relatively general—you don't need to say "I looked at means and medians," for instance. You need to provide enough information here that someone could replicate what you did.

In this section, you should also discuss how you **operationalized** your variables. What did you mean when you asked about educational attainment—did you ask for a grade number, or did you ask them to pick a range that you turned into a category? This is key information for readers to understand your research. Remember when you were looking for ways to operationalize your variables? Be the kind of author who provides enough information on operationalization so people can actually understand what they did.

Results

You're going to run lots of different analyses to settle on what finally makes sense to get a result—positive or negative—for your study. For this section, you're going to provide tables with descriptions of your sample, including, but not limited to, sample size, frequencies of sample characteristics like race and gender, levels of measurement, appropriate measures of central tendency, standard deviations and variances. Here you will also want to focus on the analyses you used to actually draw whatever conclusion you settled on, both descriptive and inferential (i.e., bivariate or multivariate).

The actual statistics you report depend entirely on the kind of statistical analysis you do. For instance, if you're reporting on a logistic regression, it's going to look a little different than reporting on an ANOVA. In the previous chapter, we provided links to open textbooks that detail how to conduct quantitative data analysis. You should look at these resources and consult with your research professor to help you determine what is expected in a report about the particular statistical method you used.

The important thing to remember here—as we mentioned above—is that you need to be totally transparent about your results, even and especially if they don't support your hypothesis. There is value in a disproved hypothesis, too—you now know something about how the state of the world *is not*.

Discussion

In this section, you're going to connect your statistical results back to your hypothesis and discuss whether your results support your hypothesis or not. You are also going to talk about what the results mean for the larger field of study of which your research is a part, the implications of your findings if you're evaluating some kind of intervention, and how your research relates to what is already out there in this field. When your research doesn't pan out the way you expect, if you're able to make some educated guesses as to why this might be (supported by literature if possible, but practice wisdom works too), share those as well.

Let's take a minute to talk about what happens when your findings disprove your hypothesis or actually indicate something negative about the group you are studying. The discussion section is where you can contextualize "negative" findings. For example, say you conducted a study that indicated that a certain group is more likely to commit violent crime. Here, you have an opportunity to talk about why this might be the case outside of their membership in that group, and how membership in that group does not automatically mean someone will commit a violent crime. You can present mitigating factors, like a history of personal and community trauma. It's extremely important to provide this relevant context so that your results are more difficult to use against a group you are studying in a way that doesn't reflect your actual findings.

Limitations

In this section, you're going to critique your own study. What are the advantages, disadvantages, and trade-offs of what you did to define and analyze your variables? Some questions you might consider include: What limits the study's applicability to the population at large? Were there trade-offs you had to make between rigor and available data? Did the statistical analyses you used mean that you could only get certain types of results? What would have made the study more widely applicable or more useful for a certain group? You should be thinking about this throughout the analysis process so you can properly contextualize your results.

In this section, you may also consider discussing any threats to **internal validity** that you identified and whether you think you can generalize your research. Finally, if you used any measurement tools that haven't been validated yet, discuss how this could have affected your results.

Significance and conclusions

Finally, you want to use the conclusions section to bring it full circle for your reader—why did this

research matter? Talk about how it contributed to knowledge around the topic and how might it be used to further practice. Identify and discuss ethical implications of your findings for social workers and social work research. Finally, make sure to talk about the next steps for you, other researchers, or policy-makers based on your research findings.

Key Takeaways

- Your quantitative research report should provide the reader with transparent, replicable methods and put your research into the context of existing literature, real-world practice and social work ethics.

Exercises

- Think about the research project you are building now. What could a negative finding be, and how might you provide your reader with context to ensure that you are not harming your study population?

PART 4: USING QUALITATIVE METHODS

17. Qualitative data and sampling

Chapter Outline

1. Ethical responsibility and cultural respectfulness (7 minute read)
2. Critical considerations (8 minute read)
3. Find the right qualitative data to answer my research question (17 minute read)
4. How to gather a qualitative sample (21 minute read)
5. What should my sample look like? (9 minute read)

Content warning: examples in this chapter contain references to substance use, ageism, injustices against the Black community in research (e.g. Henrietta Lacks and Tuskegee Syphillis Study), children and their educational experiences, mental health, research bias, job loss and business closure, mobility limitations, politics, media portrayals of LatinX families, labor protests, neighborhood crime, Batten Disease (childhood disorder), transgender youth, cancer, child welfare including kinship care and foster care, Planned Parenthood, trauma and resilience, sexual health behaviors.

Now let's change things up! In the previous chapters, we were exploring steps to create and carry out a quantitative research study. Quantitative studies are great when we want to summarize data and examine or test relationships between ideas using numbers and the power of statistics. However, **qualitative research** offers us a different and equally important tool. Sometimes the aim of research is to explore meaning and experience. If these are the goals of our research proposal, we are going to turn to qualitative research. Qualitative research relies on the power of human expression through words, pictures, movies, performance and other artifacts that represent these things. All of these tell stories about the human experience and we want to learn from them and have them be represented in our research. Generally speaking, qualitative research is about the gathering up of these stories, breaking them into pieces so we can examine the ideas that make them up, and putting them back together in a way that allows us to tell a common or shared story that responds to our research question. Back in Chapter 7 we talked about different paradigms.



Example: One of the students I worked with had a placement in a residential substance treatment agency. She was interested in exploring how residents' substance use impacted their families. To do so, she designed a study to interview residents' perception of how their substance use had impacted relationships within their support network. She arrived at her research question after listening to many of the residents discuss this in the groups she sat in on as part of her placement. Consequently, she decided she wanted to learn more about this.

Before plunging further into our exploration of qualitative research, I would like to suggest that we begin by thinking about some ethical, cultural and empowerment-related considerations as you plan your proposal. This is by no means a comprehensive discussion of these topics as they relate to qualitative research, but my intention is to have you think about a few issues that are relevant at each step of the qualitative process. I will begin each of our qualitative chapters with some discussion about these topics as they relate to each of these steps in the research process. These sections are specially situated at the beginning of the chapters so that you can consider how these principles apply throughout the proceeding discussion. At the end of this chapter there will be an opportunity to reflect on these areas as they apply specifically to your proposal. Now, we have already discussed research ethics back in Chapter 8. However, as qualitative researchers we have some unique ethical commitments to participants and to the communities that they represent. Our work as qualitative researchers often requires us to represent the experiences of others, which also means that we need to be especially attentive to how culture is reflected in our research. Cultural respectfulness suggests that we approach our work and our participants with a sense of humility. This means that we maintain an open mind, a desire to learn about the cultural context of participants' lives, and that we preserve the integrity of this context as we share our findings.

17.1 Ethical responsibility and cultural respectfulness

Learning Objectives

Learners will be able to...

- Explain how our ethical responsibilities as researchers translate into decisions regarding qualitative sampling
- Summarize how aspects of culture and identity may influence recruitment for qualitative studies

Representation

Representation reflects two important aspects of our work as qualitative researchers, *who* is present and *how* are they presented. First, we need to consider who we are including or excluding in or sample. Recruitment and sampling is especially tied to our ethical mandate as researchers to uphold the principle of **justice** under the Belmont Report[1] (see Chapter 6 for additional information). Within this context we need to:

1. Assure there is fair distribution of risks and benefits related to our research
2. Be conscientious in our recruitment efforts to support equitable representation
3. Ensure that special protections to vulnerable groups involved in research activities are in place

As you plan your qualitative research study, make sure to consider who is invited and able to participate and who is not. These choices have important implications for your findings and how well your results reflect the population you are seeking to represent. There may be explicit exclusions that don't allow certain people to participate, but there may also be unintended reasons people are excluded (e.g. transportation, language barriers, access to technology, lack of time).

Example. Perhaps you are interested in studying the experience of Latinx adults over the course of the past two decades. You decide to gather data by holding focus groups in the evening. Based on previous research and community member input, you surmise that older adults in this community have a hard time getting out in the evening, and this is likely to affect who is represented in our final sample. By failing to address this, the inadvertent exclusion of older adult voices from your data could be disempowering for this subgroup, and could limit the inclusion of valuable perspectives in your study. In anticipation of this, you could plan to arrange for transportation for those participants that may have difficulty getting to your location in the evening and/or you may decide to host some of the groups at different times.

The second part of representation has to do with how we disseminate our findings and how this reflects on the population we are studying. We will speak further about this aspect of representation in Chapter 21, which is specific to qualitative research dissemination. For now, it is enough to know that we need to be thoughtful about who we attempt to recruit and how effectively our resultant sample reflects our population.

Being mindful of history

As you plan for the recruitment of your sample, be mindful of the history of how this group (and/or the individuals you may be interacting with) has been treated – not just by the research community, but by others in positions of power. As researchers, we usually represent an outside influence and the people we are seeking to recruit may have significant reservations about trusting us and being willing to participate in our study (often grounded in good historical reasons—see Chapter 6 for additional information). Because of this, be very intentional in your efforts to be transparent about the purpose of your research and what it involves, why it is important to you, as well as how it can impact the community. Also, in helping to address this history, we need to make concerted efforts to get to know the communities that we research with well, including what is important to them.

> *Example. In one research project that I worked on, we specifically met with a group of Black community members and discussed their thoughts about being asked to participate in a research project, specifically a project that would ask them to share genetic information. Many of them mentioned that they would be highly skeptical and likely refuse participation. They mentioned incidents like that of Henrietta Lacks and the Tuskegeee Syphillis Study being handed down to them as examples of why researchers are not to be trusted and as evidence that research is not truly concerned with the wellbeing of the Black community. Furthermore, they felt that academic institutions had become somewhat of a nuisance in their local neighborhoods. Researchers from many different disciplines were frequently asking neighborhood residents to participate in their studies, but after it was over, they were never seen in the neighborhood again. What steps can we take to genuinely change this justified narrative?*

Stories as sacred: How are we requesting them?

Finally, it is worth pointing out that as qualitative researchers, we have an extra layer of ethical and cultural responsibility. While quantitative research deals with numbers, as qualitative researchers, we are generally asking people to share their stories. Stories are intimate, full of depth and meaning, and can reveal tremendous amounts about who we are and what makes us tick. Because of this, we need to take special care to treat these stories as sacred. I will come back to this point in subsequent chapters, but as we go about asking for people to share their stories, we need to do so humbly.

Key Takeaways

- As researchers, we need to consider how our participant communities have been treated historically, how we are representing them in the present through our research, and the implications this representation could have (intended and unintended) for their lives. We need to treat research participants and their stories with respect and humility.
- When conducting qualitative research, we are asking people to share their stories with us. These "data" are personal, intimate, and often reflect the very essence of who our participants are. As researchers, we need to treat *research participants and their stories* with respect and humility.

17.2 Critical considerations

Learning Objectives

Learners will be able to...

- Assess dynamics of power in sampling design and recruitment for individual participants and participant communities
- Create opportunities for empowerment through early choice points in key research design elements

Power

Related to the previous discussion regarding being mindful of history, we also need to consider the current dynamics of power between researcher and potential participant. While we may not always recognize or feel like we are in a position of power, as researchers we hold specialized knowledge, a particular skill set, and what we do can with the data we collect can have important implications and consequences for individuals, groups, and communities. All of these contribute to the formation of a role ascribed with power. It is important for us to consider how this power is perceived and whenever possible, how we can build opportunities for empowerment that can be built into our research design. Examples of some strategies include:

- Recruiting and meeting in spaces that are culturally acceptable
- Finding ways to build participant choice into the research process

- Working with a community advisory group during the research process (explained further in the example box below)
- Designing informative and educational materials that help to thoroughly explain the research process in meaningful ways
- Regularly checking with participants for understanding
- Asking participants what they would like to get out of their participation and what it has been like to participate in our research
- Determining if there are ways that we can contribute back to communities beyond our research (developing an ongoing commitment to collaboration and reciprocity)

While it may be beyond the scope of a student research project to address all of these considerations, I do think it is important that we start thinking about these more in our research practices. As social work researchers, we should be modeling empowerment practices in the field of social science research, but we often fail to meet this standard.

> *Example. A community advisory group can be a tremendous asset throughout our research process, but especially in early stages of planning, including recruitment. I was fortunate enough to have a community advisory group for one of the projects I worked on. They were incredibly helpful as I considered different perspectives I needed to include in my study, helping me to think through a respectful way to approach recruitment, and how we might make the research arrangement a bit more reciprocal so community members might benefit as well.*

Intersectional identity

As qualitative researchers, we are often not looking to prove a hypothesis or uncover facts. Instead, we are generally seeking to expand our understanding of the breadth and depth of human experience. Breadth is reflected as we seek to uncover variation across participants and depth captures variation or detail within each participants' story. Both are important for generating the fullest picture possible for our findings. For example, we might be interested in learning about people's experience living in an assisted living facility by interviewing residents. We would want to capture a range of different residents' experiences (breadth) and for each resident, we would seek as much detail as possible (depth). Do note, sometimes our research may only involve one person, such as in a **case study**. However, in these instances we are usually trying to understand many aspects or dimensions of that single case.

To capture this breadth and depth we need to remember that people are made of multiple stories formed by **intersectional identities**. This means that our participants never just represent one homogeneous social group. We need to consider the various aspects of our population that will help to give the most complete representation in our sample as we go about recruitment.

Exercises

Identify a population you are interested in studying. This might be a population you are working with at your field placement (either directly or indirectly), a group you are especially interested in learning more about, or a community you want to serve in the future. As you formulate your question, you may draw your sample directly from clients that are being served, others in their support network, service providers that are providing services, or other stakeholders that might be invested in the well-being of this group or community. Below, list out two populations you are interested in studying and then for each one, think about two groups connected with this population that you might focus your study on.

Population	**Group**
1.	1a.
	1b.
2.	2a.
	2b.

Next, think about what would kind of information might help you understand this group better. If you had the chance to sit down and talk with them, what kinds of things would you want to ask? What kinds of things would help you understand their perspective or their worldview more clearly? What kinds of things do we need to learn from them and their experiences that could help us to be better social workers? For each of the groups you identified above, write out something you would like to learn from their experience.

Population	**Group**	**What I would like to learn from their experience**
1	1a.	1a.
	1b.	1b.
2.	2a.	2a.
	2b.	2b.

Finally, consider how this group might perceive a request to participate. For the populations and the groups that you have identified, think about the following questions:

- How have these groups been represented in the news?
- How have these groups been represented in popular culture and popular media?
- What historical or contemporary factors might influence these group members' opinions of research and researchers?
- In what ways have these groups been oppressed and how might research or academic institutions have contributed to this oppression?

Our impact on the qualitative process

It is important for qualitative research to thoughtfully plan for and attempt to capture our own impact

on the research process. This influence that we can have on the research process represents what is known as **researcher bias**. This requires that we consider how we, as human beings, influence the research we conduct. This starts at the very beginning of the research process, including how we go about sampling. Our choices throughout the research process are driven by our unique values, experiences, and existing knowledge of how the world works. To help capture this contribution, qualitative researchers may plan to use tools like a **reflexive journal**, which is a research journal that helps the researcher to reflect on and consider their thoughts and reactions to the research process and how these may influence or shape a study (there will be more about this tool in Chapter 20 when we discuss the concept of **rigor**). While this tool is not specific to the sampling process, the next few chapters will suggest reflexive journal questions to help you think through how it might be used as you develop a qualitative proposal.

Example. To help demonstrate the potential for researcher bias, consider a number of students that I work with who are placed in school systems for their field experience and choose to focus their research proposal in this area. Some are interested in understanding why parents or guardians aren't more involved in their children's educational experience. While this might be an interesting topic, I would encourage students to consider what kind of biases they might have around this issue.

- *What expectations do they have about parenting?*
- *What values do they attach to education and how it should be supported in the home?*
- *How has their own upbringing shaped their expectations?*
- *What do they know about the families that the school district serves and how did they come by this information?*
- *How are these families' life experiences different from their own?*

The answers to these questions may unconsciously shape the early design of the study, including the research question they ask and the sources of data they seek out. For instance, their study may only focus on the behaviors and the inclinations of the families, but do little to investigate the role that the school plays in engagement and other structural barriers that might exist (e.g. language, stigma, accessibility, child-care, financial constraints, etc.).

Key Takeaways

- As researchers, we wield (sometimes subtle) power and we need to be conscientious of how we use and distribute this power.
- Qualitative study findings represent complex human experiences. As good as we may be, we are only going to capture a relatively small window into these experiences (and need to be mindful of this when discussing our findings).

Exercises

In the early stages of your research process, it is a good idea to start your **reflexive journal**. Starting a reflexive journal is as easy as opening up a new word document, titling it and chronologically dating your entries. If you are more tactile-oriented, you can also keep your reflexive journal in paper bound journal.

To prompt your initial entry, put your thoughts down in response to the following questions:

- What led you to be interested in this topic?
- What experience(s) do you have in this area?
- What knowledge do you have about this issue and how did you come by this knowledge?
- In what ways might you be biased about this topic?

Don't answer this last question too hastily! Our initial reaction is often–"Biased!?! Me–I don't have a biased bone in my body! I have an open-mind about everything, toward everyone!" After all, much of our social work training directs us towards acceptance and working to understand the perspectives of others. However, WE ALL HAVE **BIASES**. These are conscious or subconscious preferences that lead us to favor some things over others. These preferences influence the choices we make throughout the research process. The reflexive journal helps us to reflect on these preferences, where they might stem from, and how they might be influencing our research process. For instance, I conduct research in the area of mental health. Before I became a researcher, I was a mental health clinician, and my years as a mental health practitioner created biases for me that influence my approach to research. For instance, I may be biased in perceiving mental health services as being well-intentioned and helpful. However, participants may well have very different perceptions based on their experiences or beliefs (or those of their loved ones).

17.3 Finding the right qualitative data to answer my research question

Learning Objectives

Learners will be able to…

- Compare different types of qualitative data
- Begin to formulate decisions as they build their qualitative research proposal, specially in regards to selecting types of data that can effectively answer their research question

Sampling starts with deciding on the type of data you will be using. Qualitative research may use data from a variety of sources. Sources of qualitative data may come from**interviews** or **focus groups**, **observations**, a review of written documents, administrative data, or other forms of media, and

performances. While some qualitative studies rely solely on one source of data, others incorporate a variety.

You should now be well acquainted with the term **triangulation**. When thinking about triangulation in qualitative research, we are often referring to our use of multiple sources of data among those listed above to help strengthen the confidence we have in our findings. Drawing on a journalism metaphor, this allows us to "fact check" our data to help ensure that we are getting the story correct. This can mean that we use one type of data (like interviews), but we intentionally plan to get a diverse range of perspectives from people we know will see things differently. In this case we are using triangulation of perspectives. In addition, we may also you a variety of different types of data, like including interviews, data from case records, and staff meeting minutes all as data sources in the same study. This reflects triangulation through types of data.

> *Example.* A *case study examining the micro, mezzo, macro impacts on a community after the closing of a large employer may involve interviews with families directly impacted by the closing and a variety of stakeholders including local service providers, other business members, local officials, and community members indirectly affected (triangulation of perspectives). The same case study also decides to analyze media coverage 6 months prior and 12 months after the employer closed (triangulation of types of data). By bringing together information from this multiplicity of sources, researchers are able to tell a richer or more detailed story about how the event (i.e., the closure) impacted the community across the micro, mezzo, and macro levels.*

As a student conducting research, you may not always have access to vulnerable groups or communities in need, or it may be unreasonable for you to collect data from them directly due to time, resource, or knowledge constraints. Because of this, as you are reviewing the sections below, think about accessible alternative sources of data that will still allow you to answer your research question practically, and I will provide some examples along the way to get you started. In the above example, local media coverage might be a means of obtaining data that does not involve vulnerable directly collecting data from potentially vulnerable participants.



Verbal data

Perhaps the bread and butter of the qualitative researcher, we often rely on what people tell us as a primary source of information for qualitative studies in the form of verbal data. The researcher who schedules **interviews** with recipients of public assistance to capture their experience after legislation drastically changes requirements for benefits relies on the communication between the researcher and the impacted recipients of public assistance. **Focus groups** are another frequently used method of gathering verbal data. Focus groups bring together a group of participants to discuss their unique perspectives and explore commonalities on a given topic. One such example is a researcher who brings together a group of child welfare workers who have been in the field for one to two years to ask them questions regarding their preparation, experiences, and perceptions regarding their work.

A benefit of utilizing verbal data is that it offers an opportunity for researchers to hear directly from participants about their experiences, opinions, or understanding of a given topic. Of course, this requires that participants be willing to share this information with a researcher and that the information shared is genuine. If groups of participants are unwilling to participate in sharing verbal data or if participants share information that somehow misrepresents their feelings (perhaps because they feel

intimidated by the research process), then our qualitative sample can become biased and lead to inaccurate or partially accurate findings.

As noted above, participant willingness and honesty can present challenges for qualitative researchers. You may face similar challenges as a student gathering verbal data directly from participants who have been personally affected by your research topic. Because of this, you might want to gather verbal data from other sources. Many of the students I work with are placed in schools. It is not feasible for them to interview the youth they work with directly, so frequently they will interview other professionals in the school, such as teachers, counselors, administration, and other staff. You might also consider interviewing other social work students about their perceptions or experiences working with a particular group.

Again, because it may be problematic or unrealistic for you to obtain verbal data directly from vulnerable groups as a student researcher, you might consider gathering verbal data from the following sources:

- Interviews and focus groups with providers, social work students, faculty, the general public, administrators, local politicians, advocacy groups
- Public blogs of people invested in your topic
- Publicly available transcripts from interviews with experts in the area or people reporting experiences in popular media

Make sure to consult with your professor to ensure that what you are planning will be realistic for the purposes of your study.

For an example of verbal data review Patel, Tinker, and Corna (2018)[2] interviewed younger workers (<35) towards their older colleagues to investigate potential ageism in multigenerational workspaces.



Observational data

As researchers, we sometimes rely on our own powers of **observation** to gather data on a particular topic. We may observe a person's behavior, an interaction, setting, context, and maybe even our own reactions to what we are observing (i.e. what we are thinking or feeling). When observational data is used for quantitative purposes, it involves a count, such as how many times a certain behavior occurs for a child in a classroom. However, when observational data is used for qualitative purposes, it involves the researcher providing a detailed description. For instance, a qualitative researcher may conduct observations of how mothers and children interact in child and adolescent cancer units, and take notes about where exchanges take place, topics of conversation, nonverbal information, and data about the setting itself – what the unit looks like, how it is arranged, the lighting, photos on the wall, etc.

Observational data can provide important contextual information that may not be captured when we rely solely on verbal data. However, using this form of data requires us, as researchers, to correctly observe and interpret what is going on. As we don't have direct access to what participants may be thinking or feeling to aid us (which can lead us to misinterpret or create a biased representation of what we are observing), our take on this situation may vary drastically from that of another person observing the same thing. For instance, if we observe two people talking and one begins crying, how do we know if these are tears of joy or sorrow? When you observe someone being abrupt in a conversation, I might interpret that as the person being rude while you might perceive that the person is distracted or preoccupied with something. The point is, we can't know for sure. Perhaps one of the most challenging aspects of gathering observational data is collecting neutral, objective observations, that are not laden with our subjective value judgments placed on them. Students often find this out in class during one of our activities. For this activity, they have to go out to public space and write down observations about what they observe. When they bring them back to class and we start discussing them together, we quickly realize how often we make (unfounded) judgments. Frequent examples from our class include determining the race/ethnicity of people they observe or the relationships between people, without any confirmational knowledge. Additionally, they often describe scenarios with adverbs and adjectives that often reflect judgments and values they are placing on their data. I'm not sharing this to call them out, in fact, they do a great job with the assignment. I just want to demonstrate that as human beings, we are often less objective than we think we are! These are great examples of research bias.

Again, gaining access to observational spaces, especially private ones, might be a challenge for you as a student. As such, you might consider if observing public spaces might be an option. If you do opt for this, make sure you are not violating anyone's right to privacy. For instance, gathering information in a narcotics anonymous meeting or a religious celebration might be perceived as offensive, invasive or in direct opposition to values (like anonymity) of participants. When making observations in public spaces be careful not to gather any information that might identify specific individuals or organizations. Also, it is important to consider the influence your presence may have on a community, particularly if your observation makes you stand out among those typically present in that setting. Always consider the needs of the individual and the communities in formulating a plan for observing public behavior. Public

spaces might include commercial spaces or events open to the public as well as municipal parks. Below we will have an expanded discussion about different varieties of **non-probability sampling** strategies that apply to qualitative research. Recruiting in public spaces like these may work for strategies such as **convenience sampling** or **quota sampling**, but would not be a good choice for **snowball sampling** or **purposive sampling**.

As with the cautionary note for student researchers under verbal data, you may experience restricted access to spaces in which you are able to gather observational data. However, if you do determine that observational data might be a good fit for your student proposal, you might consider the following spaces:

- Shopping malls
- Public parks or beaches
- Public meetings or rallies
- Public transportation

> *Example of research with observational data. You may be interested in studying access for people with limited mobility. You might consider designing a proposal that involves utilizing observational data that captures data about accessibility in various public spaces for a particular geographic location. Note that in this example you wouldn't actually be observing people but instead you would be observing and gathering data on the spaces itself.*

Artifacts (documents & other media)

Existing artifacts can also be very useful for the qualitative researcher. Examples include newspapers, blogs, websites, podcasts, television shows, movies, pictures, video recordings, artwork, and live performances. While many of these sources may provide indirect information on a topic, this information can still be quite valuable in capturing the sentiment of popular culture and thereby help researchers enhance their understanding of (dominant) societal values and opinions. Conversely, researchers can intentionally choose to seek out divergent, unique or controversial perspectives by searching for artifacts that tend to take up positions that differ from the mainstream, such as independent publications and (electronic) newsletters. While we will explore this further below, it is important to understand that data and research, in all its forms, is political. Among many other purposes, it is used to create, critique, and change policy; to engage in activism; to support and refute how organizations function; and to sway public opinion.

When utilizing documents and other media as artifacts, researchers may choose to use an entire source (such as a book or movie), or they may use a segment or portion of that artifact (such as the front-page stories from newspapers, or specific scenes in a television series). Your choice of which artifacts you

choose to include will be driven by your question, and remember, you want your sample of artifacts to reflect the diversity of perspectives that may exist in the population you are interested in. For instance, perhaps I am interested in studying how various forms of media portray substance use treatment. I might intentionally include a range of liberal to conservative views that are portrayed across a number of media sources.

As qualitative researchers using artifacts, we often need to do some digging to understand the context of said artifact. We do this because data is almost always affiliated or aligned with some position (again, data is political). To help us consider this, it may be helpful to reflect on the following questions:

- Who owns the artifact or where is it housed
- What values does the owner (organization or person) hold
- How might the position or identity of the owner influence what information is shared or how it is portrayed
- What is the purpose of the artifact
- Who is the audience for which the artifact is intended

Answers to questions such as these can help us to better understand and give meaning to the content of the artifacts. **Content** is the substance of the artifact (e.g. the words, picture, scene). While **context** is the circumstances surrounding content. Both work together to help provide meaning, and further understanding of what can be derived from an artifact. As an example to illustrate this point, let's say that you are including meeting minutes from an organizing network as a source of data for your study. The narrative description in these minutes will certainly be important, however, they may not tell the whole story. For instance, you might not know from the text that the organization has recently voted in a new president and this has created significant division within the network. Knowing this information might help you to interpret the agenda and the discussion contained in the minutes very differently.

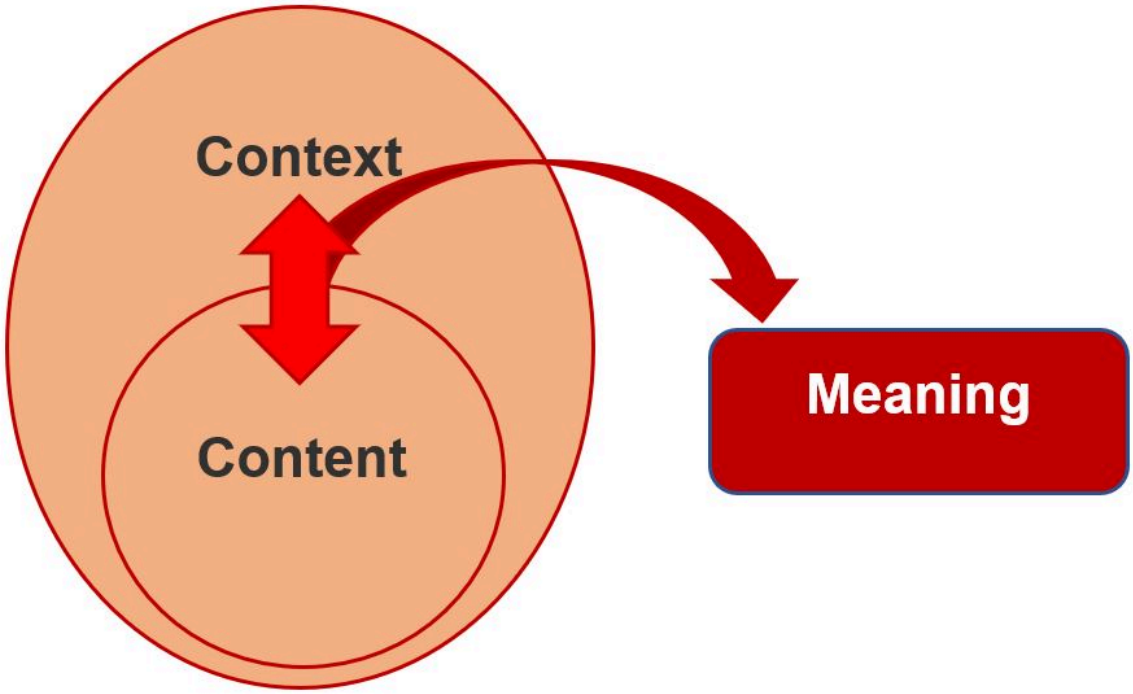


Figure 17.1. Content and context interaction to produce meaning

As student researchers, using documents and other artifacts may be a particularly appealing source of data for your study. This is because this data already exists (you aren't creating new data) and depending on what you select, it might be relatively easy to access. Examples of utilizing existing artifacts might include studying the cultural context of movie portrayals of Latinx families or analyzing publicly available town hall meeting minutes to explore expressions of social capital. Below is a list of sources of data from documents or other media sources to consider for your student proposal:

- Movies or TV shows
- Music or music videos
- Public blogs
- Policies or other organizational documents
- Meeting minutes
- Comments in online forums
- Books, newspapers, magazines, or other print/virtual text-based materials
- Recruitment, training, or educational materials
- Musical or artistic expressions

Example of research using documents or other media. Veenstra, Iyer, Hossain, and Park (2014)[3] examined twitter usage during the 2011 Wisconson Labor Protests to examine information sharing and citizen journalism surrounding these activities.

Photovoice

Finally, **Photovoice** is a technique that merges pictures with narrative (word or voice) data that helps interpret the meaning or significance of the visual. Photovoice is often used for qualitative work that is conducted as part of Community Based Participatory Research (CBPR), wherein community members act as both participants and as co-researchers. These community members are provided with a means of capturing images that reflect their understanding of some topic, prompt or question, and then they are asked to provide a narrative description or interpretation to help give meaning to the image(s). Both the visual and narrative information are used as qualitative data to include in the study. Dissemination of Photovoice projects often involve a public display of the works, such as through a demonstration or art exhibition to raise awareness or to produce some specific change that is desired by participants. Because this form of study is often intentionally persuasive in nature, we need to recognize that this form of data will be inherently subjective. As a student, it may be particularly challenging to implement a Photovoice project, especially due to its time-intensive nature, as well as the additional commitments of needing to engage, train, and collaborate with community partners.

Example of Photovoice research. Ohmer and Owens (2013)[4] used Photovoice to gather data with a racially diverse group of neighborhood youth and adults to identify aspects of their neighborhood that both contributed to and curtailed local crime. This data was then used to develop a community project incorporating these results to support reducing crime in the neighborhood.

Table 17.1 offers a summary of the various types of qualitative data that we have discussed, as well as potential sources of each type of data that students might consider using, and finally some of the strengths and challenges that often accompany each type. Remember, no type of data is inherently better than the others, it is a question about goodness-of-fit; what type of data is best suited for answering my research question and most reasonable for me to obtain as a student researcher.

Table 17.1 Types of qualitative data

Type of Data	**Potential Sources of Student Data**	**Some Potential Strengths and Challenges with this Type of Data**
Verbal	• Interviews and focus groups with providers, social work students, faculty, the general public, administrators, local politicians, advocacy groups • Public blogs of people invested in your topic • Publicly available transcripts from interviews with experts in the area or people reporting experiences in popular media	Strengths • Data can be very rich and meaningful • you have significant control over how the data is collected • Flexible, as you can cover a broad range of topics Challenges • Time-consuming • May be hard to gain permission • People may not want to share openly
Type of Data	**Potential Sources of Student Data**	**Some Potential Strengths and Challenges with this Type of Data**
Observational	Observations in: • Shopping malls • Public parks or beaches • Public meetings or rallies • Public transportation	Strengths • You have control over data gathering–don't need to depend on others • If using public spaces, gaining access should not be problematic • Easier for you to be unobtrusive as you blend in and observe with little interference (hopefully!) Challenges • You are limited to your observations (can't know thoughts, perceptions, opinions) • Access to non-public spaces can be challenging/ problematic in regards to access and permission • Must be especially careful not to inadvertently violate the rights of others, even if the space is public (especially since you are likely not gathering informed consent of everyone in public space)
Type of Data	**Potential Sources of Student Data**	**Some Potential Strengths and Challenges with this Type of Data**

Documents & Other Media	• Movies or t.v. shows • Music or music videos • Public blogs • Policies or other organizational documents • Meeting minutes • Comments in online forums • Books, newspapers, magazines, or other print/virtual text-based materials • Recruitment, training, or educational materials • Musical or artistic expressions • Chart review data	Strengths • If you are creative—there can be many different sources of data that might provide information about the topic you are interested in • Since this data already exists, you don't need to create it, just obtain it • Using data that falls into this category that is publicly available helps to avoid gathering data from potentially vulnerable groups Challenges • You may have a variety of different types of data and it may be challenging to organize and analyze • If the sources aren't public, there may be challenges to obtaining permission • Because it is existing data, you must rely on what exists, you are giving up some control over what the data looks like

How many kinds of data?

You will need to consider whether you will rely on one kind of data or multiple. While many qualitative studies solely use one type of data, such as interviews or focus groups, others may use multiple sources. The decision to use multiple sources is often made to help strengthen the confidence we have in our findings or to help us to produce a richer, more detailed description of our results. For instance, if we are conducting a case study of what the family experience is for a child with a very rare disorder like Batten Disease, we may use multiple sources of data. These can include observing family and community interactions, conducting interviews with family members and others connected to the family (such as service providers,) and examining journal entries families were asked to keep over the course of the study. By collecting data from a variety of sources such as this, we can more broadly represent a range of perspectives when answering our research question, which will hopefully provide a more holistic picture of the family experience. However, if we are trying to examine the decision-making processes of adult protective workers, it may make the most sense to rely on just one type of data, such as interviews with adult protective workers.

Key Takeaways

- There are numerous types of qualitative data (verbal, observational, artifacts) that we may be able to access when planning a qualitative study. As we plan, we need to consider the strengths and challenges that each possess and how well each type might answer our research question.
- The use of multiple types of qualitative data does add complexity to a study, but this complication may well be worth it to help us explore multiple dimensions of our topic and thereby enrich our findings.

Exercises

Reflexive Journal Entry Prompt

For your next entry, consider responding to the following:

- What types of data appeal to you?
- Why do you think you are drawn to them?
- How well does this type of data "fit" as a means of answering your question? Why?

17.4 How to gather a qualitative sample

Learning Objectives

Learners will be able to...

- Compare and contrast various non-probability sampling approaches
- Select a sampling strategy that ideologically fits the research question and is practical/actionable

Before we launch into how to plan our sample, I'm going to take a brief moment to remind us of the philosophical basis surrounding the purpose of qualitative research—not to punish you, but because it has important implications for sampling.

Nomothetic vs. idiographic

As a quick reminder, as we discussed in Chapter 8 **idiographic** research aims to develop a rich or deep understanding of the individual or the few. The focus is on capturing the uniqueness of a smaller sample in a comprehensive manner. For example, an idiographic study might be a good approach for a case study examining the experiences of a transgender youth and her family living in a rural Midwestern state. Data for this idiographic study would be collected from a range of sources, including interviews with family members, observations of family interactions at home and in the community, a focus group with the youth and her friend group, another focus group with the mother and her social network, etc. The aim would be to gain a very holistic picture of this family's experiences.

On the other hand, **nomothetic** research is invested in trying to uncover what is 'true' for many. It seeks to develop a general understanding of a very specific relationship between variables. The aim is to produce generalizable findings, or findings that apply to a large group of people. This is done by gathering a large sample and looking at a limited or restricted number of aspects. A nomothetic study might involve a national survey of heath care providers in which thousands of providers are surveyed regarding their current knowledge and competence in treating transgender individuals. It would gather data from a very large number of people, and attempt to highlight some general findings across this population on a very focused topic.

Idiographic and nomothetic research represent two different research categories existing at opposite extremes on a continuum. Qualitative research generally exists on the idiographic end of this continuum. We are most often seeking to obtain a rich, deep, detailed understanding from a relatively small group of people.

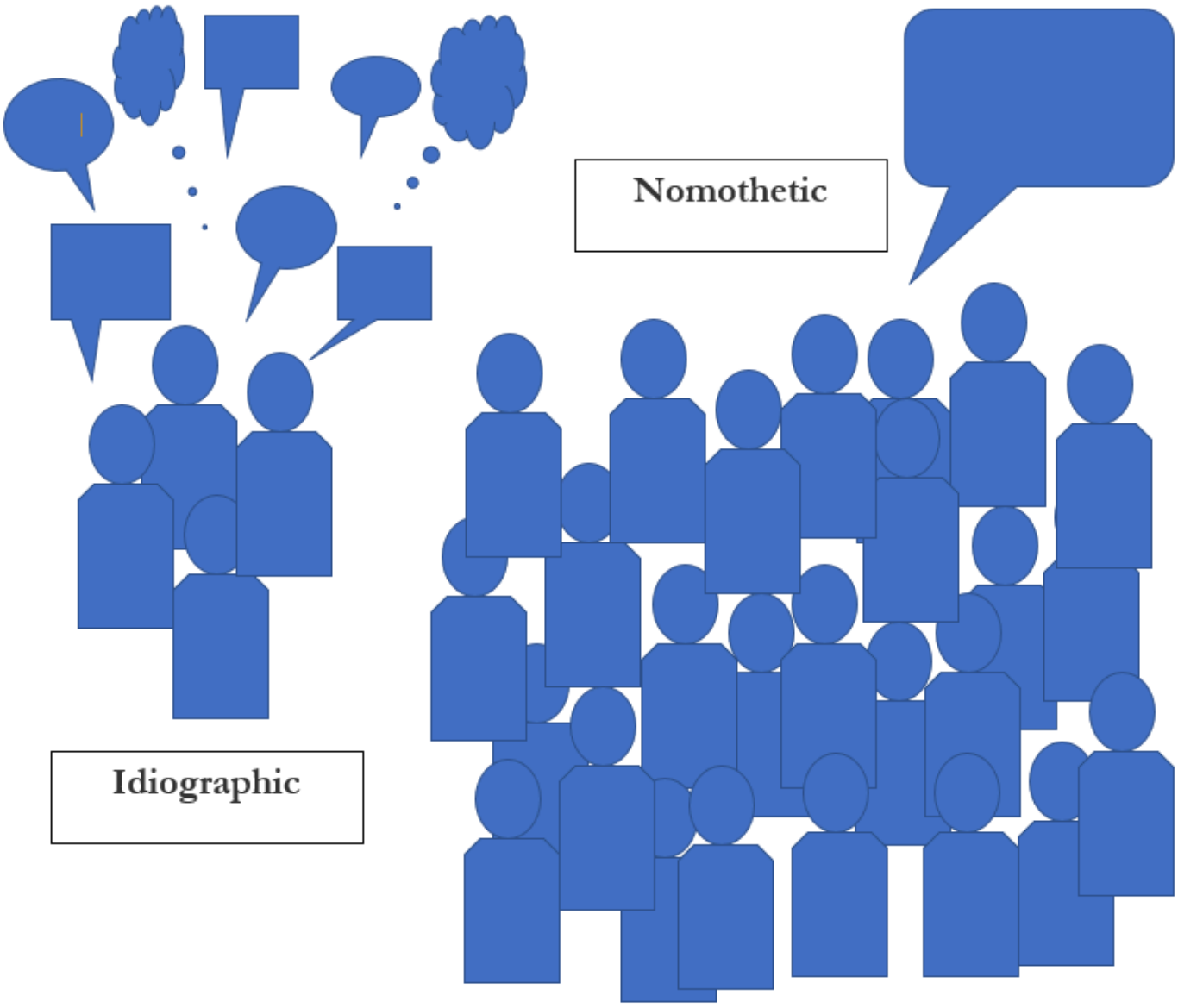


Figure 17.2 Idiographic vs. Nomothetic

Non-probability sampling

Non-probability sampling refers to sampling techniques for which a person's (or event's) likelihood of being selected for membership in the sample is unknown. Because we don't know the likelihood of selection, we don't know whether a sample represents a larger population or not. But that's okay, because representing the population is not the goal of nonprobability samples. That said, the fact that nonprobability samples do not represent a larger population does not mean that they are drawn arbitrarily or without any specific purpose in mind. We typically use nonprobability samples in research

projects that are qualitative in nature. We will examine several types of nonprobability samples. These include purposive samples, snowball samples, quota samples, and convenience samples.

Convenience or availability

Convenience sampling, also known as availability sampling, is a nonprobability sampling strategy that is employed by both qualitative and quantitative researchers. To draw a convenience sample, we would simply collect data from those people or other relevant elements to which we have the most convenient access. While convenience samples offer one major benefit—convenience—we should be cautious about generalizing from research that relies on convenience samples because we have no confidence that the sample is representative of a broader population. If you are a social work student who needs to conduct a research project at your field placement setting and you decide to conduct a focus group with the staff at your agency, you are using a convenience sampling approach – you are recruiting participants that are easily accessible to you. In addition, if you elect to analyze existing data that your social work program has collected as part of their graduation exit surveys, you are using data that you readily have access to for your project; again, you have a convenience sample. The vast majority of students I work with on their proposal design rely on convenience data due to time constraints and limited resources.

Purposive

To draw a **purposive** sample, we begin with specific perspectives or purposive criteria in mind that we want to examine. We would then seek out research participants who cover that full range of perspectives. For example, if you are studying mental health supports on your campus, you may want to be sure to include not only students, but mental health practitioners and student affairs administrators as well. You might also select students who currently use mental health supports, those who dropped out of supports, and those who are waiting to receive supports. The "purposive" part of purposive sampling comes from selecting specific participants on purpose because you already know they have certain characteristics—being an administrator, dropping out of mental health supports, for example—that you need in your sample.

Note that these differ from **inclusion criteria**, which are more general requirements a person must possess to be a part of your sample; to be a potential participant that may or may not be sampled. For example, one of the inclusion criteria for a study of your campus' mental health supports might be that participants had to have visited the mental health center in the past year. That differs from purposive sampling. In purposive sampling, you know characteristics of individuals and recruit them because of those characteristics. For example, I might recruit Jane because she stopped seeking supports this month, because she has worked at the center for many years, and so forth.

Also, it's important to recognize that purposive sampling requires you to have prior information about your participants before recruiting them because you need to know their perspectives or experiences before you know whether you want them in your sample. This is a common mistake that many students make. What I often hear is, "I'm using purposive sampling because I'm recruiting people from the health center," or something like that. That's not purposive sampling. In most instances they really mean they are going to use convenience sampling-taking whoever they can recruit that fit the inclusion criteria (i.e. have attended the mental health center). Purposive sampling is recruiting *specific people* because of the various characteristics and perspectives they bring to your sample. Imagine we were creating a focus group. A purposive sample might gather clinicians, patients, administrators, staff, and former patients together so they can talk as a group. Purposive sampling would seek out people that have each of those attributes.

If you are considering using a purposive sampling approach for your research proposal, you will need to determine what your purposive criteria involves. There are a range of different purposive strategies that might be employed, including: **maximum variation**, **typical case**, **extreme case**, or **political case**, and you want to be thoughtful in thinking about which one(s) you select and why.

Table 17.2 Various purposive strategy approaches

Purposive Strategy	Description	Student Example
Maximum Variation	Case(s) selected to represent a range of very different perspectives on a topic	You interview student leaders from the schools of social work, business, the arts, math & science, education, history & anthropology and health studies to ensure that you have the perspective of a variety of disciplines
Typical Case	Case(s) selected to reflect a commonly held perspective.	You interview a child welfare worker specifically because many of their characteristics fit the state statistical profile for providers in that service area.
Extreme Case	Case(s) selected to represent extreme or underrepresented perspectives.	You examine websites devoted to rare cancer survivor support.
Political Case	Case(s) selected to represent a contemporary politicized issue	You analyze media interviews with Planned Parenthood providers, employees, and clients from 2010 to present.
Expert Case	Case(s) selected based on specialized content knowledge or expertise	You are interested in studying resilience in trauma providers, so you research and reach out to a handful of authorities in this area.
Theory-Based Case	Case(s) selected based on their representation of a specific theoretical orientation or some aspect of a given theory	You are interested in studying how training methods vary by practitioner according to their theoretical orientation. You specifically reach out to a clinician who identifies as a Cognitive Behavioral clinician, one who identifies as Bowenian, and one who identifies as Structural Family.
Critical Case	Case(s) selected based on the likelihood that the case will yield the desired information	You examine a public gaming network forum on social media to see how participants offer support to one another.

It can be a bit tricky determining how to approach or formulate your purposive cases. Below are a couple additional resources to explore this strategy further.

For more information on purposive sampling consult this webpage from Laerd Statistics on purposive sampling and this webpage from the University of Connecticut on education research.



Snowball

When using **snowball sampling**, we might know one or two people we'd like to include in our study but then we have to rely on those initial participants to help identify additional participants. Thus, our sample builds and grows as the study continues, much as a snowball builds and becomes larger as it rolls through the snow. Snowball sampling is an especially useful strategy when you wish to study a stigmatized group or behavior. These groups may have limited visibility and accessibility for a variety of reasons, including safety.

Malebranche and colleagues (2010)[5] were interested in studying sexual health behaviors of Black, bisexual men. Anticipating that this may be a challenging group to recruit, they utilized a snowball sampling approach. They recruited initial contacts through activities such as advertising on websites and distributing fliers strategically (e.g. barbershops, nightclubs). These initial recruits were compensated with $50 and received study information sheets and five contact cards to distribute to people in their social network that fit the study criteria. Eventually the research team was able to recruit a sample of 38 men who fit the study criteria.

Snowball sampling may present some ethical quandaries for us. Since we are essentially relying on

others to help advertise for us, we are giving up some of our control over the process of recruitment. We may be worried about coercion, or having people put undue pressure to have others' they know participate in your study. To help mitigate this, we would want to make sure that any participant we recruit understands that participation is completely voluntary and if they tell others about the studies, they should also make them aware that it is voluntary, too. In addition to coercion, we also want to make sure that people's privacy is not violated when we take this approach. For this reason, it is good practice when using a snowball approach to provide people with our contact information as the researchers and ask that they get in touch with us, rather than the other way around. This may also help to protect again potential feelings of exploitation or feeling taken advantage of. Because we often turn to snowball sampling when our population is difficult to reach or engage, we need to be especially sensitive to why this is. It is often because they have been exploited in the past and participating in research may feel like an extension of this. To address this, we need to have a very clear and transparent informed consent process and to also think about how we can use or research to benefit the people we work in the most meaningful and tangible ways.

Quota

Quota sampling is another nonprobability sampling strategy. This type of sampling is actually employed by both qualitative and quantitative researchers, but because it is a nonprobability method, we'll discuss it in this section. When conducting quota sampling, we identify categories that are important to our study and for which there is likely to be some variation. Subgroups are created based on each category and the researcher decides how many people (or whatever element happens to be the focus of the research) to include from each subgroup and collects data from that number for each subgroup. To demonstrate, perhaps we are interested in studying support needs for children in the foster care system. We decide that we want to examine equal numbers (seven each) of children placed in a kinship placement, a non-kinship foster placement, group home, and residential placements. We expect that the experiences and needs across these settings may differ significantly, so we want to have good representation of each one, thus setting a quota of seven for each type of placement.

Table 17.3 Non-probability sampling strategies

Sampling Type	Brief Description
Convenience/ Availability	You gather data from whatever cases/people/documents happen to be convenient
Purposive	You seek out elements that meet specific criteria, representing different perspectives
Snowball	You rely on participant referrals to recruit new participants
Quota	You select a designated number of cases from specified subgroups

As you continue to plan for your proposal, below you will find some of the strengths and challenges presented by each of these types of sampling.

Table 17.4 Non-probability sampling strategies strengths and challenges

Sampling Type	Strengths	Challenges
Convenience/ Availability	Allows us to draw sample from participants who are most readily available/accessible	Sample may be biased and may represent limited or skewed diversity in characteristics of participants
Purposive	Ensures that specific expertise, positions, or experiences are represented in sample participants	It may be challenging to define purposive criteria or to locate cases that represent these criteria; restricts our potential sampling pool
Snowball	Accesses participant social network and community knowledge Can be helpful in gaining access to difficult to reach populations	May be hard to locate initial small group of participants, concerns over privacy—people might not want to share contacts, process may be slow or drawn-out
Quota	Helps to ensure specific characteristics are represented and defines quantity of each	Can be challenging to fill quotas, especially for subgroups that might be more difficult to locate or reluctant to participate

Wait a minute, we need a plan!

Both qualitative and quantitative research should be planful and systematic. We've actually covered a lot of ground already and before we get any further, we need to start thinking about what the plan for your qualitative research proposal will look like. This means that as you develop your research proposal, you need to consider what you will be doing each step of the way: how you will find data, how you will capture it, how you will organize it, and how you will store it. If you have multiple types of data, you need to have a plan in place for each type. The plan that you develop is your **data collection protocol**. If you

have a team of researchers (or are part of a research team), the data collection protocol is an important communication tool, making sure that everyone is clear what is going on as the research proceeds. This plan is important to help keep you and others involved in your research consistent and accountable. Throughout this chapter and the next (Chapter 18–qualitative data gathering) we will walk through points you will want to include in your data collection protocol. While I've spent a fair amount of time talking about the importance of having a plan here, qualitative design often does embrace some degree of flexibility. This flexibility is related to the concept of emergent design that we find in qualitative studies. **Emergent design** is the idea that some decision in our design will be dynamic and fluid as our understanding of the research question evolves. The more we learn about the topic, the more we want to understand it thoroughly.

Exercises

A research protocol is a document that not only defines your research project and its aims, but also comprehensively plans how you will carry it out. If this sounds like the function of a research proposal, you are right, they are similar. What differentiates a protocol from a proposal is the level of detail. A proposal is more conceptual; a protocol is more practical (right down to the dollars and cents!). A protocol offers explicit instructions for you and your research team, any funders that may be involved in your research, and any oversight bodies that might be responsible for overseeing your study. Not every study requires a research protocol, but what I'm suggesting here is that you consider constructing at least a limited one to help though the decisions you will need to make to construct your qualitative study.

Al-Jundi and Sakka (2016)[6] provide the following elements for a research protocol:

- What is the question? (Hypothesis) What is to be investigated?
- Why is the study important (Significance)
- Where and when will it take place?
- What is the methodology? (Procedures and methods to be used).
- How are you going to implement it? (Research design)
- What is the proposed time table and budget?
- What are the resources required (technical, scientific, and financial)?

While your research proposal in its entirety will focus on many of these areas, our attention for developing your qualitative research protocol will hone in on the two highlighted above. As we go through these next couple chapters, there will be a number of exercises that walk you though decision points that will form your qualitative research protocol.

To begin developing your qualitative research protocol:

- Select the question you have decided is the best to frame your research proposal.
- Write a brief paragraph about the aim of your study, ending it with the research question you have selected.

Here are a few additional resources on developing a research protocol:

> Cameli et al., (2018) How to write a research protocol: Tips and tricks.
>
> Ohio State University, Institutional Review Board (n.d.). Research protocol.
>
> World Health Organization (n.d.). Recommended format for a research protocol.

Exercises

Decision Point: What types of data will you be using?

- After having considered the different types of data that have been reviewed here, what type(s) are you planning on using?
    - Why is this a good choice, given your research question?
- Are you thinking about using more than one type?
    - If so, provide support for this decision.

Exercises

Decision Point: Which non-probability sampling strategy will you employ?

- Thinking about the four non-probability sampling strategies we reviewed, which one makes the most sense for your proposal?
    - Why is this is a good fit?
- What challenges or limitations does this present for your study?
    - What steps might your take to address these challenges?

Recruiting strategies

Much like quantitative research, recruitment for qualitative studies can take many different approaches. When considering how to draw your qualitative sample, it may be helpful to first consider which of these three general strategies will best fit your research question and general study design: public, targeted, or membership-based. While all will lead to a sample, the process for getting you there will look very different, depending on the strategy you select.

Public

Taking a **public approach** to recruitment offers you access to the broadest swath of potential

participants. With this approach, you are taking advantage of public spaces in an attempt to gain the attention of the general population of people that frequent that space so that they can learn about your study. These spaces can be in-person (e.g. libraries, coffee shops, grocery stores, health care settings, parks) or virtual (e.g. open chat forums, e-bulletin boards, news feeds). Furthermore, a public approach can be static (such as hanging a flier), or dynamic (such as talking to people and directly making requests to participate). While a public approach may offer broad coverage in that it attempts to appeal to an array of people, it may be perceived as impersonal or easily able to be overlooked, due to the potential presence of other announcements that may be featured in public spaces. Public recruitment is most likely to be associated with convenience or quota sampling and is unlikely to be used with purposive or snowball sampling, where we would need some advance knowledge of people and the characteristics they possess.



Targeted

As an alternative, you may elect to take a **targeted approach** to recruitment. By targeting a select group, you are restricting your sampling frame to those individuals or groups who are potentially most well-suited to answer your research question. Additionally, you may be targeting specific people to help craft a diverse sample, particularly with respect to personal characteristics and/or opinions.

You can target your recruitment through the use of different strategies. First, you might consider the use of knowledgeable and well-connected community members. These are people who may possess a good amount of social capital in their community, which can aid in recruitment efforts. If you are considering the use of community members in this role, make sure to be thoughtful in your approach, as you are essentially asking them to share some of their social capital with you. This means learning

about the community or group, approaching community members with a sense of humility, and making sure to demonstrate transparency and authenticity in your interactions. These community members may also be champions for the topic you are researching. A champion is someone who helps to draw the interest of a particular group of people. The champion often comes from within the group itself. As an example, let's say you're interested in studying the experiences of family members who have a loved one struggling with substance use. To aid in your recruitment for this study, you enlist the help of a local person who does a lot of work with Al-Anon, an organization facilitating mutual support groups for individuals and families affected by alcoholism.

A targeted approach can certainly help ensure that we are talking to people who are knowledgeable about the topic we are interested in, however, we still need to be aware of the potential for bias. If we target our recruitment based on connection to a particular person, event, or passion for the topic, these folks may share information that they think is viewed as favorable or that disproportionately reflects a particular perspective. This phenomenon is due to the fact that we often spend time with people who are like-minded or share many of our views. A targeted approach may be helpful for any type of non-probability sampling, but can be especially useful for purposive, quota, or snowball sampling, where we are trying to access people or groups of people with specific characteristics or expertise.

Membership-based

Finally, you might consider a **membership-based approach**. This approach is really a form of targeted recruitment, but may benefit from some individual attention. When using a membership-based approach, your sampling frame is the membership list of a particular organization or group. As you might have guessed, this organization or group must be well-suited for helping to answer your research question. You will need permission to access membership, and the identity of the person authorized to grant permission will depend on the organizational structure. When contacting members regarding recruitment, you may consider using directories, newsletters, listservs or membership meetings. When utilizing a membership-based approach, we often know that members possess specific inclusion criteria we need, however, because they are all associated with that particular group or organization, they may be homogenous or like-minded in other ways. This may limit the diversity in our sample and is something to be mindful of when interpreting our findings. Membership-based recruiting can be helpful when we have a membership group that fulfills our inclusion criteria. For instance, if you want to conduct research with social workers, you might attempt to recruit through the NASW membership distribution list (but this access will come with stipulations and a price tag). Membership-based recruitment may be helpful for any non-probability sampling approach, given that the membership criteria and study inclusion criteria are a close fit. Table 17.5 offers some additional considerations for each of these strategies with examples to help demonstrate sources that might correspond with them.

Table 17.5 Recruitment strategies, strengths, challenges, and examples

Recruitment Strategy	Strengths/Challenges	Example of Source for Recruitment
Public	Strengths: Easier to gain access; Exposure to large numbers of people Challenges: Can be impersonal, Difficult to cultivate interest	Advertising in public events & spaces Accessing materials in local libraries or museums Finding public web-based resources and sources of data (websites, blogs, open forums)
Targeted	Strengths: Prior knowledge of potential audience, More focused use of resources Challenges: May be hard to locate/access target group(s), Groups may be suspicious of/or resistant to being targeted	Working with advocacy group for issue you are studying to aid recruitment Contacting local expert (historian) to help you locate relevant documents Advertising in places that your population may frequent
Membership-Based	Strengths: Shared interest (through common membership), Potentially existing infrastructure for outreach Challenges: Organization may be highly sensitive to protecting members, Members may be similar in perspectives and limit diversity of ideas	Membership newsletters Listserv or Facebook groups Advertising at membership meetings or events

Key Takeaways

- Qualitative research predominately relies on non-probability sampling techniques. There are a number of these techniques to choose from (convenience/availability, purposive, snowball, quota), each with advantages and limitations to consider. As we consider these, we need to reflect on both our research question and the resources we have available to us in developing a sampling strategy.
- As we consider where and how we will recruit our sample, there are a range of general approaches, including public, targeted, and membership-based.

Exercises

Decision Point: How will you recruit or gain access to your sample?

- Now you've decided your data type and sampling strategy…
    - If you are recruiting people, how will you identify them? If necessary (and it often is), how will gain permission to do this?
    - If you are using documents or other artifacts for your study, how will you gain access to these? If necessary (and it often is), how will gain permission to do this?

17.5 What should my sample look like?

Learning Objectives

Learners will be able to…

- Explain key factors that influence the makeup of a qualitative sample
- Develop and critique a sampling strategy to support their qualitative proposal

Once you have started your recruitment, you also need to know when to stop. Knowing when to stop recruiting for a qualitative research study generally involves a dynamic and reflective process. This means that you will actively be involved in a process of recruiting, collecting data, beginning to review your preliminary data, and conducting more recruitment to gather more data. You will continue this process until you have gathered enough data and included sufficient perspectives to answer your research question in rich and meaningful way.

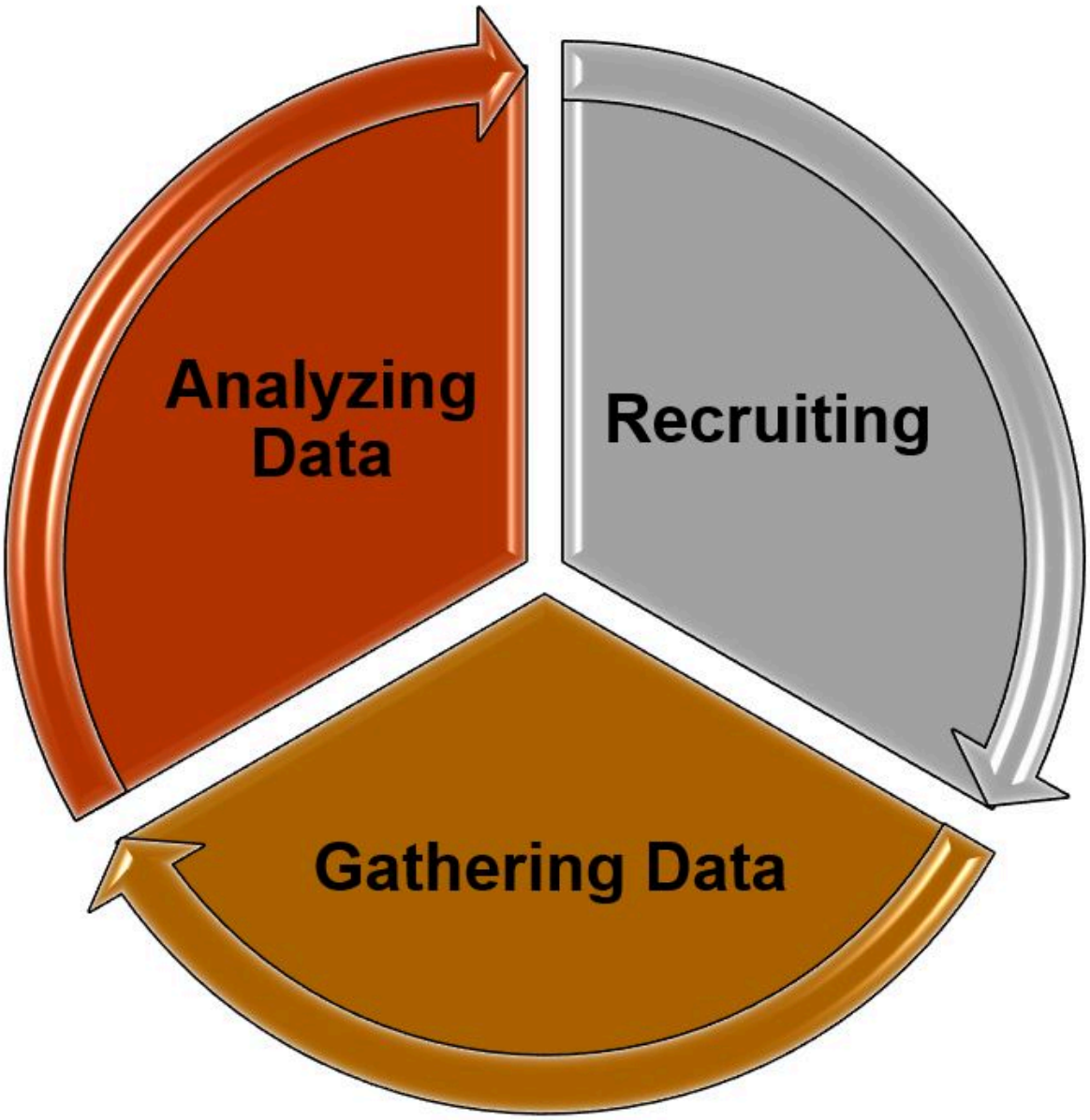


Figure 17.3 Iterative process of qualitative recruiting, gathering data and analyzing data

The sample size of qualitative studies can vary significantly. For instance, case studies may involve only one participant or event, while some studies may involve hundreds of interviews or even thousands of documents. Generally speaking, when compared to quantitative research, qualitative studies have a considerably smaller sample. Your decision regarding sample size should be guided by a few considerations, described below.

Amount of data

When gathering quantitative data, the amount of data we are gathering is often specified at the start (e.g. a fixed number of questions on a survey or a set number of indicators on a tracking form). However, when gathering qualitative data, we are often asking people to expand on and explore their thoughts and reactions to certain things. This can produce A LOT of data. If you have ever had to **transcribe** an interview (type out the conversation while listening to an audio recorded interview), you quickly learn that a 15-minute discussion turns into many pages of dialogue. As such, each interview or focus group you conduct represents multi-page transcripts, all of which becomes your data. If you are conducting interviews or focus groups, you will know you have collected enough data from each interaction when you have covered all your questions and allowed the participant(s) to share any and all ideas they have related to the topic. If you are using observational data, you need to spend sufficient time making observations and capturing data to offer a genuine and holistic representation of the thing you are observing (at least to the best of your ability). When using documents and other sources of media, again, you want to ensure that diverse perspectives are represented through your artifact choices so that your data reflects a well-rounded representation of the issue you are studying. For any of these data sources, this involves a judgment call on the researcher's part. Your judgment should be informed by what you have read in the existing literature and consultation with your professor.

As part of your analysis, you will likely eventually break these larger hunks of data apart into words or small phrases, giving you potentially thousands of pieces of data. If you are relying on documents or other artifacts, the amount of data contained in each of these pieces is determined in advance, as they already exist. However, you will need to determine how many to include. With interviews, focus groups, or other forms of data generation (e.g. taking pictures for a photovoice project), we don't necessarily know how much data will be generated with each encounter, as it will depend on the questions that are asked, the information that is shared, and how well we capture it.

Type of study

A variety of types of qualitative studies will be discussed in greater detail in Chapter 22. While you don't necessarily need to have an extensive understanding of them all at this point in time, it is important that you understand which of the different design types are best for answering certain research questions. For instance, if our question involves understanding some type of experience, that is often best answered by a **phenomenological** design. Or, if we want to better understand some process, a **grounded theory** study may be best suited. While there are no hard and fast rules regarding qualitative sample size, each of these different types of designs has different guidelines for what is considered an acceptable or reasonable number to include in your sample. So drawing on the previous examples, your grounded theory study might include 45 participants because you need more people to gain a

clearer picture of each step of the process, while your phenomenological study includes 20 because that provides a good representation of the experience you are interested in. Both would be reasonable targets based on the respective study design type. So as you consider your research question and which specific type of qualitative design this leads you to, you will need to do some investigation to see what size samples are recommended for that particular type of qualitative design.

Diversity of perspectives

As you consider your research question, you also may want to think about the potential variation in how your study population might view this topic. If you are conducting a case study of one person, this obviously isn't a concern, but if you are interested in exploring a range of experiences, you want to plan to intentionally recruit so this level of diversity is reflected in your sample. The level of variation you seek will have direct implications for how big your sample might be. In the example provided above in the section on quota sampling, we wanted to ensure we had equal representation across a host of placement dispositions for children in foster care. This helped us define our target sample size: (4) settings a quota of (7) participants from each type of setting = a target sample size of (28).



In Chapter 18, we will be talking about different approaches to data gathering, which may help to dictate the range of perspectives you want to represent. For instance, if you conduct a focus group, you want all of your participants to have some experience with the thing that you are studying, but you hope that their perspectives differ from one another. Furthermore, you may want to avoid groups of participants who know each other well in the same focus group (if possible), as this may lead to groupthink or level of familiarity that doesn't really encourage differences being expressed. Ideally, we want to encourage a discussion where a variety of ideas are shared, offering a more complete understanding of how the topic is experienced. This is true in all forms of qualitative data, in that your findings are likely to be

more well-rounded and offer a broader understanding fo the issue if you recruit a sample with diverse perspectives.

Saturation

Finally, the concept of **saturation** has important implications for both qualitative sample size and data analysis. To understand the idea of saturation, it is first important to understand that unlike most quantitative research, with qualitative research we often at least begin the process of data analysis while we are still actively collecting data. This is called an iterative approach to data analysis. So, if you are a qualitative researcher conducting interviews, you may be aiming to complete 30 interviews. After you have completed your first five interviews, you may begin reviewing and coding (a term that refers to labeling the different ideas found in your transcripts) these interviews while you are still conducting more interviews. You go on to review each new interview that you conduct and code it for the ideas that are reflected there. Eventually, you will reach a point where conducting more interviews isn't producing any new ideas, and this is the point of saturation. Reaching saturation is an indication that we can stop data collection. This may come before or after you hit 30, but as you can see, it is driven by the presence of new ideas or concepts in your interviews, not a specific number.

This chapter represents our transition in the text to a focus on qualitative methods in research. Throughout this chapter we have explored a number of topics including various types of qualitative data, approaches to qualitative sampling, and some considerations for recruitment and sample composition. It bears repeating that your plan for sampling should be driven by a number of things: your research question, what is feasible for you, especially as a student researcher, best practices in qualitative research. Finally, in subsequent chapters, we will continue the discussion about reflexivity as it relates to the qualitative research process that we began here.

Key Takeaways

- The composition of our qualitative sample comes with some important decisions to consider, including how large should our sample be and what level and type of diversity it should reflect. These decisions are guided by the purposes or aims of our study, as well as access to resources and our population.
- The concept of saturation is important for qualitative research. It helps us to determine when we have sufficiently collected a range of perspectives on the topic we are studying.

Exercises

Decision Point(s): What should your sample look like (sample composition)?

- How will you determine you have gathered enough data?
    - Will you start in advance with a set a number of data sources (people or artifacts)?
        - If so, how many?
        - How was this number determined?
    - OR will you use the concept of saturation to determine when to stop?
- How diverse should your sample be and in what ways?
    - What supports your decision in regards to the previous question?

Exercises

This isn't so much a decision point, but a chance for you to reflect on the choices you've made thus far in your protocol with regards to your: (1) ethical responsibility, (2) commitment to cultural humility, and (3) respect for empowerment of individuals and groups as a social work researcher. Think about each of the decisions you've made thus far and work across this grid to identify any important considerations that you need to take into account.

Decision Point	Ethical Responsibility	Cultural Humility	Empowerment
Research Question			
Type of Data			
Sampling Approach			
Recruitment/ Access			
Sample Composition			

Exercises

Reflexive Journal Entry Prompt

You have been prompted to make a number of choices regarding how you will proceed with gathering your qualitative sample. Based on what you have learned and what you are planning, respond to the following questions below.

- What are the strengths of your sampling plan in respect to being able to answer your qualitative research question?
- How feasible is it for you, as a student researcher, to be able to carry out your sampling plan?
- What reservations or questions do you still need to have answered to adequately plan for your sample?
- What excites you about your proposal thus far?
- What worries you about your proposal thus far?

Media Attributions

- book lights © KAROLINA GRABOWSKA is licensed under a CC BY-ND (Attribution NoDerivatives) license
- women having a conversation © Andrea Piacquadio is licensed under a CC0 (Creative Commons Zero) license
- magnifying-glass-1020141_960_720 © Peggy Marco is licensed under a CC0 (Creative Commons Zero) license
- Giant_snowball_Oxford © Kamyar Adl is licensed under a CC BY (Attribution) license
- target © bavillo13 is licensed under a CC0 (Creative Commons Zero) license
- 7419840024_8dff7228cb_b © Free Press/Free Press Action Fund's Photostream is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license

Notes

1. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). The Belmont report: Ethical principles and guidelines for the protection of human subjects of research. Retrieved from https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html
2. Patel, J., Tinker, A., & Corna, L. (2018). Younger workers' attitudes and perceptions towards older colleagues. *Working with Older People*, *22*(3), 129-138.
3. Veenstra, A. S., Iyer, N., Hossain, M. D., & Park, J. (2014). Time, place, technology: Twitter as an information source in the Wisconsin labor protests. *Computers in Human Behavior*, *31*, 65-72.
4. Ohmer, M. L., & Owens, J. (2013). Using photovoice to empower youth and adults to prevent crime. *Journal of Community Practice*, *21*(4), 410-433.
5. Malebranche, D. J., Arriola, K. J., Jenkins, T. R., Dauria, E., & Patel, S. N. (2010). Exploring the "bisexual bridge": A qualitative study of risk behavior and disclosure of same-sex behavior among Black bisexual men. *American Journal of Public Health*, *100*(1), 159-164.
6. Al-Jundi, A., & SakkA, S. (2016). Protocol writing in clinical research. *Journal of Clinical and Diagnostic Research: JCDR*, *10*(11), ZE10.

18. Qualitative data collection

Chapter Outline

1. Ethical responsibility and cultural respect (5 minute read)
2. Critical considerations (3 minute read)
3. Preparations for the data gathering process (6 minute read)
4. Interviews (20 minute read)
5. Focus groups (15 minute read)
6. Observations (6 minute read)
7. Documents and other artifacts (13 minute read)

Content warning: examples in this chapter contain references to multiple demands on students' time, loss of employment, sexual assault, trauma-informed care, inpatient psychiatric services, immigration, and the Holocaust.

In this chapter we will explore information to help you plan for and organize your strategy to gather your qualitative data. You will face a number of decisions as you plan this section of your proposal. Gathering qualitative data comes with important ethical and cultural responsibilities. Furthermore, qualitative research can be a powerful tool, but we need to be thoughtful as to how it will be used, as it can as easily become a tool of oppression as one of empowerment. Below are some considerations to help you reflect on some of these dynamics as you plan your study. The first sections apply to every type of qualitative research. Then, we discuss specific strategies to choose from as you plan your qualitative study.

18.1 Ethical responsibility and cultural respect

Learning Objectives

Learners will be able to...

- Explain the special considerations researchers should keep in mind as they design qualitative studies and collect qualitative data
- Determine steps that can be taken to protect participants and exhibit cultural respect during qualitative data collection

Because qualitative data collection so often involves direct contact with human participants and requesting them to share detailed and potentially personally sensitive information with us as researchers, we need to be especially sensitive to ethical considerations. It is a process that requires forethought, planning, and mindful attention throughout. Below are some ethical considerations to help guide you in this activity.

Special limitations to anonymity, confidentiality and ability to remove or withdraw data

Because with qualitative research we are often meeting with people in person to gather data, either from **interviews**, **focus groups**, or **observations**, we clearly can't guarantee them **anonymity**. This makes it all the more important to consider what you will do to protect the **confidentiality** of your participants. This may involve using steps like:

- Using **pseudonyms** or assigned **study identification codes** rather than names on study materials
- Stripping all potentially identifying information from transcripts
- Keeping signed**informed consent** forms separate from other data so the two can't be linked
- Ensuring that when data is not being used it is appropriately stored and locked so that others outside the research team don't have access to it
- Ensuring that when data is being used it is not in a space (in person or virtual) where people outside the research team can view it
- Making sure that all members of your research team have been approved by your **IRB**
- Being very clear in your informed consent who will have access to data and for what purposes

Additionally, at times we will write into our informed consent that participants may withdraw from a study at any time. When a person expresses a desire to withdraw, we remove their data from the study. However, let's say we conducted interviews and identified a theme that was present in their interview, but was also in a number of other interviews. Their ideas would still be represented in our findings, but we would make sure not to use any quotes or unique contributions from that individual. Also, if a person participates in a focus group, they are part of an interactive dialogue and the discussion is often connected to ideas shared by others as the conversation evolves, making it very hard to completely remove their data. Again, we would respect their wishes by not using any of their direct words, but their presence and contributions shaped the discussion in ways that we won't be able to excise. It is best to be upfront about this as you are seeking informed consent.

Exercises

- What steps will you be taking to protect the qualitative data that is shared with you?

Prepare with competence, enter with humility

When we ask people to share their thoughts, feelings, and experiences with us, we need to do so in a way that demonstrates respect and **authenticity**. This means that we approach participants in a professional manner that reflects both competence as a researcher and that illustrates we have done some preparation to learn about the population ahead of time (that we are not "coming in cold"). Activities that can help to demonstrate this are:

- Speaking with knowledgeable community members regarding the topic, our research design, and important aspects of the community (contemporary and historical) before beginning our data collection)
- Examining previous research and other sources of information regarding the group/community we are interested in work with, or if not available, groups/communities that may be similar
- Using data from the first two bullet points, we design our data collection in a way that is culturally sensitive (e.g. where we ask people to provide data, what tools we use, our wording)
- Preparing research materials (e.g. informed consent forms, recruitment materials, informational sheets) that are accessible and understandable for participants
- Providing information and education about research in general and our research topic specifically

This needs to be tempered with humility. Participants grant us the privilege of allowing us to witness some piece of their life. We need to have humility in knowing that we can never fully understand their experiences because we are not them. In a real sense, we are the learners and they are the teachers. Despite us doing the pre-work discussed above to become more competent in our approach, humility means we will ask the participant directly what is acceptable in respect to our data collection. I believe that when taking a culturally humble approach that we should take at least a little bit of time to understand what research means to the participant and what this particular topic means to the them, again, by asking them directly.

Key Takeaways

- Qualitative data collection involves special considerations to help ensure the privacy, confidentiality, or anonymity of participants because of the the often intimate and detailed information that we are collecting as qualitative researchers.
- Preparing for qualitative data collection requires that we educate ourselves as researchers in advance about the population we will be working with to guide and develop our data collection plan. Furthermore, from the standpoint of cultural humility, we don't assume that these preparations are adequate. We need to verify with participants what is culturally acceptable to them as individuals.

Exercises

- As you prepare for data collection planning, what actions do you plan to take to demonstrate preparations for cultural sensitivity and cultural humility?

18.2 Critical considerations

Learning Objectives

Learners will be able to...

- Assess factors that may impact community members' perceptions of researchers and their intentions
- Identify opportunities to support greater reciprocity in researcher-participant relationships (especially as it relates to your proposal)

What/whose interests are represented?

Data is a resource that participants own that they choose to share with us. Think about it: When a smartphone app or computer program wants your personal data, you're usually asked to read a privacy statement and agree to certain terms. Companies are legally required to notify you about their

intentions to use the data you may share. And many companies certainly recognize that your data is a valuable resource and seek it out. As researchers, we have similar responsibilities, but with higher ethical standards.

If we are going to ask participants to share this resource, we need to consider why we need it. Clearly, we are invested in this research for some reason, otherwise we wouldn't be spending our time doing it. Being upfront and genuine with our participants about why this topic is important to us and what we hope comes out of this research is a good first step. We also need to describe to other stakeholders (such as funders or sponsors) who might be involved why we are interested in it. In addition, it is helpful to consider what this research might represent to our participants.

- They may be unsure what to think about the research–This especially may be true if they have had limited exposure to research and/or academia.
- They might be nervous or apprehensive that it could have consequences, either for them individually or for their community
- They might be excited to share their story and may feel as though they are contributing to something larger or some beneficial change

Considering these factors can help us to be more sensitive as we prepare to enter the field for data collection.

Exercises

Think about your study. Put yourself in the role of research participant.

What information would you want to know?

- About research in general
- About the researcher
- About the research topic

How reciprocal is the arrangement?

Building off the preceding discussion about what research might mean to participants, it is also important to consider the reciprocity in the researcher – participant relationship. We know that we are benefiting from the exchange – we are getting data, research findings, research products and any other advantages or opportunities that might be attached to these. However, the benefits are not always as clear on the participant side of this relationship. Sometimes we are able to provide incentives to honor

a participant's time and contribution to a project, but these are often relatively limited. Participants may also intrinsically value making a contribution to a research project that can eventually help to change or build awareness around something that is important to them, but these are often distant and intangible benefits. While we may not be able to change the fact that we may benefit more from this exchange than our participants, it is important for us to acknowledge this and to consider how this can affect the power differential. We may be asking for a lot, with relatively little to offer in return. This is in contrast to **participatory research** approaches (which have been discussed elsewhere), in which there is much more of an intentional effort to more equally distribute the benefits of these relationships.

Key Takeaways

- As a means of developing empathy as a researcher, it is worth considering what the significance or meaning of research is to the populations we are interested in working with. What do we (as researchers) and our projects represent to community members?
- As critical researchers, we need to be considered with the power differences that often exist as we conduct research, especially in the act of asking for data from participants. The request is often lop-sided, with us benefiting considerably more than the participant.

18.3 Preparations for the data gathering process

Learning Objectives

Learners will be able to…

- Explain important influences to account for in qualitative data gathering
- Organize and document preparatory steps to plan data gathering activities for your qualitative proposal



As you may have guessed from our discussion regarding qualitative research planning and sampling, you have a number of options available for qualitative data gathering, and consequently, a number of choices to make. Your decisions should be driven by your research question and research design, including the resources that are at your disposal for conducting your study. Remember, qualitative research is a labor-intensive venture. While it may not require lots of fancy equipment, it requires a significant investment of people's time and potentially other resources (e.g. space, incentives for participants, transportation). Each source of data (interviews, focus groups, observations, other artifacts), will require separate planning as you approach data gathering.

Our impact on the data gathering process

In the last chapter, you were introduced to the tool of **reflexive journaling** as a means of encouraging you to reflect on and document your role in the research process. Since qualitative researchers generally play a very active and involved role in the data gathering process (e.g. conducting interviews, facilitating focus groups, selecting artifacts), we need to consider ways to capture our influence on this part of the qualitative process. Let's say you are conducting interviews. As you head into the interview, you might be bringing in thoughts about a previous interview, a conversation you just had with your research professor, or worries about finishing all your assignments by the end of the semester! During the interview, you are likely to be surprised by some things that are said or some parts may evoke strong emotions. These responses may lead you to consider pursuing a slightly different line of questioning, and potentially highlighting or de-emphasizing certain aspects. Understanding and being aware of your personal reactions during the data collection process is very important. As part of your design and planning, you may specify that you will reflexively journal before and after each interview in an attempt

to capture pre- and post-interview thoughts and feelings. This can help us to consider how we influence and are influenced by the research process. Towards the end of this chapter, after we have had a chance to talk about some of these data gathering strategies, there is a reflexive journal prompt to help you consider how to begin to reflect on the way you as a researcher might impact your work and how you work might impact you.

Exercises

Decision Point

How will you account for your role in the research process?

- What strategies will you employ to demonstrate transparency in your research process?
    - This may be your reflexive journal or you may have other thoughts about how you can account for this.
- Whatever you choose, how will you develop a routine/habit around this to ensure that you are regularly implementing this?

Exercises

Reflexive Journal Entry Prompt

This is going to be a bit meta, but for this prompt, I want you reflect on the reflecting you are doing for your reflexive journaling.

- What are your thoughts about reflexive journaling?
    - Do you see this as a potentially helpful tool for tracking your influence and reactions? What appeals to you? What puts you off?
- Are you used to thinking reflexively like this—stepping back and thinking about what you are doing and why? Does this come easily/naturally to you?
    - If so, how did you develop this mindset?
    - If not, how can you strengthen this skill?

When are we done

Finally, as you plan for your data collection you need to consider when to stop. As suggested previously in our discussion on sampling, the concept of saturation is important here. As a reminder, **saturation** is

the point at which no new ideas or concepts are being presented as you continue to collect new pieces of data. Again, as qualitative researchers, we are often collecting and analyzing our data simultaneously. This is what enables us to continue screening for the point of saturation. Of course, not all studies utilize the point of saturation as their determining factor for the amount of data they will collect. This may be predetermined by other factors, such as restricted access or other limitations to the scope of the investigation. While there is no hard and fast rule for the quantity of data you gather, the quality is important; you want to be comprehensive, consistent, and systematic in your approach.



Next, we will discuss some of the different approaches to gathering qualitative data. I'm going to start out with Table 18.1 that allows us to compare these different approaches, providing you with a general framework that will allow us to dive a bit deeper into each one. After you finish reading this chapter, it might be helpful to come back to this table as you continue with your proposal planning.

Table 18.1 Qualitative data gathering strategies comparison

Data Gathering Strategy	Strengths	Challenges
Interviews	Strengths • Obtained directly from source • Allows us to tailor questions and follow up with probes to validate understanding • Good for exploring individual perspectives • Flexibility to adapt to a large variety of topics	Challenges • Can be resource-intensive to obtain, e.g. time-consuming • Can be intimidating/ threatening to be interviewed • Information shared may be inaccurate or biased in some way • Hard to account for (varying) context
Focus Groups	Strengths • Obtained directly from source • Group dynamics can encourage rich discussion • Good group formation can collect views from multiple perspectives • Allows for us to tailor questions and follow-up with probes to validate understanding • Less time-consuming than interviews, although prep time may be similar	Challenges • Can be resource-intensive to obtain • Group dynamics can interfere or get off-track, e.g. "group think" • Can be challenging to capture and interpret data (who said what, people talking over each other) • Hard to account for (varying) context
Observations	Strengths • Good way to gather contextual information • Can be effective for looking at change/consistency over time through multiple observations • Can be effective for looking at differences/similarities across environments through multiple observations • Allows us to capture human dynamics & interactions	Challenges • Obtained indirectly, interpreted from source • Can be challenging to be unobtrusive • We may not know what to look for, or may be biased in what we record • We may have limited access due to privacy concerns
Documents & Other Artifacts	Strengths • Generally an unobtrusive way to gather data • Can draw on diverse and creative sources of data, bring multiple forms together • Good way to gather contextual information • Generally requires fewer resources than other forms of data collection	Challenges • Obtained indirectly, interpreted from source • We are limited by what is available/ what we have access to • Can't probe or ask follow up questions to clarify • We may not know what to look for

Key Takeaways

- As you are preparing to initiate data collection, make sure that you have a plan for how you will capture and document your influence on the process. Reflexive journaling can be a useful tool to accomplish this.
- Be sure to take some time to think about when you will end your data collection. Make this an intentional, justified decisions, rather than a haphazard one.

18.4 Interviews

Learning Objectives

Learners will be able to...

- Identify key considerations when planning to use interviewing as a strategy for qualitative data gathering, including preparations, tools, and skills to support it
- Assess whether interviewing is an effective approach to gather data for your qualitative research proposal

A common form of qualitative data gathering involves conducting **interviews**. Interviews offer researchers a way to gather data directly from participants by asking them to share their thoughts on a range of questions related to a research topic. Interviews are generally conducted individually, although occasionally couples (or other **dyads**, which consist of a combination of two people) may be interviewed. Interviews are a particularly good strategy for capturing unique perspectives and exploring experiences in detail. People may have a host of responses to the request to be interviewed, ranging from flat out rejection to excitement at the opportunity to share their story. As you plan to conduct your interviews you will need to decide on your delivery method, how you will capture the data, you will construct your **interview guide**, and hone your research interviewing skills.

Delivery method

As technology has advanced, so too have our options for conducting interviews. While in-person interviews are generally still the mainstay of the qualitative researcher, phone or video-based interviews

have expanded the reach of many studies, allowing us to gain access to participants across vast distances with relatively few resources. Interviewing in-person allows you to capture important non-verbal and **contextual** information that will likely be limited if you choose to conduct your interview via phone or video. For instance, if we conduct an interview by phone, we miss the opportunity to see how our participant interacts with their surroundings and we can't see if their arms are crossed or their foot is fidgety. This may indicate that a certain topic might make them particularly uncomfortable. Alternatively, we may pose a question that makes a smile come across their face. If we are interviewing in person, we can ask a follow-up question noting the smile as a change in their expression, however, it's hard to hear a smile over the phone! Additionally, there is something to be said for the ability to make a personal connection with your interviewee that may help them to engage more easily in the interview process. This personal connection can be challenging over the phone or mediated by technology. As an example, I often offer to my students that we can meet for "virtual" office hours using Zoom if it is hard for them to get to campus. However, they will often prefer to come to campus, despite the inconvenience because they would prefer to avoid the technology.

Regardless of which method you select, make sure you are well prepared. If you are meeting in person, know where you are going and allow plenty of time to get there. Remember, you are asking someone to give up their time to speak with you, and time is precious! When determining where you will meet for your interview, you may choose to meet at your office, their home, or a neutral setting in the community. If meeting somewhere in the community, do consider that you want to choose a place where you can reasonably assure the participant's privacy and confidentiality as they are speaking with you. In most instances, I try to ask participants where they would feel most comfortable meeting. If you are speaking over phone or video, make sure to test your equipment ahead of time so that you are comfortable using it, and make sure that both you and the participant have access to a private space as you are speaking. If participants have minor children, plan ahead for whether the children should stay in the same space as the interview. If not, you may need to arrange child care or at least discuss child care with participants in advance. We also want to be mindful of how we are situated during an interview, ideally minimizing any power imbalances. This may be especially important when meeting in an office, making sure to sit across from our participants rather than behind a desk.

Capturing the data

You will also need to consider how you plan to physically capture your data. Some researchers record their interviews, using either a smartphone or a digital recording device. Recording the exchange allows you to have a verbatim record, which can allow the researcher to more fully participate in the interview, instead of worrying about capturing everything in writing. However, if there is a problem with recording – either the quality of the recording or some other equipment malfunction, the researcher can be up the proverbial creek without a paddle. Additionally, using a recording device may be perceived as a barrier between the researcher and the participant, as the participant may not feel comfortable being recorded.

If you do plan to record, you should always ask permission first and announce clearly when you are starting and stopping the recording. If you will use recording equipment, be sure to test it carefully in advance, and bring backup batteries/phone charger with you.



The alternative to recording is taking field notes. **Field notes** consist of a written record of the interview, completed during the interview. You may elect to take field notes even if you are recording the interview, and most people do. This allows us to capture main ideas that stand out to us as researchers, nonverbal information that won't show up in a recording, and some of our own reactions as the interview is being conducted. These field notes become invaluable if you have a problem with your recording. Even if you don't, they provide helpful information as you interpret the data you do have in your transcript (the typed version of your recording).

If you are not recording and are relying completely on your notes, it is important to know that you are not going to capture every word and that you shouldn't try. You want to plan in advance how you will structure your notes so that they make sense to you and are easy to follow. Try to capture all main ideas, important quotes that stand out, and whenever possible, use the participant's own words. We need to recognize that when we paraphrase what the person is stating, we are introducing our 'spin' on it – their ideas go through our filter. We likely can't avoid some of this, but we do want to minimize it as much as possible. Part of how we do this when we are relying on field notes is to take our interview notes and create **expanded field notes**, ideally within 24 hours of the interview. The longer you wait to expand your field notes, the less reliable they become, as our memory fades quickly! Much like they sound, expanded field notes take our jottings from the interview and expand them, providing more detail regarding the context or meaning of the statements that were captured. Expanded field notes may also contain questions, comments, or reactions that we, as the researcher, may have had to the data, which are usually kept in the margins, rather than in the body of the notes.

Figure 18.1 Example of field notes and expanded field notes

Field Notes	Expanded Field Notes
	After asking question #4 about the participant's reaction after he lost his job, there was a long pause in our conversation.
	When he started speaking again his tone change dramatically.
Q 4	*He was joking around a lot before this, but afterward, he became more subdued and spoke softly, breaking direct eye contact with me to stare at the floor during this part fo the conversation.*
[Long pause]	
[Soft]	
"I was scared" (wow—fear 1st emotion)	*He stated, "I was scared". (I was really surprised that this was the first thing he mentioned. Previously when we had touched on job loss, he mostly expressed anger or laughed it off, but this felt very different. I'm glad this question was a bit later in the interview.)*
-provider	
-no purpose	
-feel lost/empty	*When I followed up by asking what he was scared of, he mentioned a number of things, including that he would not be able to provide for his family, that he wouldn't have a sense of purpose and that his work was an important part of who he is.*
-losing house	
-losing family	*He also described feeling lost and "empty".*
	Additionally, he feared if this went on that he might lose his house and even his family.
	He feared this would change how his family saw him.

Below are a few resources to learn more about taking quality field notes. Along with the reading, practice, practice, practice!

Resources to learn more about capturing your Field Notes:

Deggs, D., & Hernandez, F. (2018). Enhancing the value of qualitative field notes through purposeful reflection.

Robert Wood Johnson Foundation (2008). *Qualitative guidelines project: Fieldnotes*.

University of Southern California Libraries. (2019). *Research guides: Organizing your social sciences research paper, writing field notes*.

Wolfinger, N. (2002). On writing fieldnotes: Collection strategies and background expectancies.

Interview guide

The questions that you ask during your interview will be outlined in a tool called an **interview guide**.

Along with your interview questions, your interview guide will also often contain a brief introduction reminding the participant of the topics that will be covered in the interview and any other instructions you want to provide them (note: much of this will simply serve as a reminder of what you already went over in your informed consent, but it is good practice to remind them right before you get started as well). In addition, the guide often ends with a **debriefing statement** that thanks the participant for their contribution, inquires whether they have any questions or concerns, and provides contact and resource information as appropriate. Below is a brief interview guide for a study that I was involved with, in which we were interviewing alumni regarding their perceptions of advanced educational needs in the field of social work and specifically their thoughts about practice doctorate of social work (DSW) degrees/ programs.

Figure 18.2 Example interview guide

Introduction

Thank you for taking the time to speak with me today. As a reminder, we are conducting a study to examine your thoughts and perceptions about advanced educational needs in our field and specifically about social work practice doctorate degrees (DSW). We can stop at any time and your participation is completely voluntary. If you need anything explained more clearly as we are going through the questions, please don't hesitate to ask. Before we get started, I will ask you to complete a brief demographic survey.

[pause while participant completes demographic survey]

Do you have any questions before we get started?

Interview Guide Questions

1. If presented with a program what would you like to see it include?
2. What would be useful in your career development?
3. What advanced educational needs do you see in our professional field?
4. What would be beneficial about the DSW degree?
5. What specializations are of interest? (Probes– Leadership? Clinical? Teaching/Education?)
6. What would be an ideal format? (Probes– Online? Hybrid? In-person? Residencies? Number of classes manageable per semester?)
7. What is the likelihood you would enroll? (Probe– Do you work for a company who offers tuition reimbursement?)

Debriefing

We are so grateful that you shared your thoughts with us. We will analyze what you shared with us, along with other participants to look for themes and commonalities to help us better understand advanced educational needs in our field and also to help us as we consider developing our own DSW degree at this institution As a reminder, if you have any questions, concerns or you would like to receive copy of the results of our findings, you can contact us at XXX.

Some interviews are prescribed or structured, with a rigid set of questions that are asked consistently each time, with little to no deviation. This is called a **structured interview**. More often however, we are dealing with **semi-structured interviews**, which provide a general framework for the questions that will be asked, but- contain more flexibility to pursue related topics that are brought up by participants. This often leads to researchers asking unplanned follow-up questions to help explore new ideas that are introduced by participants. Sometimes we also use **unstructured interviews**. These interview guides

usually just contain a very open-ended talking prompt that we want participants to respond to. If we are using a highly structured interview guide, this suggests we are leaning toward **deductive reasoning** apporach—we have a pretty good idea based on existing evidence what we are looking for and what questions we want to ask to help us test our existing understanding. If we are using an unstructured guide, this suggests we are leaning toward an **inductive reasoning** approach—we start by trying to get people to elaborate extensively on open-ended questions to provide us with data that we will use to develop our understanding of this topic.

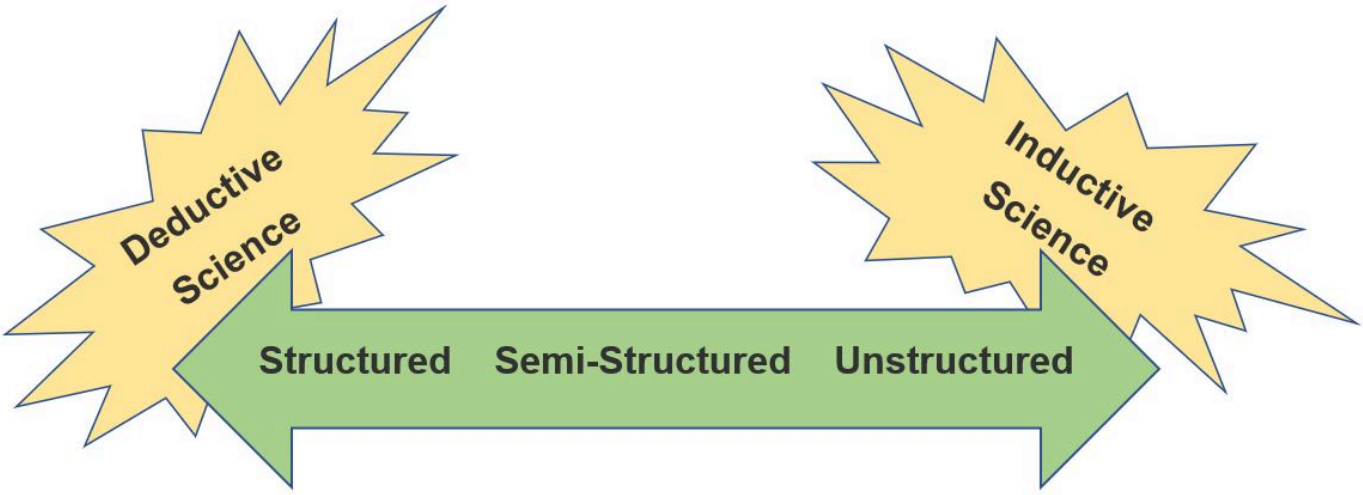


Figure 18.3 Continuum of interview structure

An important concept related to the contents of your interview guide is the idea of **emergent design**. With qualitative research we often treat our interview guide as dynamic, meaning that as new ideas are brought up, we may integrate these new questions into our interview guide for future interviews. This reflects emergent design, as our interview guide shifts to accommodate our emerging understanding of the research topic as we are gathering data. If you do plan to use an emergent design approach in your interviews, it is important to acknowledge this in your IRB application. When you submit your application, you will need to provide the IRB with your interview guide so that they have an idea of the questions you will be discussing with participants. While using an emergent approach to some of your questions is generally acceptable (and even expected), these questions still should be clearly relevant and related to what was presented in your IRB application. If you find that you begin diverging into new areas that are substantively different from this, you should consider submitting an IRB addendum that reflects the changes, and it may be a good idea to consult with your IRB to see if this is necessary.

Designing interview questions and probes

Making up questions, it sounds easy right? Little kids are running around asking questions all the time! However, what you quickly find when conducting research is that it takes skills, ingenuity and practice to craft good interview questions. If you are conducting an unstructured interview, you will generally have fewer questions and they will be quite broad. Depending on your topic, you might ask questions like:

- Tell me about a time…
- What was it like to…
- What should people understand about…
- What does it mean to…

If your interview is more structured, your questions will be a bit more focused, but with qualitative interviewing, we are still generally trying to get people to open up about their experiences with something, so you will want to design questions that will help them to do this. **Probes** can be important tools to help us accomplish this. You can think of probes as brief follow-ups that are attached to a particular question that will help you explore a topic a bit further. We usually develop probes either through existing literature or knowledge on a topic, or we might add probes to our interview guide as we begin data collection based on what previous participants tell us. As an example, I'm very interested in research on the concept of wellness. I know that the Substance Abuse and Mental Health Services Administration (SAMHSA) has adopted a heuristic tool, The Wheel of Wellness, that outlines eight dimensions of wellness based on research by Swarbrick (2006).[1] When interviewing participants with the broad, unstructured question "What does wellness mean in your life?", I might use these eight dimensions that are spokes of this wheel (i.e. emotional, spiritual, intellectual, physical, environmental, financial, occupational, and social) as probes to explore if/how these dimensions might be relevant in the lives of these participants. Probes suggest that we are anticipating that certain areas may be relevant to our question.

Here are a few general guidelines to consider when crafting your interview questions.

Make them approachable

We are usually relatively unfamiliar with our participants, at least on a personal level. This can make sitting down for an interview where we might be asking some deep questions a bit awkward and uncomfortable, at least at first. Because of this, we want to craft our questions in such a way that they are not off-putting, inadvertently accusatory or judgmental, or culturally insensitive. To accomplish this, we want to make sure we phrase questions in a neutral tone (e.g. "Tell me what that was like", as opposed to, "That sounds horrible, what was that like"). To accomplish this, we can shift perspectives

and think about what it would be like for us to be asked these questions (especially by a stranger). **Pilot testing** is especially important here. You should plan in time for this, both conducting pilot testing and incorporating feedback on questions. Pilot testing involves you taking your questions on a dry-run with a few people outside of your sample. You might consider testing these out with peers, colleagues, or friends to get their perspective. You might want to get feedback on:

- Did the question make sense to them?
- Did they know what information you were looking for and how to respond?
- What was it like to be asked that question?
- What suggestions do they have for rephrasing the question (if it wasn't clear)?

Also, if we are conducting interviews on topics that may be particularly hard for people to talk about, we will likely want to start out with some questions that are easier to address prior to getting into the heavier topics.

Make them relatable

Unlike surveys, where researchers may not be able to explain the meaning of a question, with interviews, we are present to help clarify questions if needed. However, ideally, our questions are as clear as possible from the beginning. This means that we avoid jargon or technical terms, we anticipate areas that might be hard to explain and try to provide some examples or a metaphor that might help get the point across, and we do our homework to relay our questions in an appropriate cultural context. Like the discussion above, pilot testing our questions can be very helpful for ensuring the relatability of our questions, especially with community representatives. When pilot testing, do your best to test questions with a person/people from the same culture and educational level as the future participants. What sounds good in our heads might make little sense to our intended audience.

Make them individually distinct, but collectively comprehensive

Just like when we are developing survey questions, you don't want to ask more than one question at the same time. This is confusing and hard to respond to for the participant, so make sure you are only asking about one idea in each question. However, when you are thinking about your list of questions, or about your interview guide collectively, ensure that you have comprehensively included all the ideas related to your topic. It's extremely disheartening for a qualitative researcher that has concluded their interviews to realize there was a really important area that was not included in the guide. To avoid this, make sure to know the literature in your area well and talk to other people who study this area to get

their perspective on what topics need to be included. Additional topics may come up when you pilot test your interview questions.

Interview skills

As social workers, we receive much training regarding interviewing and related interpersonal skills. Many of these skills certainly transfer to interviewing for research purposes, such as attending to both verbal and non-verbal communication, active listening, and clarification. However, it is also important to understand how a practice-related interview differs from a research interview.

The most important difference has to do with providing clarity around the purpose of the interview. For a practice-related interview, we are gathering information to help understand our client's situation and better meet their needs. The interview is a means to provide quality services to our clients, and the emphasis is on the client and resources flowing to them. However, the research interview is ideologically much different. The interview is the means and the end. The purpose of the interview is to help answer the research question, but most often, there is little or limited direct benefit to the participant. The researcher is largely the beneficiary of the exchange, as the participant provides us with data. If the participant does become upset or is negatively affected by their participation, we may help facilitate their connection with appropriate support services to address this, such as counseling or crisis numbers (and indeed, this is our ethical obligation as a competent researcher). However, counseling and treatment is not our responsibility when conducting research interviews and we should be very careful not to confuse it as such. If we do act in this way, it creates the potential for a dual relationship with the interviewee (participant and client) and puts them in a vulnerable situation. Make sure you are clear what your role is in this encounter.

Along with recognizing the focus of your role, here is a checklist of general tips for qualitative interviewing skills:

- Approach the interview in a relaxed, but professional manner
- Be observant of verbal, nonverbal, and contextual information
- Exhibit a non-judgmental stance
- Explain information clearly and check for comprehension
- Demonstrate respect for your participants and be polite
- Utilize much more listening and much less talking
- Check for understanding when you are unclear, rather than making assumptions
- Know your materials and technology (e.g. informed consent, interview guide, recording equipment)
- Be concise, clear and organized as you are taking notes
- Have a structured approach for what you need to cover and redirect if the conversation is losing focus

- Be flexible enough so that the interview does not become impersonal and disengaging due to rigidity of your agenda

Key Takeaways

- Data collection through interviewing requires careful planning for both how we will conduct our interviews (e.g. in person, over the phone, online) and the nature of the interview questions themselves. An interview guide is an important document to develop in planning this.
- Qualitative interviewing uses similar skills to clinical interviewing, but is markedly different. This difference is due in large part to the very different purpose of these two activities.

Exercises

Let's get some practice!

Thinking about your topic, if you were to use interviewing as an approach for data collection, identify 4 interview questions that you would consider asking about your topic. Make sure these are open-ended questions so that your participants can elaborate on them.

- Interview question 1:
- Interview question 2:
- Interview question 3:
- Interview question 4:

Now pilot these. Ask a peer to read these questions and think about trying to answer them. You aren't interested in their actual answers, you want feedback about how these questions were.

- Were they understandable and clear?
- Were they potentially culturally insensitive or offensive in any way?
- Are they something that it seems reasonable that someone could answer (especially with a researcher they likely don't know previously)?
- Are they asked in a way that are likely to get people to elaborate (rather than just give a one-word answer)?
- What suggestions do they have to address all/any of these areas?

Based on your peer feedback, re-write your four questions incorporating their suggestions.

- Revised interview question 1:
- Revised interview question 2:
- Revised interview question 3:
- Revised interview question 4:

Resources for learning more about conducting Qualitative Interviews.

Baker, S. E., & Edwards, R. (2012) National Centre for Research Methods review paper: How many qualitative interviews is enough?

Clifford, S. Duke University Initiative on Survey Methodology at the Social Science Research Institute (n.d.). Tipsheet: Qualitative interviews.

Harvard University Sociology Dept. (n.d.). Strategies for qualitative interviews.

McGrath et al., (2018). Twelve tips for conducting qualitative research interviews.

Oltmann, S. M. (2016). Qualitative interviews: A methodological discussion of the interviewer and respondent contexts.

A few exemplars of studies employing Interview Data:

Ewart-Boyle, S., Manktelow, R., & McColgan, M. (2015). Social work and the shadow father: Lessons for engaging fathers in Northern Ireland.

Flashman, S. H. (2015). Exploration into pre-clinicians' views of the use of role-play games in group therapy with adolescents.

Irvin, K. (2016). Maintaining community roots: understanding gentrification through the eyes of long-standing African American residents in West Oakland.

18.5 Focus groups

Learning Objectives

Learners will be able to...

- Identify key considerations when planning to use focus groups as a strategy for qualitative data gathering, including preparations, tools, and skills to support it
- Assess whether focus groups are an effective approach to gather data for your qualitative research proposal

Focus groups offer the opportunity to gather data from multiple participants at once. As you have likely learned in some of your practice coursework, groups can help facilitate an environment where people feel (more) comfortable sharing common experiences which can often allow them to delve deeper into topics than they may have individually. As people relate to what others in the group say, they often go on to share their responses to these new ideas – offering a collaborative synergy. Of course, similar to the research vs. clinical interview described above, the purpose of the focus group is much different than that of the therapeutic, psychoeducational, or support group. While other elements (e.g. information

sharing, encouragement) may take place, the aim of the focus group must remain anchored in the collection of data and that should be made explicitly clear so participants have accurate expectations. As a cautionary note, the advantages discussed above should be the reason you choose to use a focus group to collect data. You should not choose to conduct a focus group solely out of convenience. Focus groups require a considerable amount of planning and skill to execute well, so it is not reasonable to think that just because a focus group allows you to collect data from multiple participants at once that it is an easier option for data gathering.

Group assembly

Assembling your focus group is an important part of your planning process. Generally speaking, focus groups shouldn't exceed 10-12 participants. When thinking about size, there are a couple things to consider. On the lower end, you do want enough participants so that they don't feel pressure to be constantly speaking. If you only have a couple of focus group members, it loses most of the collective benefit of the focus group approach, as there are few people to generate and share ideas. On the higher end, you want to avoid having so many participants that not everyone gets to be heard and the group conversation becomes unwieldy and hard to manage.

As you are forming your group, you want to strike up a balance between heterogeneity (difference) and homogeneity (sameness) between your group members. If the group is too heterogeneous, then opinions may be so polarized that it is hard to have a productive conversation about the topic. People may not feel comfortable sharing their opinion or it may be difficult to gain a common understanding across the data. If the group is too homogeneous, then it may be hard to get much depth from the data. People may see the topic so similarly that we don't gain much information about how differing perspectives think about the issue. You generally want your group composition to be different enough to be interesting and produce good conversation, but similar enough that members can relate to each other and have a cohesive conversation. Along these lines, you also need to consider whether or not your participants know each other. Do they have existing relationships? If they do know each other, we need to anticipate that there may be existing group dynamics. This may influence how people engage in discussion with us. On one hand, they may find it easy to share more freely. However, these dynamics may inhibit them from speaking their mind, as they might be concerned about repercussions for sharing within their social network.

As a final note on group composition, sometimes we make decisions on group members' characteristics based on our topic. For instance, if we are asking questions about help-seeking and common experiences after (heterosexual) sexual assault, it may be challenging to host a mixed-gender group, where participants may feel triggered or guarded having members of the opposite gender present and therefore potentially less open to sharing. It is important to consider the population you are working with and the types of questions you are asking, as this can help you to be sensitive to their perceptions

and facilitate the creation of a safe space. Other issues, such as race, age, levels of education, may require consideration as you think about your group composition.



Related to feelings of safety, the setting you select for your focus group is an important decision. Much like with interviews, we want participants to feel as comfortable and at-ease as possible, however, it is perhaps less common to use someone's home for the purpose of a focus group because we are often bringing together people who may not know one another. As such, try to select a place that feels neutral (e.g. some people may not feel comfortable in a church or a courthouse), accessible, convenient, and that offers privacy for participants. If you are working with a particular group or community, there may be a space that is especially relevant or familiar for people that may work well for this purpose. A **community gatekeeper or other knowledgeable community member can be an excellent resource in helping to identify where a good spa**ce might be. Seating in a circle will help participants to share more easily. Focus group organizers often provide refreshments as an incentive and to make participants feel more comfortable. If you decide to provide refreshments, be sensitive to issues like common dietary restrictions and cultural preferences.

Roles of the researcher(s)

Ideally, you are conducting your focus group with a co-researcher. This is important because it allows you to divide up the tasks and makes the process more manageable. Most often, one of you will take on the main facilitator role, with responsibilities for providing information and instructions, introducing topics, asking follow-up questions and generally structuring the encounter. The other person takes on a note-taking/processing role. While not necessarily silent, they likely say very little during the focus group. Instead, they are focused on capturing the context of the encounter. This may include taking notes about what is said, how people respond or react, other details about the space and the overall exchange as a whole. They will also often be especially attentive to group dynamics and capturing these whenever possible. Along with this, if they see that certain group members are dominating or being left out of the conversation, they may help the facilitator to address or shift these dynamics so that the sharing is more equitable. Finally, if something arises where a participant becomes upset or there is an emergency where they need to leave the room, having a co-researcher allows one of you to remain with the group, while the other can attend to the person in distress. For consistency sake, you may want to maintain roles throughout data collection. If you do decide to alternate roles as you conduct multiple focus groups, it is important that you both conduct the respective roles as similarly as possible. Remember, research is about the systematic collection of data, so you want your data collection to follow a consistent process. Below is a chart that offers some tips for each of these roles.

Table 18.2 Main facilitator and observer roles for focus groups

Main Facilitator	Observer
• Provide a clear overview for participants to the study and expectations you have for them. • Follow a consistent protocol, so that future focus groups can be conducted in a similar fashion. • Anticipate that you may need to explain questions in more than one way to elicit rich responses. • Structure this discussion as a leader, maintaining a balance of letting the group respond to questions in depth, but also keeping the group on topic and on time. • Acknowledge that participants can always choose not to respond to anything that makes them feel uncomfortable, but encourage and invite all participants to be active in the discussion. • Watch out for participants monopolizing the conversation, as well as those who are remaining silent. • Remember, you are there to listen! Try to minimize the amount that you are speaking as much as possible. • Summarize what you are hearing and check with participants to validate that you are getting it right. • We are human beings and are bound to have opinions, but you aren't there to express them. Try to be as neutral as possible, both in presenting questions and receiving information.	• Without sounding pedantic—observe! Remember you are there to be the ears and eyes of the for the group. • Pay keen attention to group dynamics: is the group getting off track, are we running out of time, is the group environment starting to become threatening or hostile (even in the slightest), is anyone experiencing upset or distress. • Help keep things organized. The main facilitator will be spending a considerable amount of time ensuring the group is engaged, help to make sure that we are accomplishing everything we need to. • Remember, you are there to listen, even more! While you will see this is true for the main facilitator, it applies even more to you. That being said, don't be scared to interject when you note something important or need to help shape the group process (get us back on track). • Arrange for other activities, such as distributing and collecting informed consents and/or demographic surveys, coordinating recording devices (if they are used), and providing incentives. • Be prepared to step out and assist if someone becomes distressed or upset during the group and needs to leave the room. • Make sure to pay attention to nonverbal information and contextual or environmental information regarding the focus group setting.

Focus group guide and preparations

As in your preparation for an interview, you will want to spend considerable time developing your **focus group guide** and the questions it contains. Be sure the language you use in your questions is appropriate for the educational level of your participants; you will need to use vocabulary that is clear and not "jargon". At the same time, you also want to avoid talking down to your participants. You will probably want to start with some easier, non-threatening questions to help break the ice for the group and help get folks comfortable talking and sharing their input. Be prepared to ask questions in a different way or follow up with probes to help prod the conversation along if a question falls flat or fails to elicit a dialogue. In addition, you will want to plan introductions, both to the study and to one another. Usually we stick to first names, and occasionally during introductions, participants will share how they are connected to the topic of the research. Just like in many practice-related groups, facilitators usually take time to review group norms and expectations before getting started with questions. Some common norms to discuss are:

- Not talking over other participants

- Being respectful of other participants' contributions
- All people are expected to participate in the conversation
- Not pressuring people to respond to a question if they are uncomfortable
- Using respectful language and avoiding derogatory, discriminatory or accusatory language or tone
- Not using electronic devices and silencing cell-phones during the focus group
- Allowing others ample time to contribute to the conversation and not dominating the discussion

Another expectation to address that is especially important to include is **confidentiality**. It is important to make clear to participants that what is shared in the group should be kept confidential and not discussed outside the context of the focus group. Additionally, it is important to let participants know that while the researchers ask all participants to protect the confidentiality of what is shared, they can't guarantee that will be honored. Below figure 18.4 offers an example of a focus group guide template to help you think about how to structure this type of document.

Figure 18.4 Example focus group guide template

Welcome & Housekeeping

- Greetings & thank for coming
- Introductions to team and project
- Informed Consent
  - Confidential participation
  - Voluntary participation
- Tape Recorded–We plan to digitally record this focus group (show device) so that I can transcribe and analyze our discussion. If any names happen to be discussed, they will be omitted from the transcription record. After transcribed and reviewed, the recording will be deleted.
- Purpose & Topic/Focus
- Begin with a brief demographic survey

Guidelines

- No right or wrong answers…the more points of view we have, the richer our understanding
- One person speaking at a time, especially for recording purposes
- Listen respectfully while others share their views
- Cell phones off or on vibrate, please leave if you need to take a call and come back when you are done
- My role as moderator will be to help facilitate the discussion, making sure we don't spend too much time on one topic, ensuring that all people get a chance to speak, making sure we stay on time, clarifying, synthesizing
- Please speak to the whole group…we are talking to each other
- Sally will be scribing for us and also helping to guide the discussion, at times.

Focus Group Questions

I will introduce each of these questions and allow people to respond with their thoughts, viewpoints, and perspectives. Please allow a person to finish their thought before stating your own. I may invite people directly to contribute to the conversation if we have not heard from you; if you would prefer not to share at that time, feel free to say "pass". I may ask you clarifying questions or request that you explain an idea further for me and I may ask the larger group their response to something that has been shared. Let's get started.

Question 1

Probe 1A

Probe 1B

Question 2

Probe 2A

Probe 2B

Probe 2C

Probe 2D

Debriefing

Thank you so much for joining us today and sharing your thoughts about _____. If you would like to learn more about our project as it progresses or if you have any questions about the results of today's discussion, we would love to hear from you! Here is a card with my contact information so you can reach me. Email is the fast way to get through to me. If anything we talked about was upsetting and you feel like you need to speak with someone, as a reminder, you can reach out to _____. Again, it has been our pleasure to meet with you today.

Capturing your data

Finally, as with interviews, you will need to plan how you will capture the data from your focus group(s). Again, you may choose to record the focus groups, take field notes, or use a combination of both. There are some special considerations that apply to these choices when using a focus group, however. First, if recording, anticipate that it may be especially challenging when transcribing the recording to determine who said what. In addition, the quality of the recording can become a challenge. Despite requests for individuals to speak one at a time, inevitably there will be spots where there are multiple people talking at once, especially with an animated group. Additionally, do test the recording devices, ideally in the space you will be using them. You want to make sure that it can pick up everyone's voice, even if they are soft-spoken and seated a distance from the device. If you are relying solely on a recording and there is a problem with it, it can be difficult to surmount the barriers this can pose. If this occurs with an interview, while not ideal, you can re-interview a person to replace the information, but re-creating a focus group can be a logistical nightmare. When taking **field notes**, it is a good practice to make a quick seating chart at the beginning so you can make quick references for yourself of who is saying what (see Figure 18.5). Regardless of what system you use to stay organized in taking these notes, make sure to have one that works for you. The conversations will likely happen more rapidly and will include multiple voices, so you will want to be prepared in advance.

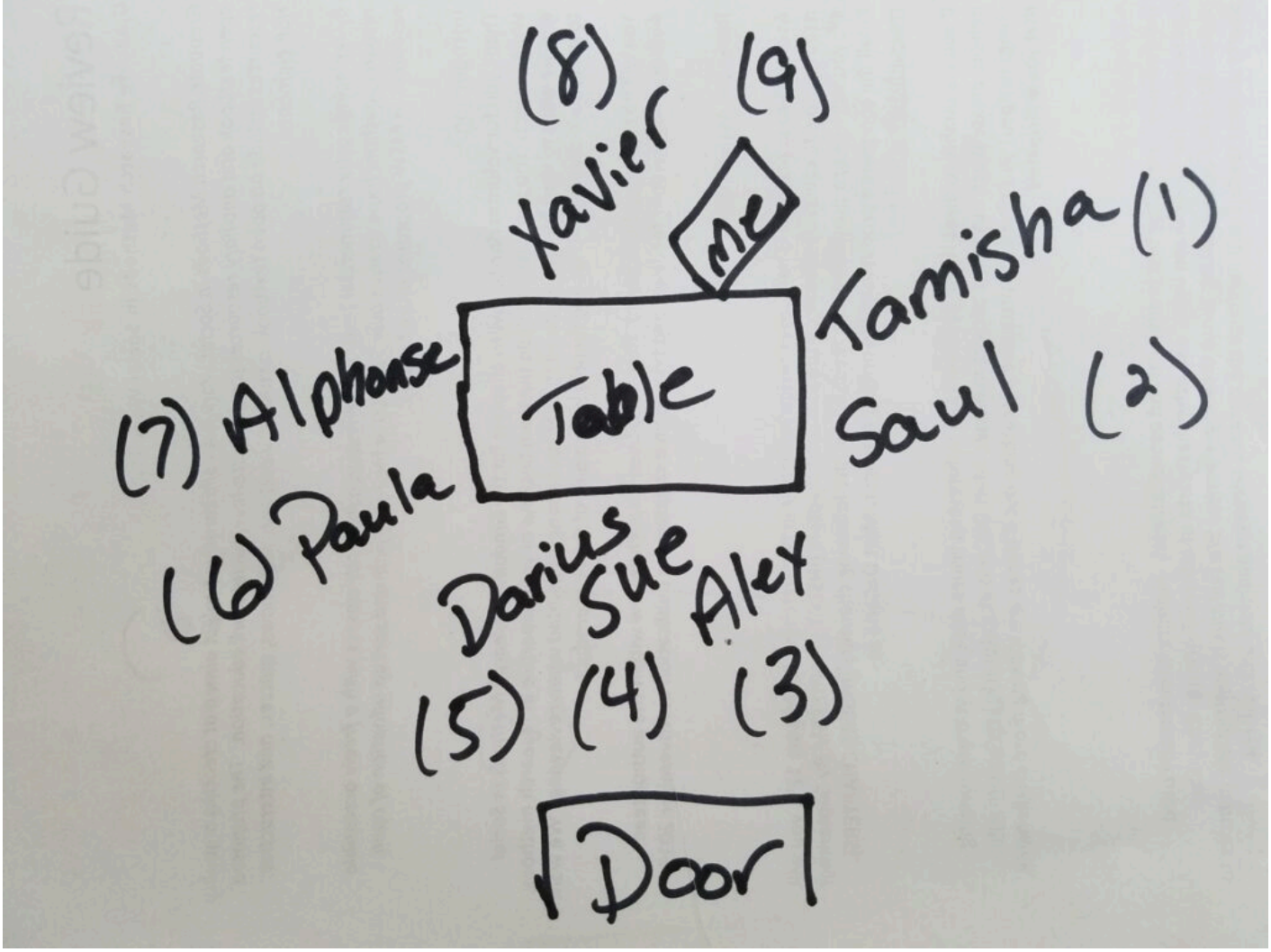


Figure 18.5 Example seating chart for focus group

Key Takeaways

- Focus groups offer a valuable tool for qualitative data collection when the topic we are exploring might best be understood through a group discussion that helps participants verbally process and consider their experiences, thoughts, and opinions with others.
- Details like focus group composition, roles of co-facilitators, and anticipation of group norms or guidelines require our attention as we prepare to host a focus group.

Exercises

Reflexive journal prompt

How do you feel about conducting a focus group?

- What about it is appealing
- What about it seems challenging
- Would you prefer to be the main facilitator or the observer (and why)?
- What might make using a focus group a good choice for your specific research question?
- What might make using a focus group a poor choice for your specific research question?

Resources to learn more about conducting Focus Groups.

Leung, F. H., & Savithiri, R. (2009). Spotlight on focus groups.

Duke, ModU (2016, October 19). Powerful concepts in social science: Preparing for focus groups, qualitative research methods

Onwuegbuzie et al. (2009). A qualitative framework for collecting and analyzing data in focus group research.

Nyumba et al. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation.

Robert Wood Johnson Foundation (2008). Qualitative Guidelines Project: Focus groups.

A few exemplars of studies employing Focus Groups:

Foote, W. L. (2015). Social work field educators' views on student specific learning needs.

Hoover, S. M., & Morrow, S. L. (2016). A qualitative study of feminist multicultural trainees' social justice development.

Kortes-Miller, K., Wilson, K., & Stinchcombe, A. (2019). Care and LGBT aging in Canada: A focus group study on the educational gaps among care workers.

18.6 Observations

Learning Objectives

Learners will be able to...

- Identify key considerations when planning to use observations as a strategy for qualitative data gathering, including preparations, tools, and skills to support it
- Assess whether observations are an effective approach to gather data for your qualitative research proposal



Observational data can also be very important to the qualitative researcher. As discussed in Chapter 17, observations can provide important information about context, reactions, behaviors, exchanges, and expressions. The focus of **observations** may be individuals, interactions between people or within groups, environments or settings, or events like artistic expressions (e.g. plays, poetry readings, art shows), public forums (e.g. town hall meetings, community festivals), private forums (e.g. board meetings, family reunions), and finally, your reactions or responses as the researcher to any and all of these. We will be discussing a variety of different types of qualitative designs in Chapter 22, including ethnography. Observational data is especially important for **ethnographic** research designs.

Researcher engagement

Observational data gathering is a more indirect form of data collection when compared with previous methods we have discussed. With both interviews and focus groups, you are gathering data directly from participants. When making observations, we are relying on our interpretation of what is going on. Even though we are often not directly interacting with people, we generally have an ethical responsibility to disclose that we are gathering data by making observations and gain consent to do so. That being said, there are some instances where we are making observations in public spaces, and in these instances disclosure may not be necessary because we are not gathering any identifiable information about specific people. These instances are rare, but if you are in doubt, consult with your IRB.

Even though I just suggested that making observations is often a more indirect form of data gathering, it does exist on a continuum. If utilizing observational data, you will need to consider where you fall on this continuum. Some research designs situate the researcher as an active participant in the community or group that they are studying, while other designs have the researcher as an independent and detached onlooker. In either case, you need to consider how your presence, either involved or detached, may influence the data you are gathering. This requires us to think of this on a more individual or micro level (how do the individuals we are directly observing perceive us) and a more mezzo or even macro level (how does the community or group of people we are studying collectively feel about our presence and our research)? Are people changing their behavior because of your presence? Are people monitoring or censoring what they say? We can't always know the answers to these questions, but we can try to reduce these concerns by making repeated observations over time, rather than using a one-time, in-and-out data gathering mission. This means actually spending time within the community that is the focus of your observation. Taking the time to make repeated observations will allow you to develop a reasonable framework of understanding, which in turn will empower you to better interpret what you see and help you determine whether your observations and interpretation are consistent.

Observational skills

When gathering observational data, you are often attending to or taking in many different dimensions. You are potentially observing:

- the context of the environment
- the content of what is being said
- behaviors of people
- affective or emotional aspects of interactions
- sequences of events
- your own reactions to what is being observed

To capture this information, you will need to be keenly aware, focused, and organized. Additionally, you need to make sure you are capturing clear descriptions of what is going on. Remember, notes that seem completely logical and easy to understand at the time you are taking them can become vague and confusing with the passage of time and as you gather more and more data. Part of the clarity of your description often involves taking a non-judgmental approach to documenting your observations. While this may seem easy, judgments or biases frequently slip into our thinking and writing (unbeknownst to us). Along with a non-judgmental stance, researchers making observations also attempt to be as unobtrusive as possible. This means being conscious of your behaviors, your dress and overall appearance. If you show up wearing a suit and tie, and carrying a clipboard while everyone else is wearing jeans and t-shirts, you are likely to stick out like a sore thumb. This is also likely to influence how participants respond and interact with you. Know the environment that you are making your observations in, with a goal of blending in as much as possible.

Capturing your data

Observational data is most often captured using field notes. Using recordings for observational data is infrequently used in social work research. This is especially true because of the potential for violations of privacy and threats to confidentiality that recordings (video or audio) may pose to participants. Mirroring our discussion above, when taking field notes, make sure to be organized and have a plan for how you will structure your notes so they are easy to interpret and make sense to you. Creswell (2013)[2] suggests capturing 'descriptive' and 'reflective' aspects in your observational field notes. Table 18.3 offers some more detailed description of what to include as you capture your data and corresponding examples.

Table 18.3 Areas to capture in observational field notes and examples

Areas to capture	Aspects to consider in each area	Example
Demographic Info	What details help to frame the logistics of the interaction • Date • Place • Time	Date: 7/17/19 Place: *Pride Rock* Time: 10:30 AM (*start*); 1:00 PM (*stopped*)
Descriptive Aspects	What you observe externally • Characteristics of people • Characteristics of setting • Description of interaction & conversations • Description of events & activities • Description of reactions	*Simba is sitting across the room from Mufasa* *Neither are making eye-contact* *After two or so minutes, Mufasa shifts in his chair and raises his eyebrow, clearing his throat…*
Reflective Aspects	What you observe internally • Personal reflections & reactions • Insights, ideas, questions you are left with • Initial interpretations, hunches, breakthroughs	*I'm uncomfortable watching the exchange—it's only been a couple of minutes, but it feels like much longer* *It seems extremely hard for these two to discuss their feelings*

For the purposes of qualitative research, our observations are generally unstructured or more **naturalistic**. However, you may also see mention of more systematic or structured observations. This is more common for quantitative data collection, where we may be attempting to capture or count the frequency with which a specific behavior or event occurs.

Key Takeaways

- Observational data collection can be an effective tool for gathering information about settings, interactions, and general human behavior. However, since this is gathered strictly through the researchers own direct observation, it is not a source of data on people's thoughts, perceptions, values, opinions, beliefs or interpretations.
- There are a range of aspects that we may want to take note of while we are observing (e.g. the setting, interactions, descriptions of people, etc.).
- While we are making our observations, we generally want to do so as inconspicuously and non-judgmentally as possible.

Resources for learning more about conducting Qualitative Observations.

Kawulich, B.B. (2005, May) Participant observation as a data collection method.

Kawulich, B.B. (2012). Collecting data through observation. In C. Wagner, B. Kawulich, & M. Garner (Eds.), *Doing social research: A global context* (150-160). New York: McGraw Hill.

Robert Wood Johnson Foundation (2008). Qualitative Guidelines Project: Observations.

Sliter, M. (2014, June 30). Observational methods: Research methods.

A few exemplars of studies employing qualitative observations:

Avby et al. (2017). Knowledge use and learning in everyday social work practice: A study in child investigation work.

Wilkins et al. (2018). A golden thread? The relationship between supervision, practice, and family engagement in child and family social work.

Wood et al. (2017). The "gray zone" of police work during mental health encounters: Findings from an observational study in Chicago.

18.7 Documents and other artifacts

Learning Objectives

Learners will be able to...

- Identify key considerations when planning to analyze documents and other artifacts as a strategy for qualitative data gathering, including preparations, tools, and skills to support it
- Assess whether analyzing documents and other artifacts is an effective approach to gather data for your qualitative research proposal

Qualitative researchers may also elect to utilize existing documents (e.g. reports, newspapers, blogs, minutes) or other artifacts (e.g. photos, videos, performances, works of art) as sources of data. **Artifact analysis** can provide important information on a specific topic, for instance, how same-sex couples are portrayed in the media. They also may provide contextual information regarding the values and popular sentiments of a given time and/or place. When choosing to utilize documents and other artifacts as a source of data for your project, remember that you are approaching these as a researcher, not just as a consumer of media. You need to thoughtfully plan what artifacts you will include, with a clear justification for their selection that is solidly linked to your research question, as well as a plan for systematically approaching these artifacts to identify and obtain relevant information from them.

Obtaining your artifacts

As you begin considering what artifacts you will be using for your research study, there are two points to consider: what will help you to answer your research question and what can you gain access to. In addressing the first of these considerations, you may already have a good idea about what artifacts are needed because you have done a substantial amount of preliminary work and you know this area well. However, if you are unsure, or you need to supplement your existing knowledge, some general sources can include: librarians, historians, community experts, topical experts, organizations or agencies that address the issue or serve the population you will be studying, and other researchers who study this area. In considering access, if the artifacts are public the answer may be a straightforward yes, but if the documents are privately held, you may need to be granted permission – and remember, this is permission to use them for research purposes, not just to view them. When obtaining permission, get something in writing, so that you have this handy to submit with your IRB application. While the types of artifacts you might include are almost endless (given they are relevant to your research question), Table 18.4 offers a list of some ideas for different sources you might consider:

Table 18.4 Sources of artifacts for qualitative research

Newspapers	Films	Meeting Minutes
Organizational Charts	Autobiographies	Blogs
Web Pages	Text Message Discussions	Pieces of Art
Objects in a Special Collection of a Museum	Pamphlets	Dance Recitals
Speeches	Historical Records	Letters

Artifact analysis skills

Consistent with other areas of research, but perhaps especially salient to the use of artifacts, you will require organizational skills. Depending on what sources you choose to include, you may literally have volumes of data. Furthermore, you might not just be dealing with a large amount of data, but also a variety of types of data. Regardless of whether you are using physical or virtual data, you need to have a way to label and catalog (or file) each artifact so that you can easily track it down. As you collect specific information from each piece, make sure it is tagged with the appropriate label so that you can track it back down, as you very well may need to reference it later. This is also very important for honest and transparency in your work as a qualitative researcher – documenting a way to trace your findings back to the **raw data**.

In addition to staying organized, you also need to think specifically about what you are looking for in

the artifacts. This might seem silly, but depending on the amount of data you are dealing with and how broad your research topic is, it might be hard to 'separate the wheat from the chaff' and figure out what is important or relevant information. Sometimes this is more clearly defined and we have a prescribed list of things we are looking for. This prescribed list may come from existing literature on the topic. This prescribed list may be based on peer-reviewed literature that is more conceptual, meaning that it focuses on defining concepts, putting together propositions, formulating early stage theories, and laying out professional wisdom, rather than reporting research findings. Drawing on this literature, we can then examine our data to see if there is evidence of these ideas and what this evidence tells us about these concepts. If this is the case, make sure you document this list somewhere, and on this list define each item and provide a **code** that you can attach when you see it in each document. This document then becomes your **codebook**.

> *Example.* As *an example of designing a study where you do have an idea of what you are looking for ahead of time, consider a study where you are interested in studying trauma-informed care in inpatient psychiatric hospitals. You might use the six key principles of a trauma-informed approach based on the existing literature: safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; cultural, historical and gender issues.*[3] *Each of these principles are defined in the literature and you can identify these in your codebook. To assess these in the setting you are interested in, you could conduct an artifact analysis by examining inpatient psychiatric hospital procedures and coding for evidence of these principles based on their definitions.*

However, if you aren't clear ahead of time what this list might be, you may take an emergent approach, meaning that you have some general ideas of what you are seeking. In this event, you will actively create a codebook as you go, like the one described above, as you encounter these ideas in your artifacts. This helps you to gain a better understanding of what items should be included in your list, rather than coming in with preconceived notions about what they should be. There will be more about tracking this in our next chapter on qualitative analysis. Whether you have a prescribed list or use a more emergent design to develop your codebook, you will likely make modifications or corrections to it along the way as your knowledge evolves. When you make these changes, it is very important to have a way to document what changes you made, when, and why. Again, this helps to keep you honest, organized, and transparent. Just as another reminder, if you are using predetermined codes that you are looking for, this is reflective of a more **deductive** approach, whereas seeking emergent codes is more **inductive**.

Finally, when using artifacts, you may also need to bring in some creative, out-of-the-box thinking. You may be bringing together many different pieces of data that look and sound nothing alike, yet you are seeking information from them that will allow you tell a cohesive story. You may need to be fluid or flexible in how you are looking at things, and potentially challenge your preconceived notions.

Capturing the data

As alluded to above, you may have physical artifacts that you are dealing with, digital artifacts or representations of these artifacts (e.g. videos, photos, recordings), or even field notes about artifacts (for instance, if you take notes of a dramatic performance that can't be recorded). A large part of what may drive your decisions about how to capture your data may be related to your level of access to those artifacts: can you look at it? Can you touch it, can you take it home with you, can you take a picture of it? Depending on what artifacts we are talking about, some of these may be important questions. Regardless of the answers to these questions, you will need to have a clearly articulated and well-documented plan for how you are obtaining the data and how you will reference it in the future. Table 18.4 provides a list of data gathering activities you might consider, both for documents and for other audiovisual materials.

Exercises

What types of artifacts might you have access to that might help to answer your research question(s)?

Tips

- These could be artifacts available at your field placement, publically available media, through school, or through public institutions
- These can be documents or they can be audiovisual materials
- Think outside the box, how can you gather direct or indirect indications of the thing you are studying

Generate a list of at least 3

1. _
2. _
3. _

Again, drawing on Creswell's (2013) suggestion of capturing 'descriptive' and 'reflective' aspects in your field notes, Table 18.5 offers some more detailed description of what to include as your capture your data and corresponding examples when focusing on an artifact.

Table 18.5 Areas to capture with artifact field notes and examples

Areas to capture	Aspects to consider in each area	Example
Demographic Info	What details help to frame the logistics of the interaction • Date • Source (where the artifact came from) • Source information (what do we know about this source)	Date: 1/22/19 Artifact: *Moved to Tears by Nieves Dominguez, Photo Exhibit* Source: *NY Arts for Action Studios* Source Information: *Studio is a non-profit that hosts artistic work and events that are intended to raise consciousness and produce change for groups experiencing inequality and oppression* *Nieves is a world-renown photographer who specializes in capturing the experience of immigrant journeys and is a vocal advocate for immigrant rights*
Descriptive Aspects	What you observe externally • Characteristics of the artifact • Meaning—what is the artifact meant to convey • Intended audience and/or description of audience • Key phrases or statements • Recurring ideas or expressions	*As you begin moving through the exhibit, you first encounter a number of photographs of people in tears. There are pictures of people crying alone, crying in groups, wailing, subdued, appearing joyous, appearing sorrowful…* *The room is silent. Despite the hall being quite crowded, you can hear a pin drop. Based on proximity to each other, it generally seems that people are attending in small groups (3-6). A few single people appear to be viewing, as well.*
Reflective Aspects	What you observe internally • Personal reflections & reactions—feelings that artifact evokes • Insights, ideas, questions the artifact brings to mind • Initial interpretations, hunches, meanings you associate with the artifact	*I want to know more about the focal point of the photographs. While all of these initial photos contain someone in tears, they rarely seem to be the focus of the picture. I don't know if this is meant to convey the often hidden sufferings and joys of these subjects or perhaps the many and varied forces that influence their lives.*

Resources to learn more about qualitative research with artifacts.

Bowen, G. A. (2009). Document analysis as a qualitative research method.

Rowsell, J. (2011). Carrying my family with me: Artifacts as emic perspectives.

Hammond, J., & McDermott, I. (n.d.). Policy document analysis.

Wang et al. (2017). Arts-based methods in socially engaged research practice: A classification framework.

A few exemplars of studies utilizing documents and other artifacts.

Casey, R. C. (2018). Hard time: A content analysis of incarcerated women's personal accounts.

Green, K. R. (2018). Exploring the implications of shifting HIV prevention practice Ideologies on the Work of Community-Based Organizations: A Resource dependence perspective.

Sousa, P., & Almeida, J. L. (2016). Culturally sensitive social work: promoting cultural competence.

Secondary data analysis

I wanted to briefly provide some special attention to **secondary data analysis** at the end of this chapter. In the past two chapters we have focused our sights most often on what we would call **raw data sources**. However, you can of course conduct qualitative research with **secondary data**, which is data that was collected previously for another research project or other purpose; data is not originating from your research process. If you are fortunate enough to have access and permission to use qualitative data that had already been collected, you can pose a new research question that may be answered by analyzing this data. This saves you the time and energy from having to collect the data yourself!

You might procure this data because you know the researcher that collected the original data. For instance, as a student, perhaps there is a faculty member that allows you access to data they had previously collected for another project. Alternatively, maybe you locate a source of qualitative data that is publicly available. Examples of this might include interviews previously conducted with Holocaust survivors. Finally, you might register and join a **research data repository**. These are sites where contributing researchers can house data that other researchers can view and request permission to use. Syracuse University hosts a repository that is explicitly dedicated to qualitative data. While there are more of these emerging, it may be a challenge to find the specific data you are looking for in a repository. You should also anticipate that data from repositories will have all identifiable information removed. Sharing data you have collected with a repository is a good way to extend the potential usefulness and impact of data, but it also should be anticipated before you collect your data so that you can build it into any informed consent so participants are made aware of the possibility.

Computer Assisted Qualitative Data Analysis Software (CAQDAS)

Some qualitative researchers use software packages known as **Computer Assisted Qualitative Data**

Analysis Software (CAQDAS) in their work. These are tools that can aid researchers in managing, organizing and manipulating/analyzing their data. Some of the more common tools include NVivo, Atlas.ti, and MAXQDA, which have licensing fees attached to them (although many have discounted student rates). However, there are also some free options available if you do some hunting. Taguette Project is the only free and open source CAQDAS project that is currently receiving updates, as previous projects like RQDA which built from the R library are not in active development. Taguette is a young project, and unlike the free alternatives for quantitative data analysis, it lacks the sophisticated analytical tools of commercial CAQDAS programs.

It is unlikely that you will be using a CAQDAS for a student project, mostly because of the additional time investment it will take to become familiar with the software and associated costs (if applicable). In fact the best way to avoid spending money on qualitative data analysis software is to do your analysis by hand or using word processing or spreadsheet software. If you continue on with other qualitative research projects, it may be worth some additional study to learn more about CAQDAS tools. If you do choose to use one of these products, it won't magically do the analysis for you. You need to be clear about what you are using the software for and how it supports your analysis plan, which will be the focus of our next chapter.

Resources to learn more about CAQDAS.

Maher et al. (2018). Ensuring rigor in qualitative data analysis: A design research approach to coding combining NVivo with traditional material methods.

Woods et al. (2016). Advancing qualitative research using qualitative data analysis software (QDAS)? Reviewing potential versus practice in published studies using ATLAS. ti and NVivo, 1994–2013.

Zamawe, F. C. (2015). The implication of using NVivo software in qualitative data analysis: Evidence-based reflections.

As you continue to plan your research proposal, make sure to give practical thought to how you will go about collecting your qualitative data. Hopefully this chapter helped you to consider which methods are appropriate and what skills might be required to apply that particular method well. Revisit the table in section 18.3 that summarizes each of these approaches and some of the strengths and challenges associated with each of them. Collecting qualitative data can be a labor-intensive process, to be sure. However, I personally find it very rewarding. In its very forms, we are bearing witness to people's stories and experiences.

Key Takeaways

- Artifact analysis can be particularly useful for qualitative research as a means of studying existing data; meaning

we aren't having to collect the data ourselves, but we do have to gather it. As a limitation, we don't have any control over how the data was created, since we weren't involved in it.
- There are many sources of existing data that we can consider for artifact analysis. Think of all the things around us that can help to tell some story! Artifact analysis may be especially appealing as a potential time saver for student researchers if you can gain permission to use existing artifacts or use artifacts that are publicly available.
- Artifact analysis still requires a systematic and premeditated approach to how you will go about extract information from your artifacts.

Exercises

Reflexive Journal Entry Prompt

Here are a few questions to get you thinking about the role that you play as you gather qualitative data.

- What are your initial thoughts about qualitative data collection?
- Which of these data collection strategies are you drawn to?
    - Why might that be?
- What excites you about this process?
- What worries you about this process?
- What aspects of yourself will strengthen or enhance this process?
- What aspects of yourself may hinder or challenge this process?

Exercises

Decision Point: How will you go about qualitative data collection?

- What approach(es) will you use to collect your qualitative data?
    - Justify your choice(s) here in relation to your research question and availability of resources at your disposal
- What steps will you need to put in place to ensure a high quality, systematic process for data collection?
    - who will be collecting data
    - what will be involved
    - how will it be safely stored and organized
    - how are you protecting human participants
    - if you have a team, how is communication being established so everyone is "on the same page"
    - how will you know you are done

- What additional information do you need to know to use this approach?

Media Attributions

- checklist © mohamed_hassan is licensed under a CC0 (Creative Commons Zero) license
- start and finish line © Andrew Hurley is licensed under a CC BY-SA (Attribution ShareAlike) license
- group talking © Enoz is licensed under a CC BY-NC (Attribution NonCommercial) license
- children watching penguins © Amelia Beamish is licensed under a CC BY-NC (Attribution NonCommercial) license

Notes

1. Swarbrick, M. (2006). A wellness approach. *Psychiatric Rehabilitation Journal*, *29*(4), 311.
2. Creswell, J. W. (2013). Chapter 7. Data collection. In J. W. Creswell, Qualitative Inquiry & Research Design: Choosing Among Five Approaches (3rd ed.), Los Angeles: Sage
3. Harris, M. and Fallot, R. (2001). *Using trauma theory to design service systems. New Directions for Mental Health Services*. Jossey Bass; Farragher, B. and Yanosy, S. (2005). Creating a trauma-sensitive culture in residential treatment. *Therapeutic Communities*, *26*(1), 93-109.

19. A survey of approaches to qualitative data analysis

Chapter Outline

1. Ethical responsibility and cultural respect (6 minute read)
2. Critical considerations (6 minute read)
3. Preparations: Creating a plan for qualitative data analysis (11 minute read)
4. Thematic analysis (15 minute read)
5. Content analysis (13 minute read)
6. Grounded theory analysis (7 minute read)
7. Photovoice (5 minute read)

Content warning: Examples in this chapter contain references to LGBTQ+ ageing, damaged-centered research, long-term older adult care, family violence and violence against women, vocational training, financial hardship, educational practices towards rights and justice, Schizophrenia, mental health stigma, and water rights and water access.

Just a brief disclaimer, this chapter is not intended to be a comprehensive discussion on qualitative data analysis. It does offer an overview of some of the diverse approaches that can be used for qualitative data analysis, but as you will read, even within each one of these there are variations in how they might be implemented in a given project. If you are passionate (or at least curious 😊) about conducting qualitative research, use this as a starting point to help you dive deeper into some of these strategies. Please note that there are approaches to analysis that are not addressed in this chapter, but still may be very valuable qualitative research tools. Examples include heuristic analysis,[1] narrative analysis,[2] discourse analysis,[3] and visual analysis,[4] among a host of others. These aren't mentioned to confuse or overwhelm you, but instead to suggest that qualitative research is a broad field with many options. Before we begin reviewing some of these strategies, here a few considerations regarding ethics, cultural responsibility, power and control that should influence your thinking and planning as you map out your data analysis plan.

19.1 Ethical responsibility and cultural respectfulness

Learning Objectives

Learners will be able to…

- Identify how researchers can conduct ethically responsible qualitative data analysis.
- Explain the role of culture and cultural context in qualitative data analysis (for both researcher and participant)

The ethics of deconstructing stories

Throughout this chapter, I will consistently suggest that you will be **deconstructing data**. That is to say, you will be taking the information that participants share with you through their words, performances, videos, documents, photos, and artwork, then breaking it up into smaller points of data, which you will then reassemble into your findings. We have an ethical responsibility to treat what is shared with a sense of respect during this process of deconstruction and **reconstruction**. This means that we make conscientious efforts not to twist, change, or subvert the meaning of data as we break them down or string them back together.

> Example. I was on a research team for a recent study where we conducted focus groups with older LGBTQ+ adults who were discussing their perceptions of ageing and what their needs were as they aged. While the vast majority discussed the strength and support they drew from other members of the LGBTQ+ community, a small handful of participants felt like they had been excluded by the community, reinforcing their sense of isolation. If we fail to acknowledge this divergent perspective in our results, are we ethically representing these participants' voices?

The act of bringing together people's stories through qualitative research is not an easy one and shouldn't be taken lightly. Through the informed consent process, participants should learn about the ways in which their information will be used in your research, including giving them a general idea what will happen in your analysis and what format the end results of that process will likely be.

A deep understanding of cultural context as we make sense of meaning

Similar to the ethical considerations we need to keep in mind as we deconstruct stories, we also need to

work diligently to understand the cultural context in which these stories are shared. This requires that we approach the task of analysis with a sense of cultural humility, meaning that we don't assume that our perspective or worldview as the researcher is the same as our participants. Their life experiences may be quite different from our own, and because of this, the meaning in their stories may be very different than what we might initially expect.

> *Example. I was conducting an interview a few years ago and the interviewee kept mentioning a healthcare clinic and how much they liked receiving services there. I had assumed this was because they received good care or that the providers were friendly. However, I was glad I followed up during the interview. At one point I asked, "I noticed you mentioned this clinic a number of times as we've talked. It seems pretty special. What is it about this clinic?" The interviewee paused and thought, and then responded back, "When I go there, I feel loved". It blew me away. I would have never really associated the emotion of love with a healthcare clinic until I asked. My own assumptions and experiences of having received care, being trained as a healthcare professional, or being a white man could have interfered with me understanding what this person was sharing with me.*

As such, we need to ask questions to better understand words, phrases, ideas, gestures, etc. that seem to have particular significance to participants. We also can use activities like **member checking**, another tool to support qualitative **rigor**, to ensure that our findings are accurately interpreted by vetting them with participants prior to the study conclusion. We can spend a good amount of time getting to know the groups and communities that we work with, paying attention to their values, priorities, practices, norms, strengths, and challenges. Finally, we can actively work to challenge more traditional methods research and support more participatory models that advance community co-researchers or consistent oversight of research by community advisory groups to inform, challenge, and advance this process; thus elevating the wisdom of community members and their influence (and power) in the research process.

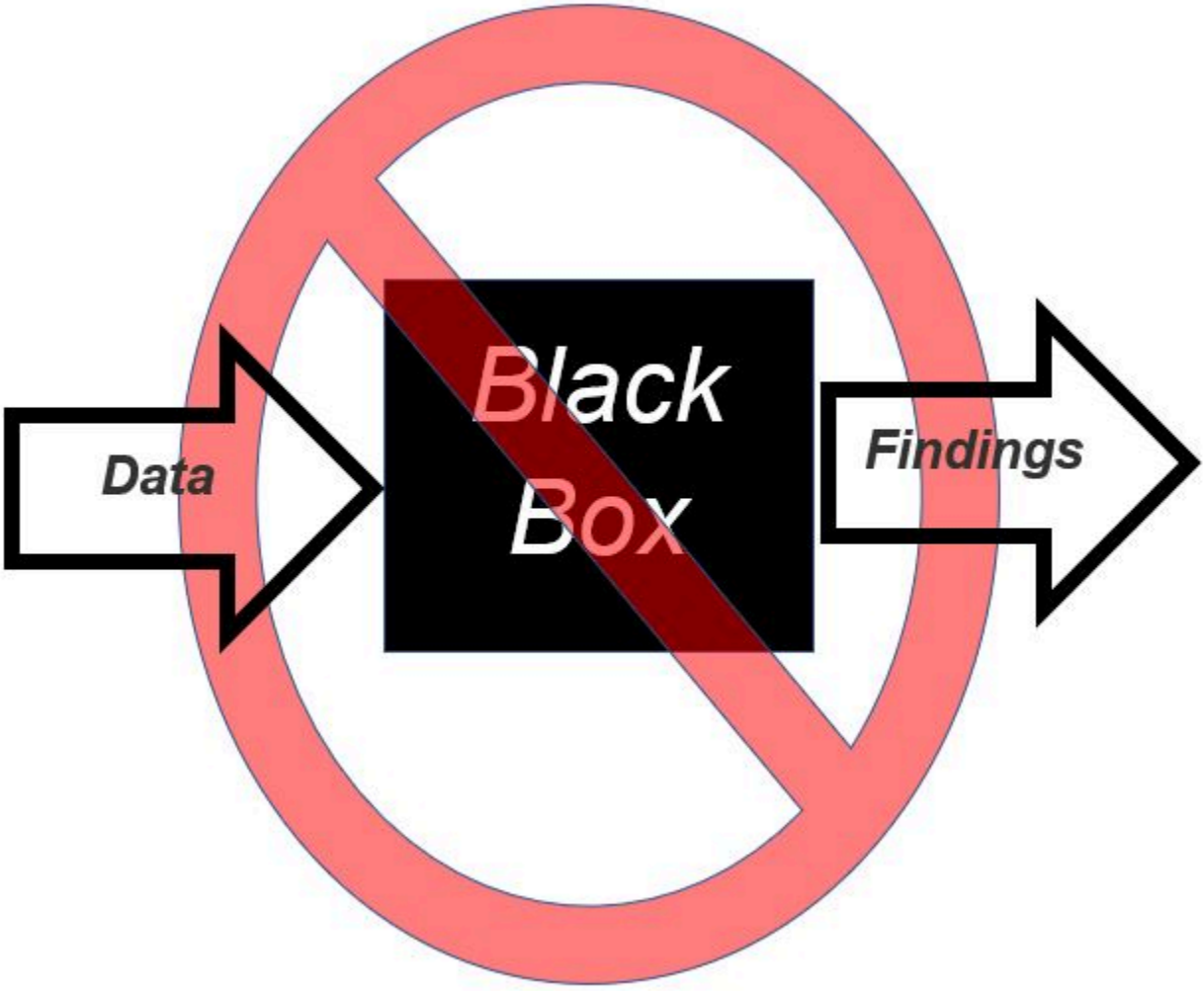


Figure 19.1 Eliminating the black box

Accounting for our influence in the analysis process

Along with our ethical responsibility to our research participants, we also have an **accountability** to research consumers, the scientific community at large, and other stakeholders in our qualitative research. As qualitative researchers (or quantitative researchers, for that matter), people should expect that we have attempted, to the best of our abilities, to account for our role in the research process. This is especially true in analysis. Our finding should not emerge from some 'black box', where raw data goes in and findings pop out the other side, with no indication of how we arrive at them. Thus, an important part of **rigor** is **transparency** and the use of tools such as writing in **reflexive journals**, **memoing**, and creating an **audit trail** to assist us in documenting both our thought process and activities in reaching our findings. There will be more about this in Chapter 20 dedicated to qualitative rigor.

Key Takeaways

- Ethics, as it relates specifically to the analysis phase of qualitative research, requires that we are especially thoughtful in how we treat the data that participants share with us. This data often represents very intimate parts of people's lives and/or how they view the world. Therefore, we need to actively conduct our analysis in a way that does not misrepresent, compromise the privacy of, and/or disenfranchise or oppress our participants and the groups they belong to.
- Part of demonstrating this ethical commitment to analysis involves capturing and documenting our influence as researchers to the qualitative research process.

Exercises

After you have had a chance to read through this chapter, come back to this exercise. Think about your qualitative proposal. Based on the strategies that you might consider for analysis of your qualitative data:

- What ethical concerns do you have specific to this approach to analyzing your data?
- What steps might you take to anticipate and address these concerns?

19.2 Critical considerations

Learning Objectives

Learners will be able to…

- Explain how data analysis may be used as tool for power and control
- Develop steps that reflect increased opportunities for empowerment of your study population, especially during the data analysis phase

How are participants present in the analysis process; What power or influence do they have

Remember, research is political. We need to consider that our findings represent ideas that are shared with us by living and breathing human beings and often the groups and communities that they represent. They have been gracious enough to share their time and their stories with us, yet they often have a limited role once we gather data from them. They are essentially putting their trust in us that we won't be misrepresenting or culturally appropriating their stories in ways that will be harmful, damaging, or demeaning. Elliot (2016)[5] discusses the problems of **"damaged-centered" research**, which is research that portrays groups of people or communities as flawed, surrounded by problems, or incapable of producing change. Her work specifically references the way research and media have often portrayed people from the Appalachian region, and how these influences have perpetuated, reinforced, and even created stereotypes that these communities face. We need to thoughtfully consider how the research we are involved in will reflect on our participants and their communities.

Now, some research approaches, particularly participatory approaches, suggest that participants should be trained and actively engaged throughout the research process, helping to shape how our findings are presented and how the target population is portrayed. Implementing a participatory approach requires academic researchers to give up some of their power and control to community co-researchers. Ideally these co-researchers provide their input and are active members in determining what the findings are and interpreting why/how they are important. I believe this is a standard we need to strive for. However, this is the exception, not the rule. As such, if you are participating in a more traditional research role where community participants are not actively engaged, whenever possible, it is good practice to find ways to allow participants or other representatives to help lend their validation to our findings. While to a smaller extent, these opportunities suggest ways that community members can be empowered during the research process (and researchers can turn over some of our control). You may do this through activities like consulting with community representatives early and often during the analysis process and using **member checking** (referenced above and in our chapter on qualitative rigor) to help review and refine results. These are distinct and important roles for the community and do not mean that community members become researchers; but that they lend their perspectives in helping the researcher to interpret their findings.

The bringing together of voices: What does this represent and to whom

As social work researchers, we need to be mindful that research is a tool for advancing social justice. However, that doesn't mean that all research fulfills that capacity or that all parties perceive it in this way. Qualitative research generally involves a relatively small number of participants (or even a single person) sharing their stories. As researchers, we then bring together this data in the analysis phase in an

attempt to tell a broader story about the issue we are studying. Our findings often reflect commonalities and patterns, but also should highlight contradictions, tensions, and dissension about the topic.

Exercises

Reflexive Journal Entry Prompt

Pause for a minute. Think about what the findings for your research proposal might represent.

- What do they represent to you as a researcher?
- What do they represent to participants directly involved in your study?
- What do they represent to the families of these participants?
- What do they represent to the groups and communities that represent or are connected to your population?

For each of the perspectives outlined in the reflexive journal entry prompt above, there is no single answer. As a student researcher, your study might represent a grade, an opportunity to learn more about a topic you are interested in, and a chance to hone your skills as a researcher. For participants, the findings might represent a chance to share their input or frustration that they are being misrepresented. Community members might view the research findings with skepticism that research produces any kind of change or anger that findings bring unwanted attention to the community. Obviously we can't foretell all the answers to these questions, but thinking about them can help us to thoughtfully and carefully consider how we go about collecting, analyzing and presenting our data. We certainly need to be honest and transparent in our data analysis, but additionally, we need to consider how our analysis impacts others. It is especially important that we anticipate this and integrate it early into our efforts to educate our participants on what the research will involve, including potential risks.

It is important to note here that there are a number of perspectives that are rising to challenge traditional research methods. These challenges are often grounded in issues of power and control that we have been discussing, recognizing that research has and continues to be used as a tool for oppression and division. These perspectives include but are not limited to: Afrocentric methodologies, Decolonizing methodologies, Feminist methodologies, and Queer methodologies. While it's a poor substitute for not diving deeper into these valuable contributions, I do want to offer a few resources if you are interested in learning more about these perspectives and how they can help to more inclusively define the research process.

Key Takeaways

- Research findings can represent many different things to many different stakeholders. Rather than as an afterthought, as qualitative researchers, we need to thoughtfully consider a range of these perspectives prior to

and throughout the analysis to reduce the risk of oppression and misrepresentation through our research.
- There are a variety of strategies and whole alternative research paradigms that can aid qualitative researchers in conducting research in more empowering ways when compared to traditional research methods where the researcher largely maintain control and ownership of the research process and agenda.

Resources

This type of research means that African indigenous culture must be understood and kept at the forefront of any research and recommendations affecting indigenous communities and their culture.

Afrocentric methodologies: These methods represent research that is designed, conducted, and disseminated in ways that center and affirm African cultures, knowledge, beliefs, and values.

- Pellerin, M. (2012). Benefits of Afrocentricity in exploring social phenomena: Understanding Afrocentricity as a social science methodology.
- University of Illinois Library. (n.d.). The Afrocentric Research Center.

Decolonizing methodologies: These methods represent research that is designed, conducted, and disseminated in ways to reclaim control over indigenous ways of knowing and being.[6]

- Paris, D., & Winn, M. T. (Eds.). (2013). *Humanizing research: Decolonizing qualitative inquiry with youth and communities*. Sage Publications.
- Smith, L. T. (2012). *Decolonizing methodologies: Research and indigenous peoples* (2nd ed.). Zed Books Ltd.

Feminist methodologies: Research methods in this tradition seek to, "remove the power imbalance between research and subject; (are) politically motivated in that (they) seeks to change social inequality; and (they) begin with the standpoints and experiences of women".[7]

- Gill, J. (n.d.) Feminist research methodologies. Feminist Perspectives on Media and Technology.
- U.C.Davis., Feminist Research Institute. (n.d.). What is feminist research?

Queer(ing) methodologies: Research methods using this approach aim to question, challenge and often reject knowledge that is commonly accepted and privileged in society and elevate and empower knowledge and perspectives that are often perceived as non-normative.

- de Jong, D. H. (2014). A new paradigm in social work research: It's here, it's queer, get used to it!.
- Ghaziani, A., & Brim, M. (Eds.). (2019). *Imagining queer methods*. NYU Press.

19.3 Preparations: Creating a plan for qualitative data analysis

Learning Objectives

Learners will be able to…

- Identify how your research question, research aim, sample selection, and type of data may influence your choice of analytic methods
- Outline the steps you will take in preparation for conducting qualitative data analysis in your proposal

Now we can turn our attention to planning your analysis. The analysis should be anchored in the purpose of your study. Qualitative research can serve a range of purposes. Below is a brief list of general purposes we might consider when using a qualitative approach.

- Are you trying to understand how a particular group is affected by an issue?
- Are you trying to uncover how people arrive at a decision in a given situation?
- Are you trying to examine different points of view on the impact of a recent event?
- Are you trying to summarize how people understand or make sense of a condition?
- Are you trying to describe the needs of your target population?

If you don't see the general aim of your research question reflected in one of these areas, don't fret! This is only a small sampling of what you might be trying to accomplish with your qualitative study. Whatever your aim, you need to have a plan for what you will do once you have collected your data.

Exercises

Decision Point: What are you trying to accomplish with your data?

- Consider your research question. What do you need to do with the qualitative data you are gathering to help answer that question?

To help answer this question, consider:

  - What action verb(s) can be associated with your project and the qualitative data you are collecting? Does your research aim to summarize, compare, describe, examine, outline, identify, review, compose, develop, illustrate, etc.?
  - Then, consider noun(s) you need to pair with your verb(s)—perceptions, experiences, thoughts, reactions, descriptions, understanding, processes, feelings, actions responses, etc.

Iterative or linear

We touched on this briefly in Chapter 17 about qualitative sampling, but this is an important distinction to consider. Some qualitative research is **linear**, meaning it follows more of a traditionally quantitative process: create a plan, gather data, and analyze data; each step is completed before we proceed to the next. You can think of this like how information is presented in this book. We discuss each topic, one after another.

> *Example. I've recently been working on a project where my research team conducted a number of focus groups. We used a linear approach. First, we planned our study and got it approved. Then we arranged and conducted our focus groups. We proceeded to transcribe all our data and went on to analyze it. We didn't start our analysis until we had all our data in front of us.*

However, many times qualitative research is **iterative**, or evolving in cycles. An iterative approach means that once we begin collecting data, we also begin analyzing data as it is coming in. This early and ongoing analysis of our (incomplete) data then impacts our continued planning, data gathering and future analysis. Again, coming back to this book, while it may be written linear, we hope that you engage with it iteratively as you are building your proposal. By this we mean that you will revisit previous sections so you can understand how they fit together and you are in continuous process of building and revising how you think about the concepts you are learning about.

> *Example. To demonstrate an iterative approach, let's say we are conducting interviews. After we have completed our first three interviews, we sit down and do some preliminary analysis and identify some early themes that seem important. In our next interviews, we add a couple of questions based on these themes to explore these ideas with new participants. These new participants agree that these topics are important, but they have a different take on them, and share their unique experiences with us. This informs a new understanding of the data we are gathering. This cycle continues on until we reach a point where our interviews aren't producing new ideas (the point of **saturation**) and we arrive at a more complete understanding of what our ultimate findings are. If we are utilizing an iterative approach like this, it also means that as new ideas emerge later on in the process, we need to go back to data that was collected earlier and see if there may have been previous evidence of those ideas that were missed.*

As you may have guessed, there are benefits and challenges to both linear and iterative approaches. A linear approach is much more straightforward, each step being fairly defined. However, linear research being more defined and rigid also presents certain challenges. A linear approach assumes that we know what we need to ask or look for at the very beginning of data collection, which often is not the case.

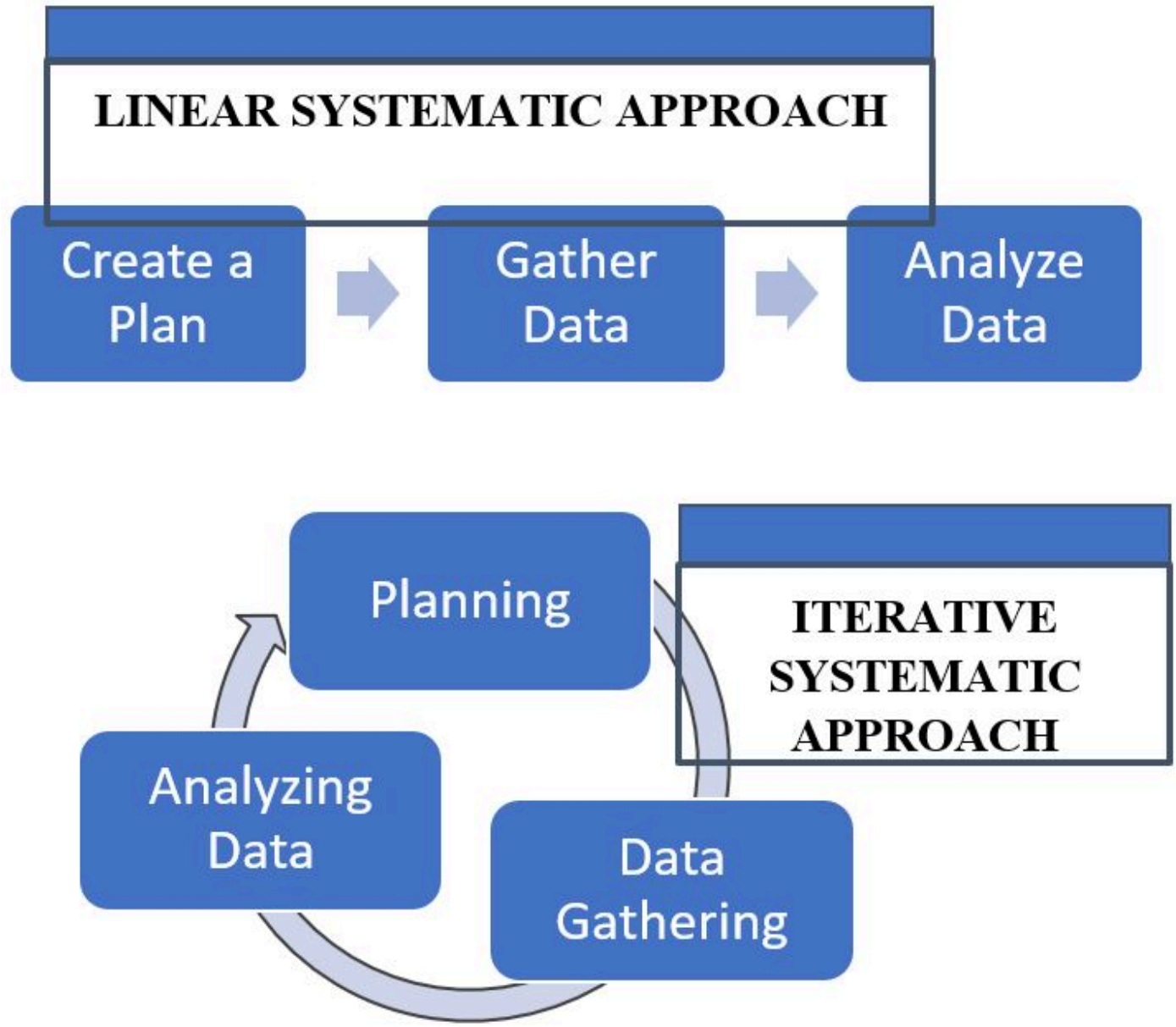


Figure 19.2 Comparison of linear and iterative systematic approaches

With iterative research, we have more flexibility to adapt our approach as we learn new things. We still need to keep our approach systematic and organized, however, so that our work doesn't become a free-for-all. As we adapt, we do not want to stray too far from the original premise of our study. It's also important to remember with an iterative approach that we may risk ethical concerns if our work extends beyond the original boundaries of our informed consent and IRB agreement. If you feel that you do need to modify your original research plan in a significant way as you learn more about the topic, you can submit an addendum to modify your original application that was submitted. Make sure to keep

detailed notes of the decisions that you are making and what is informing these choices. This helps to support transparency and your credibility throughout the research process.

Exercises

Decision Point: Will your analysis reflect more of a linear or an iterative approach?

- What justifies or supports this decision?

Think about:

- Fit with your research question
- Available time and resources
- Your knowledge and understanding of the research process

Exercises

Reflexive Journal Entry Prompt

- Are you more of a linear thinker or an iterative thinker?
    - What evidence are you basing this on?
- How might this help or hinder your qualitative research process?
- How might this help or hinder you in a practice setting as you work with clients?

Acquainting yourself with your data

As you begin your analysis, you need to get to know your data. This usually means reading through your data prior to any attempt at breaking it apart and labeling it. You might read through a couple of times, in fact. This helps give you a more comprehensive feel for each piece of data and the data as a whole, again, before you start to break it down into smaller units or deconstruct it. This is especially important if others assisted us in the data collection process. We often gather data as part of team and everyone involved in the analysis needs to be very familiar with all of the data.



Capturing your reaction to the data

During the review process, our understanding of the data often evolves as we observe patterns and trends. It is a good practice to document your reaction and evolving understanding. Your reaction can include noting phrases or ideas that surprise you, similarities or distinct differences in responses, additional questions that the data brings to mind, among other things. We often record these reactions directly in the text or artifact if we have the ability to do so, such as making a comment in a word document associated with a highlighted phrase. If this isn't possible, you will want to have a way to track what specific spot(s) in your data your reactions are referring to. In qualitative research we refer to this process as **memoing**. Memoing is a strategy that helps us to link our findings to our raw data, demonstrating transparency. If you are using a **Computre-Assisted Qualitative Data Analysis Software (CAQDAS)** software package, memoing functions are generally built into the technology.

Capturing your emerging understanding of the data

During your reviewing and memoing you will start to develop and evolve your understanding of what the data means. This understanding should be dynamic and flexible, but you want to have a way to capture this understanding as it evolves. You may include this as part of your memoing or as part of your **codebook** where you are tracking the main ideas that are emerging and what they mean. Figure 19.3 is an example of how your thinking might change about a code and how you can go about capturing it. **Coding** is a part of the qualitative data analysis process where we begin to interpret and assign meaning to the data. It represents one of the first steps as we begin to filter the data through our own subjective lens as the researcher. We will discuss coding in much more detail in the sections below covering various different approaches to analysis.

Figure 19.3 Example of coding in a codebook

Date	Code Lable	Explanations
6/18/18	*Experience of wellness*	*This code captures the different ways people describe wellness in their lives*
6/22/18	*Understanding of wellness*	*Changed the label of this code slightly to reflect that many participants emphasize the cognitive aspect of how they understand wellness—how they think about it in their lives, not only the act of 'experiencing it'. This understanding seems like a precursor to experiencing. An evolving sense of how you think about wellness in your life.*
6/25/18	*Wellness experienced by developing personal awareness*	*A broader understanding of this category is developing. It involves building a personalized understanding of what makes up wellness in each person's life and the role that they play in maintaining it. Participants have emphasized that this is a dynamic, personal and onging process of uncovering their own intimate understanding of wellness. They describe having to experiment, explore, and reflect to develop this awareness.*

Exercises

Decision Point: How to capture your thoughts?

- How will you capture your thinking about the data and your emerging understanding about what it means?
    - What will this look like?
    - How often will you do it?
    - How will you keep it organized and consistent over time?

In addition, you will want to be actively using your **reflexive journal** during this time. Document your thoughts and feelings throughout the research process. This will promote transparency and help account for your role in the analysis.

For entries during your analysis, respond to questions such as these in your journal:

- What surprises you about what participants are sharing?
- How has this information challenged you to look at this topic differently?
- As you reflect on these findings, what personal biases or preconceived notions have been exposed for you?
    - Where might these have come from?
    - How might these be influencing your study?
- How will you proceed differently based on what you are learning?

By including community members as active co-researchers, they can be invaluable in reviewing, reacting to and leading the interpretation of data during your analysis. While it can certainly be challenging to converge on an agreed-upon version of the results; their insider knowledge and lived experience can provide very important insights into the data analysis process.

Determining when you are finished

When conducting quantitative research, it is perhaps easier to decide when we are finished with our analysis. We determine the tests we need to run, we perform them, we interpret them, and for the most part, we call it a day. It's a bit more nebulous for qualitative research. There is no hard and fast rule for when we have completed our qualitative analysis. Rather, our decision to end the analysis should be guided by reflection and consideration of a number of important questions. These questions are presented below to help ensure that your analysis results in a finished product that is comprehensive, systematic, and coherent.

Have I answered my research question?

Your analysis should be clearly connected to and in service of answering your research question. Your examination of the data should help you arrive at findings that sufficiently address the question that you set out to answer. You might find that it is surprisingly easy to get distracted while reviewing all your data. Make sure as you conducted the analysis you keep coming back to your research question.

Have I utilized all my data?

Unless you have intentionally made the decision that certain portions of your data are not relevant for your study, make sure that you don't have sources or segments of data that aren't incorporated into your analysis. Just because some data doesn't "fit" the general trends you are uncovering, find a way to acknowledge this in your findings as well so that these voices don't get lost in your data.

Have I fulfilled my obligation to my participants?

As a qualitative researcher, you are a craftsperson. You are taking raw materials (e.g. people's words, observations, photos) and bringing them together to form a new creation, your findings. These findings

need to both honor the original integrity of the data that is shared with you, but also help tell a broader story that answers your research question(s).

Have I fulfilled my obligation to my audience?

Not only do your findings need to help answer your research question, but they need to do so in a way that is consumable for your audience. From an analysis standpoint, this means that we need to make sufficient efforts to condense our data. For example, if you are conducting a thematic analysis, you don't want to wind up with 20 themes. Having this many themes suggests that you aren't finished looking at how these ideas relate to each other and might be combined into broader themes. Having these sufficiently reduced to a handful of themes will help tell a more complete story, one that is also much more approachable and meaningful for your reader.

In the following subsections, there is information regarding a variety of different approaches to qualitative analysis. In designing your qualitative study, you would identify an analytical approach as you plan out your project. The one you select would depend on the type of data you have and what you want to accomplish with it.

Key Takeaways

- Qualitative research analysis requires preparation and careful planning. You will need to take time to familiarize yourself with the data in general sense before you begin analyzing.
- Once you begin your analysis, make sure that you have strategies for capture and recording both your reaction to the data and your corresponding developing understanding of what the collective meaning of the data is (your results). Qualitative research is not only invested in the end results but also the process at which you arrive at them.

Exercises

Decision Point: When will you stop?

- How will you know when you are finished? What will determine your endpoint?
- How will you monitor your work so you know when it's over?

19.4 Thematic analysis

Learning Objectives

Learners will be able to...

- Explain defining features of thematic analysis as a strategy for qualitative data analysis and identify when it is most effectively used
- Formulate an initial thematic analysis plan (if appropriate for your research proposal)

What are you trying to accomplish with thematic analysis?

As its name suggests, with **thematic analysis** we are attempting to identify themes or common ideas across our data. Themes can help us to:

- Determine shared meaning or significance of an event
- Povide a more complete understanding of concept or idea by exposing different dimensions of the topic
- Explore a range of values, beliefs or perceptions on a given topic

Themes help us to identify common ways that people are making sense of their world. Let's say that you are studying empowerment of older adults in assisted living facilities by interviewing residents in a number of these facilities. As you review your transcripts, you note that a number of participants are talking about the importance of maintaining connection to previous aspects of their life (e.g. their mosque, their Veterans of Foreign Wars (VFW) Post, their Queer book club) and having input into how the facility is run (e.g. representative on the board, community town hall meetings). You might note that these are two emerging themes in your data. After you have deconstructed your data, you will likely end up with a handful (likely three or four) central ideas or take-aways that become the themes or major findings of your research.

Variations in approaches to thematic analysis

There are a variety of ways to approach qualitative data analysis, but even within the broad approach of thematic analysis, there is variation. Some thematic analysis takes on an **inductive analysis** approach.

In this case, we would first **deconstruct** our data into small segments representing distinct ideas (this is explained further in the section below on **coding** data). We then go on to see which of these pieces seem to group together around common ideas.

In direct contrast, you might take a **deductive analysis** approach (like we discussed in Chapter 8), in which you start with some idea about what grouping might look like and we see how well our data fits into those pre-identified groupings. These initial deductive groupings (we call these a priori categories) often come from an existing theory related to the topic we are studying. You may also elect to use a combination of deductive and inductive strategies, especially if you find that much of your data is not fitting into deductive categories and you decide to let new categories inductively emerge.

A couple things to note here. If you are using a deductive approach, be clear in specifying where your **a priori categories** came from. For instance, perhaps you are interested in studying the conceptualization of social work in other cultures. You begin your analysis with prior research conducted by Tracie Mafile'o (2004) that identified the concepts of fekau'aki (connecting) and fakatokilalo (humility) as being central to Tongan social work practice.[8] You decide to use these two concepts as part of your initial deductive framework, because you are interested in studying a population that shares much in common with the Tongan people. When using an inductive approach, you need to plan to use memoing and reflexive journaling to document where the new categories or themes are coming from.

Coding data

Coding is the process of breaking down your data into smaller meaningful units. Just like any story is made up by the bringing together of many smaller ideas, you need to uncover and label these smaller ideas within each piece of your data. After you have reviewed each piece of data you will go back and assign labels to words, phrases, or pieces of data that represent separate ideas that can stand on their own. Identifying and labeling codes can be tricky. When attempting to locate units of data to code, look for pieces of data that seem to represent an idea in-and-of-itself; a unique thought that stands alone. For additional information about coding, check out this brief video from Duke's Social Science Research Institute on this topic. It offers a nice concise overview of coding and also ties into our previous discussion of memoing to help encourage rigor in your analysis process.

As suggested in the video[9], when you identify segments of data and are considering what to label them ask yourself:

- How does this relate to/help to answer my research question?
- How does this connect with what we know from the existing literature?
- How does this fit (or contrast) with the rest of my data?

You might do the work of coding in the margins if you are working with hard copies, or you might do this

through the use of comments or through copying and pasting if you are working with digital materials (like pasting them into an excel sheet, as in the example below). If you are using a CAQDAS, there will be a function(s) built into the software to accomplish this.

Regardless of which strategy you use, the central task of thematic analysis is to have a way to label discrete segments of your data with a short phrase that reflects what it stands for. As you come across segments that seem to mean the same thing, you will want to use the same code. Make sure to select the words to represent your codes wisely, so that they are clear and memorable. When you are finished, you will likely have hundreds (if not thousands!) of different codes – again, a story is made up of many different ideas and you are bringing together many different stories! A cautionary note, if you are physically manipulating your data in some way, for example copying and pasting, which I frequently do, you need to have a way to trace each code or little segment back to its original home (the artifact that it came from).

When I'm working with interview data, I will assign each interview transcript a code and use continuous line numbering. That way I can label each segment of data or code with a corresponding transcript code and line number so I can find where it came from in case I need to refer back to the original.

The following is an excerpt from a portion of an autobiographical memoir (Wolf, 2010)[10]. Continuous numbers have been added to the transcript to identify line numbers (Figure 19.4). A few preliminary codes have been identified from this data and entered into a **data matrix** (below) with information to trace back to the raw data (transcript) (Figure 19.5).

Figure 19.4 Example portion of memoir from Wolf (2010)

I have a vivid picture in my mind of my mother, sitting at a kitchen table, listening to the announcement of FDR's Declaration of War in his famous "date which will live in infamy" speech delivered to Congress on December 8, 1941: "The United States was suddenly and deliberately attacked by naval and air forces of the Empire of Japan." I still can hear his voice.

I couldn't understand "war," of course, but I knew that something terrible had happened; and I wanted it to stop so my mother wouldn't be unhappy. I later asked my older brother what war was and when it would be over. He said, "Not soon, so we better get ready for it, and, remember, kid, I'm a Captain and you're a private."

So the war became a family matter in some sense: my mother's sorrow (thinking, doubtless, about the fate and future of her sons) and my brother's assertion of male authority and superiority always thereafter would come to mind in times of international conflict—just as Pearl Harbor, though it was far from the mainland, always would be there for America as an icon of victimization, never more so than in the semi-paranoid aftermath of "9/11" with its disastrous consequences in Iraq. History always has a personal dimension.

Figure 19.5 Example of data matrix from Wolf (2010) memoir segment

Data Segment	Transcript (Source)	Transcript Line	Initial Code
I have a vivid picture in my mind of my mother, sitting at a kitchen table, listening to the announcement of FDR's Declaration of War in his famous "date which will live in infamy" speech delivered to Congress on December 8, 1941: "The United States was suddenly and deliberately attacked by naval and air forces of the Empire of Japan." I still can hear his voice.	Wolf Memoir	1-5	Memories
I couldn't understand "war," of course, but I knew that something terrible had happened; and I wanted it to stop so my mother wouldn't be unhappy.	Wolf Memoir	7-8	Meaning of War
I later asked my older brother what war was and when it would be over. He said, "Not soon, so we better get ready for it, and, remember, kid, I'm a Captain and you're a private."	Wolf Memoir	8-11	Meaning of War; Memories

Exercises

Below is another excerpt from the same memoir[11]

What segments of this interview can you pull out and what initial code would you place on them?

Create a data matrix as you reflect on this.

> *It was painful to think, even at an early age, that a part of the world I was beginning to love—Europe—was being substantially destroyed by the war; that cities with their treasures, to say nothing of innocent people, were being bombed and consumed in flames. I was a patriotic young American and wanted "us" to win the war, but I also wanted Europe to be saved.*
>
> *Some displaced people began to arrive in our apartment house, and even as I knew that they had suffered in Europe, their names and language pointed back to a civilized Europe that I wanted to experience. One person, who had studied at Heidelberg, told me stories about student life in the early part of the 20th century that inspired me to want to become an accomplished student, if not a "student prince." He even had a dueling scar. A baby-sitter showed me a photo of herself in a feathered hat, standing on a train platform in Bratislava. I knew that she belonged in a world that was disappearing.*

For those of us growing up in New York City in the 1940s, Japan, following Pearl Harbor and the "death march" in Corregidor, seemed to be our most hated enemy. The Japanese were portrayed as grotesque and blood-thirsty on posters. My friends and I were fighting back against the "Japs" in movie after movie: Gung Ho, Back to Bataan, The Purple Heart, Thirty Seconds Over Tokyo, They Were Expendable, and Flying Tigers, to name a few.

We wanted to be like John Wayne when we grew up. It was only a few decades after the war, when we realized the horrors of Hiroshima and Nagasaki, that some of us began to understand that the Japanese, whatever else was true, had been dehumanized as a people; that we had annihilated, guiltlessly at the time, hundreds of thousands of non-combatants in a horrific flash. It was only after the publication of John Hersey's Hiroshima(1946), that we began to think about other sides of the war that patriotic propaganda had concealed.

When my friends and I went to summer camp in the foothills of the Berkshires during the late years of the war and sang patriotic songs around blazing bonfires, we weren't thinking about the firestorms of Europe (Dresden) and Japan. We were worried that our counselors would be drafted and suddenly disappear, leaving us unprotected.

Identifying, reviewing, and refining themes

Now we have our codes, we need to find a sensible way of putting them together. Remember, we want to narrow this vast field of hundreds of codes down to a small handful of themes. If we don't review and refine all these codes, the story we are trying to tell with our data becomes distracting and diffuse. An example is provided below to demonstrate this process.

As we refine our thematic analysis, our first step will be to identify groups of codes that hang together or seem to be related. Let's say you are studying the experience of people who are in a vocational preparation program and you have codes labeled "worrying about paying the bills" and "loss of benefits". You might group these codes into a category you label "income & expenses" (Figrue 19.6).

Figure 19.6 Example of evolving code structure, I

Code	Category	Reasoning
Worrying about paying the bills	Income & expenses	Seem to be talking about financial stressors and potential impact on resources
Loss of benefits		

As you continue to review your codes, however, you find an additional code that seems to be related to these: "not confident managing money". You determine that this code seems clearly related to the

others, but you no longer feel the label "income & expenses" fits the group, and you relabel this category "financial insecurities" (Figure 19.7).

Figure 19.7 Example of evolving code structure, II

Code	Category	Reasoning	Category	Reasoning
Worrying about Paying the bills Loss of benefits Not confident managing money	Income & expenses	Seem to be talking about financial stressors and potential impact on resources	Financial insecurities	Expanded category to also encompass personal factor-confidence related to issue

You may review and refine the groups of your codes many times during the course of your analysis, including shifting codes around from one grouping to another as you get a clearer picture of what each of the groups represent. This reflects the iterative process we were describing earlier. While you are shifting codes and relabeling categories, track this! A research journal is a good place to do this. So, as in the example above, you would have a journal entry that explains that you changed the label on the category from "income & expenses" to "financial insecurities" and you would briefly explain why. Your research journal can take many different forms. It can be hard copy, an evolving word document, or a spreadsheet with multiple tabs (Figure 19.8).

Figure 19.8 Research journal entry tracking code development, I

Journal Entry Date: 10/04/19 Changed category [Income & expenses] to [Financial insecurities] to include new code "Not confident managing money" that appears to reflect a personal factor related to the participant's confidence or personal capability related to the topic.

Now, eventually you may decide that some of these categories can also be grouped together, but still stand alone as separate ideas. Continuing with our example above, you have another category labeled "financial potential" that contains codes like "money to do things" and "saving for my future". You determine that "financial insecurities" and "financial potential" are related, but distinctly different aspects of a broader grouping, which you go on to label "financial considerations". This broader grouping reflects both the more worrisome or stressful aspects of people's experiences that you have interviewed, but also the optimism and hope that was reflected related to finances and future work (Figure 19.9).

Figure 19.9 Example of evolving code structure, III

Code	Category	Reasoning	Category	Reasoning	Theme
Worrying about paying the bills	Income & expenses	Seem to be talking about financial stressors and potential impact on resources	Financial insecurities	Expanded category to also encompass personal factor- confidence related to issue	Financial considerations
Loss of benefits					
Not confident managing money					
Money to do things			Financial potential	Reflects positive aspects related to earnings	
Saving for my future					

This broadest grouping then becomes your theme and utilizing the categories and the codes contained therein, you create a description of what each of your themes means based on the data you have collected, and again, can record this in your research journal entry (Figure 19.10).

Figure 19.10 Research journal entry tracking code development, II

Journal Entry Date: 10/10/19 Identified an emerging theme [Financial considerations] that reflects both the concerns reflected under [Financial insecurities] but also the hopes or more positive sentiments related to finances and work [Financial potential] expressed by participants. As participants prepare to return to work, they appear to experience complex and maybe even conflicting feelings towards how it will impact their finances and what this will mean for their lives.

Building a thematic representation

However, providing a list of themes may not really tell the whole story of your study. It may fail to explain to your audience how these individual themes relate to each other. A **thematic map or thematic array** can do just that: provides a visual representation of how each individual category fits with the others. As you build your thematic representation, be thoughtful of how you position each of your themes, as this spatially tells part of the story.[12] You should also make sure that the relationships between the themes represented in your thematic map or array are narratively explained in your text as well.

Figure 19.11 offers an illustration of the beginning of thematic map for the theme we had been developing in the examples above. I emphasize that this is the beginning because we would likely have a few other themes (not just "financial considerations"). These other themes might have codes or categories in common with this theme, and these connections would be visual evident in our map. As you can see

in the example, the thematic map allows the reader, reviewer, or researcher can quickly see how these ideas relate to each other. Each of these themes would be explained in greater detail in our write up of the results. Additionally, sample quotes from the data that reflected those themes are often included.

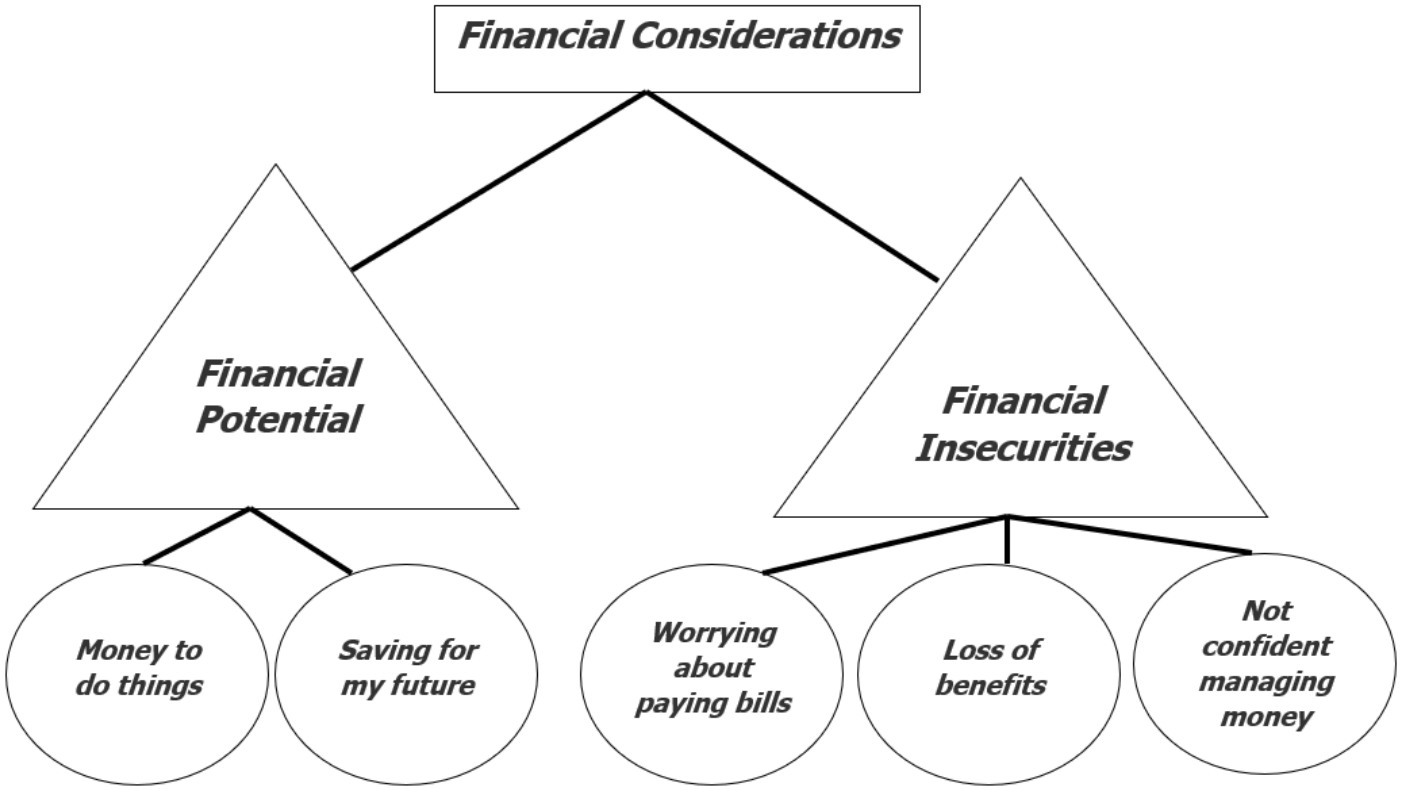


Figure 19.11 An example of a developing thematic map

Key Takeaways

- Thematic analysis offers qualitative researchers a method of data analysis through which we can identify common themes or broader ideas that are represented in our qualitative data.
- Themes are identified through an iterative process of coding and categorizing (or grouping) to identify trends during your analysis.
- Tracking and documenting this process of theme identification is an important part of utilizing this approach.

Resources

References for learning more about Thematic Analysis

Clarke, V. (2017, December 9). *What is thematic analysis?*

Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars.

Nowell et al. (2017). Thematic analysis: Striving to meet the trustworthiness criteria.

The University of Auckland. (n.d.). Thematic analysis: A reflexive approach.

A few exemplars of studies employing Thematic Analysis

Bastiaensens et al. (2019). "Were you cyberbullied? Let me help you." Studying adolescents' online peer support of cyberbullying victims using thematic analysis of online support group Fora.

Borgström, Å., Daneback, K., & Molin, M. (2019). Young people with intellectual disabilities and social media: A literature review and thematic analysis.

Kapoulitsas, M., & Corcoran, T. (2015). Compassion fatigue and resilience: A qualitative analysis of social work practice.

19.5 Content analysis

Learning Objectives

Learners will be able to…

- Explain defining features of content analysis as a strategy for analyzing qualitative data
- Determine when content analysis can be most effectively used
- Formulate an initial content analysis plan (if appropriate for your research proposal)

What are you trying to accomplish with content analysis

Much like with thematic analysis, if you elect to use **content analysis** to analyze your qualitative data, you will be deconstructing the artifacts that you have sampled and looking for similarities across these deconstructed parts. Also consistent with thematic analysis, you will be seeking to bring together these similarities in the discussion of your findings to tell a collective story of what you learned across your

data. While the distinction between thematic analysis and content analysis is somewhat murky, if you are looking to distinguish between the two, content analysis:

1. Places greater emphasis on determining the unit of analysis. Just to quickly distinguish, when we discussed sampling in Chapter 10 we also used the term "unit of analysis. As a reminder, when we are talking about sampling, **unit of analysis** refers to the entity that a researcher wants to say something about at the end of her study (individual, group, or organization). However, for our purposes when we are conducting a content analysis, this term has to do with the 'chunk' or segment of data you will be looking at to reflect a particular idea. This may be a line, a paragraph, a section, an image or section of an image, a scene, etc., depending on the type of artifact you are dealing with and the level at which you want to subdivide this artifact.
2. Content analysis is also more adept at bringing together a variety of forms of artifacts in the same study. While other approaches can certainly accomplish this, content analysis more readily allows the researcher to deconstruct, label and compare different kinds of 'content'. For example, perhaps you have developed a new advocacy training for community members. To evaluate your training you want to analyze a variety of products they create after the workshop, including written products (e.g. letters to their representatives, community newsletters), audio/visual products (e.g. interviews with leaders, photos hosted in a local art exhibit on the topic) and performance products (e.g. hosting town hall meetings, facilitating rallies). Content analysis can allow you the capacity to examine evidence across these different formats.

For some more in-depth discussion comparing these two approaches, including more philosophical differences between the two, check out this article by Vaismoradi, Turunen, and Bondas (2013).[13]

Variations in the approach

There are also significant variations among different content analysis approaches. Some of these approaches are more concerned with quantifying (counting) how many times a code representing a specific concept or idea appears. These are more quantitative and **deductive** in nature. Other approaches look for codes to emerge from the data to help describe some idea or event. These are more qualitative and **inductive**. Hsieh and Shannon (2005)[14] describe three approaches to help understand some of these differences:

- Conventional Content Analysis. Starting with a general idea or phenomenon you want to explore (for which there is limited data), coding categories then emerge from the raw data. These coding categories help us understand the different dimensions, patterns, and trends that may exist within the raw data collected in our research.
- Directed Content Analysis. Starts with a theory or existing research for which you develop your initial codes (there is some existing research, but incomplete in some aspects) and uses these to

guide your initial analysis of the raw data to flesh out a more detailed understanding of the codes and ultimately, the focus of your study.
- Summative Content Analysis. Starts by examining how many times and where codes are showing up in your data, but then looks to develop an understanding or an "interpretation of the underlying context" (p.1277) for how they are being used. As you might have guessed, this approach is more likely to be used if you're studying a topic that already has some existing research that forms a basic place to begin the analysis.

This is only one system of categorization for different approaches to content analysis. If you are interested in utilizing a content analysis for your proposal, you will want to design an approach that fits well with the aim of your research and will help you generate findings that will help to answer your research question(s). Make sure to keep this as your north star, guiding all aspects of your design.

Determining your codes

We are back to coding! As in thematic analysis, you will be **coding** your data (labeling smaller chunks of information within each data artifact of your sample). In content analysis, you may be using pre-determined codes, such as those suggested by an existing theory (deductive) or you may seek out emergent codes that you uncover as you begin reviewing your data (inductive). Regardless of which approach you take, you will want to develop a well-documented codebook.

A **codebook** is a document that outlines the list of codes you are using as you analyze your data, a descriptive definition of each of these codes, and any decision-rules that apply to your codes. A **decision-rule** provides information on how the researcher determines what code should be placed on an item, especially when codes may be similar in nature. If you are using a deductive approach, your codebook will largely be formed prior to analysis, whereas if you use an inductive approach, your codebook will be built over time. To help illustrate what this might look like, Figure 19.12 offers a brief excerpt of a codebook from one of the projects I'm currently working on.

	A	B	C
1	Codes after Team Meeting on 4/12/19, Perceptions of Ageing Project		
2	**Codes**	**Description**	**Decision Rules**
3	Housing	This code encompasses thoughts, perceptions, plans for future housing options.	
4	Health	This code includes both statements related to current and future physical health and mental health concerns (including substance use).	(1) If unit refers to health care services, code under SERVICES
5	Preparedness for Ageing	This code includes legal and finacial issues in relationship to planning.	(1) If unit refers to relationships with loved ones or other social relaitonship, code under SOCIAL SUPPORT NETWORK. (2) If unit refers to housing arrangements/planning, code under HOUSING

Figure 19.12 Example of a codebook in Excel

Coding, comparing, counting

Once you have (or are developing) your codes, your next step will be to actually code your data. In most cases, you are looking for your coding structure (your list of codes) to have good **coverage**. This means that most of the content in your sample should have a code applied to it. If there are large segments of your data that are uncoded, you are potentially missing things. Now, do note that I said most of the time. There are instances when we are using artifacts that may contain a lot of information, only some of which will apply to what we are studying. In these instances, we obviously wouldn't be expecting the same level of coverage with our codes. As you go about coding you may change, refine and adapt your codebook as you go through your data and compare the information that reflects each code. As you do this, keep your research journal handy and make sure to capture and record these changes so that you have a trail documenting the evolution of your analysis. Also, as suggested earlier, content analysis may also involve some degree of counting as well. You may be keeping a tally of how many times a particular code is represented in your data, thereby offering your reader both a quantification of how many times (and across how many sources) a code was reflected and a narrative description of what that code came to mean.

Representing the findings from your coding scheme

Finally, you need to consider how you will represent the findings from your coding work. This may

involve listing out narrative descriptions of codes, visual representations of what each code came to mean or how they related to each other, or a table that includes examples of how your data reflected different elements of your coding structure. However you choose to represent the findings of your content analysis, make sure the resulting product answers your research question and is readily understandable and easy-to-interpret for your audience.

Key Takeaways

- Much like thematic analysis, content analysis is concerned with breaking up qualitative data so that you can compare and contrast ideas as you look across all your data, collectively. A couple of distinctions between thematic and content analysis include content analysis's emphasis on more clearly specifying the unit of analysis used for the purpose of analysis and the flexibility that content analysis offers in comparing across different types of data.
- Coding involves both grouping data (after it has been deconstructed) and defining these codes (giving them meaning). If we are using a deductive approach to analysis, we will start with the code defined. If we are using an inductive approach, the code will not be defined until the end of the analysis.

Exercises

Identify a qualitative research article that uses content analysis (do a quick search of "qualitative" and "content analysis" in your research search engine of choice).

- How do the authors display their findings?
- What was effective in their presentation?
- What was ineffective in their presentation?

Resources

Resources for learning more about Content Analysis

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis.

Colorado State University (n.d.) Writing@CSU Guide: Content analysis.

Columbia University Mailman School of Public Health, Population Health. (n.d.) Methods: Content analysis

Mayring, P. (2000, June). Qualitative content analysis.

A few exemplars of studies employing Content Analysis

Collins et al. (2018). Content analysis of advantages and disadvantages of drinking among individuals with the lived experience of homelessness and alcohol use disorders.

Corley, N. A., & Young, S. M. (2018). Is social work still racist? A content analysis of recent literature.

Deepak et al. (2016). Intersections between technology, engaged learning, and social capital in social work education.

19.6 Grounded theory analysis

Learning Objectives

Learners will be able to...

- Explain defining features of grounded theory analysis as a strategy for qualitative data analysis and identify when it is most effectively used
- Formulate an initial grounded theory analysis plan (if appropriate for your research proposal)

What are you trying to accomplish with grounded theory analysis

Just to be clear, grounded theory doubles as both qualitative research design (we will talk about some other qualitative designs in Chapter 22) and a type of qualitative data analysis. Here we are specifically interested in discussing grounded theory as an approach to analysis in this chapter. With a **grounded theory analysis**, we are attempting to come up with a common understanding of how some event or series of events occurs based on our examination of participants' knowledge and experience of that event. Let's consider the potential this approach has for us as social workers in the fight for social justice. Using grounded theory analysis we might try to answer research questions like:

- How do communities identity, organize, and challenge structural issues of racial inequality?
- How do immigrant families respond to threat of family member deportation?
- How has the war on drugs campaign shaped social welfare practices?

In each of these instances, we are attempting to uncover a process that is taking place. To do so, we will be analyzing data that describes the participants' experiences with these processes and attempt to draw out and describe the components that seem quintessential to understanding this process.

Variations in the approach

Differences in approaches to grounded theory analysis largely lie in the amount (and types) of structure that are applied to the analysis process. Strauss and Corbin (2014)[15] suggest a highly structured approach to grounded theory analysis, one that moves back and forth between the data and the evolving theory that is being developed, making sure to anchor the theory very explicitly in concrete data points. With this approach, the researcher role is more detective-like; the facts are there, and you are uncovering and assembling them, more reflective of **deductive reasoning**. While Charmaz (2014)[16] suggests a more **interpretive** approach to grounded theory analysis, where findings emerge as an exchange between the unique and subjective (yet still accountable) position of the researcher(s) and their understanding of the data, acknowledging that another researcher might emerge with a different theory or understanding. So in this case, the researcher functions more as a liaison, where they bridge understanding between the participant group and the scientific community, using their own unique perspective to help facilitate this process. This approach reflects **inductive reasoning**.

Coding in grounded theory

Coding in grounded theory is generally a sequential activity. First, the researcher engages in **open coding** of the data. This involves reviewing the data to determine the preliminary ideas that seem important and potential labels that reflect their significance for the event or process you are studying. Within this open coding process, the researcher will also likely develop subcategories that help to expand and provide a richer understanding of what each of the categories can mean. Next, **axial coding** will revisit the open codes and identify connections between codes, thereby beginning to group codes that share a relationship. Finally, **selective or theoretical coding** explores how the relationships between these concepts come together, providing a theory that describes how this event or series of events takes place, often ending in an overarching or unifying idea tying these concepts together. Dr. Tiffany Gallicano[17] has a helpful blog post that walks the reader through examples of each stage of coding. Figure 19.13 offers an example of each stage of coding in a study examining experiences of students who are new to online learning and how they make sense of it. Keep in mind that this is an evolving process and your document should capture this changing process. You may notice that in the example "Feels isolated from professor and classmates" is listed under both axial codes "Challenges presented by technology" and "Course design". This isn't an error; it just represents that it isn't yet clear if this code is most reflective of one of these two axial codes or both. Eventually, the placement of this code may change, but we will make sure to capture why this change is made.

Figure 19.13 Example of open, axial, and selective coding

Open Codes	Axial Codes	Selective
Anxious about using new tools	Challenges presented by technology	Doubts, insecurities and frustration experienced by new online learners
Lack of support for figuring technology out		
Feels isolated from professor and classmates		
Twice the work–learn the content and how to use the technology		
Limited use of teaching activities (e.g. "all we do is respond to discussion boards")	Course design	
Feels isolated from professor and classmates		
Unclear what they should be taking away from course work and materials		
Returning student, feel like I'm too old to learn this stuff	Learner characteristics	
Home feels chaotic, hard to focus on learning		

Constant comparison

While ground theory is not the only approach to qualitative analysis that utilizes constant comparison, it is certainly widely associated with this approach. **Constant comparison** reflects the motion that takes place throughout the analytic process (across the levels of coding described above), whereby as researchers we move back and forth between the data and the emerging categories and our evolving theoretical understanding. We are continually checking what we believe to be the results against the raw data. It is an ongoing cycle to help ensure that we are doing right by our data and helps ensure the **trustworthiness** of our research. Ground theory often relies on a relatively large number of interviews and usually will begin analysis while the interviews are ongoing. As a result, the researcher(s) work to continuously compare their understanding of findings against new and existing data that they have collected.

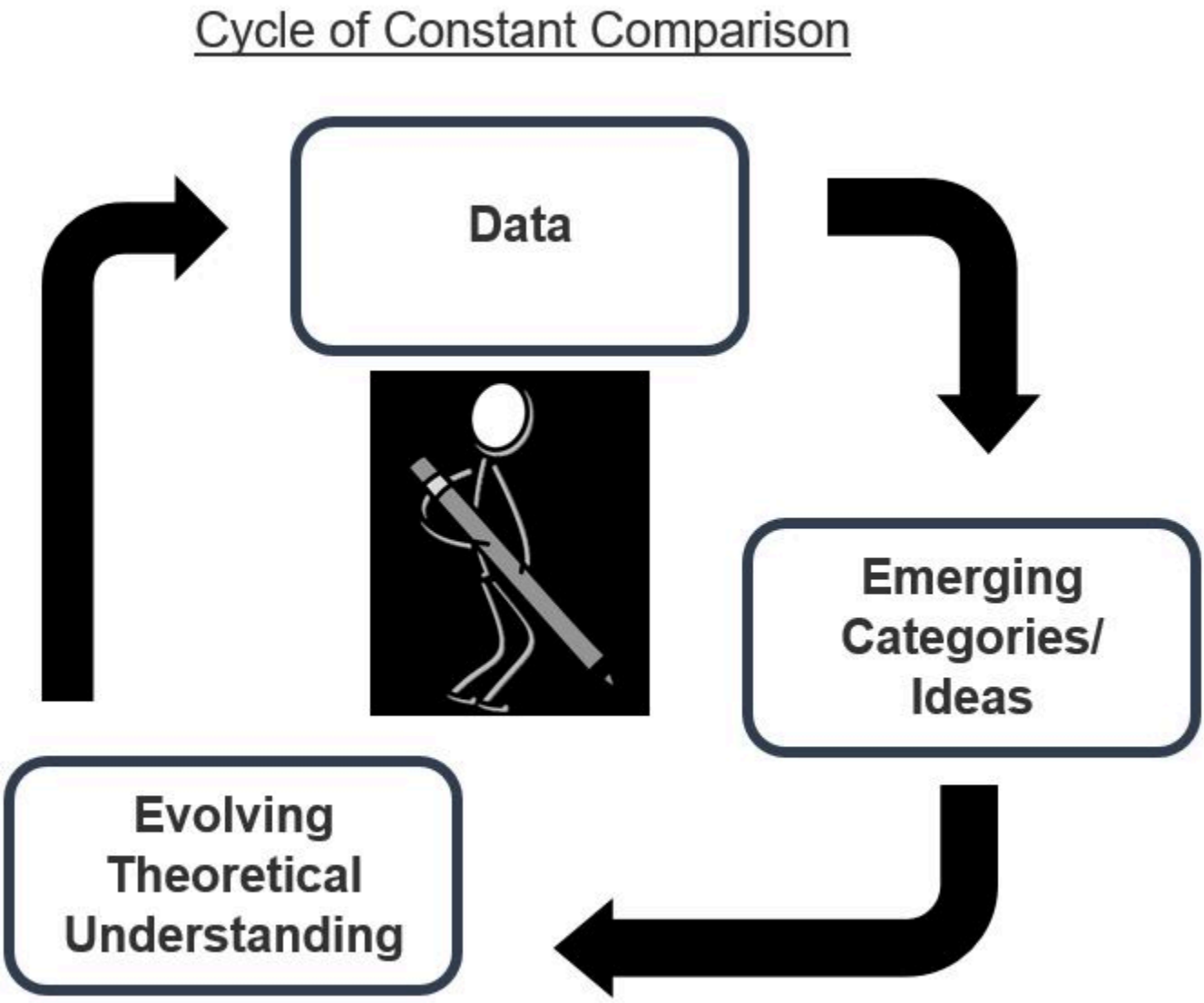


Figure 19.14 The cycle of constant comparison

Developing your theory

Remember, the aim of using a grounded theory approach to your analysis is to develop a theory, or an explanation of how a certain event/phenomenon/process occurs. As you bring your coding process to a close, you will emerge not just with a list of ideas or themes, but an explanation of how these ideas are interrelated and work together to produce the event you are studying. Thus, you are building a theory that explains the event you are studying that is grounded in the data you have gathered.

Thinking about power and control as we build theories

I want to bring the discussion back to issues of power and control in research. As discussed early in this chapter, regardless of what approach we are using to analyze our data we need to be concerned with the potential for abuse of power in the research process and how this can further contribute to oppression and systemic inequality. I think this point can be demonstrated well here in our discussion of grounded theory analysis. Since grounded theory is often concerned with describing some aspect of human behavior: how people respond to events, how people arrive at decisions, how human processes work. Even though we aren't necessarily seeking generalizable results in a qualitative study, research consumers may still be influenced by how we present our findings. This can influence how they perceive the population that is represented in our study. For example, for many years science did a great disservice to families impacted by schizophrenia, advancing the theory of the schizophrenogenic mother[18]. Using **pseudoscience**, the scientific community misrepresented the influence of parenting (a process), and specifically the mother's role in the development of the disorder of schizophrenia. You can imagine the harm caused by this theory to family dynamics, stigma, institutional mistrust, etc. To learn more about this you can read this brief but informative editorial article by Anne Harrington in *the Lancet*.[19] Instances like these should haunt and challenge the scientific community to do better. Engaging community members in active and more meaningful ways in research is one important way we can respond. Shouldn't theories be built by the people they are meant to represent?

Key Takeaways

- Ground theory analysis aims to develop a common understanding of how some event or series of events occurs based on our examination of participants' knowledge and experience of that event.
- Using grounded theory often involves a series of coding activities (e.g. open, axial, selective or theoretical) to help determine both the main concepts that seem essential to understanding an event, but also how they relate or come together in a dynamic process.
- Constant comparison is a tool often used by qualitative researchers using a grounded theory analysis approach in which they move back and forth between the data and the emerging categories and the evolving theoretical understanding they are developing.

Resources

Resources for learning more about Grounded Theory

Chun Tie, Y., Birks, M., & Francis, K. (2019). Grounded theory research: A design framework for novice researchers.

Gibbs, G.R. (2015, February 4). A discussion with Kathy Charmaz on Grounded Theory.

Glaser, B.G., & Holton, J. (2004, May). Remodeling grounded theory.

Mills, J., Bonner, A., & Francis, K. (2006). The development of Constructivist Grounded Theory.

A few exemplars of studies employing Grounded Theory

Burkhart, L., & Hogan, N. (2015). Being a female veteran: A grounded theory of coping with transitions.

Donaldson, W. V., & Vacha-Haase, T. (2016). Exploring staff clinical knowledge and practice with LGBT residents in long-term care: A grounded theory of cultural competency and training needs.

Vanidestine, T., & Aparicio, E. M. (2019). How social welfare and health professionals understand "Race," Racism, and Whiteness: A social justice approach to grounded theory.

19.7 Photovoice

Learning Objectives

Learners will be able to...

- Explain defining features of photovoice as a strategy for qualitative data analysis and identify when it is most effectively used
- Formulate an initial analysis plan using photovoice (if appropriate for your research proposal)

What are you trying to accomplish with photovoice analysis?

Photovoice is an approach to qualitative research that combines the steps of data gathering and analysis with visual and narrative data. The ultimate aim of the analysis is to produce some kind of desired change with and for the community of participants. While other analysis approaches discussed here may involve including participants more actively in the research process, it is certainly not the norm. However, with photovoice, it is. Using an approach that involves photovoice will generally assume that the participants in your study will be taking on a very active role throughout the research process, to the point of acting as co-researchers. This is especially evident during the analysis phase of your work.



As an example of this work, Mitchell (2018)[20] combines photovoice and an environmental justice approach to engage a Native American community around the significance and the implications of water for their tribe. This research is designed to help raise awareness and support advocacy efforts for improved access to and quality of natural resources for this group. Photovoice has grown out of participatory and community-based research traditions that assume that community members have their own expertise they bring to the research process, and that they should be involved, empowered, and mutually benefit from research that is being conducted. This mutual benefit means that this type of research involves some kind of desired and very tangible changes for participants; the research will support something that community members want to see happen. Examples of these changes could be legislative action, raising community awareness, or changing some organizational practice(s).

Training your team

Because this approach involves participants not just sharing information, but actually utilizing research skills to help collect and interpret data, as a researcher you need to take on an educator role and share your research expertise in preparing them to do so. After recruiting and gathering informed consent,

part of the on-boarding process will be to determine the focus of your study. Some photovoice projects are more prescribed, where the researcher comes with an idea and seeks to partner with a specific group or community to explore this topic. At other times, the researcher joins with the community first, and collectively they determine the focus of the study and craft the research question. Once this focus has been determined and shared, the team will be charged with gathering photos or videos that represent responses to the research question for each individual participant. Depending on the technology used to capture these photos (e.g. cameras, ipads, video recorders, cell phones), training may need to be provided.

Once photos have been captured, team members will be asked to provide a caption or description that helps to interpret what their picture(s) mean in relation to the focus of the study. After this, the team will collectively need to seek out themes and patterns across the visual and narrative representations. This means you may employ different elements of thematic or content analysis to help you interpret the collective meaning across the data and you will need to train your team to utilize these approaches.



Converging on a shared story

Once you have found common themes, together you will work to assemble these into a cohesive

broader story or message regarding the focus of your topic. Now remember, the participatory roots of photovoice suggest that the aim of this message is to seek out, support, encourage or demand some form of change or transformation, so part of what you will want to keep in mind is that this is intended to be a persuasive story. Your research team will need to consider how to put your findings together in a way that supports this intended change. The packaging and format of your findings will have important implications for developing and disseminating the final products of qualitative research. Chapter 21 focuses more specifically on decisions connected with this phase of the research process.

Key Takeaways

- Photovoice is a unique approach to qualitative research that combines visual and narrative information in an attempt to produce more meaningful and accessible results as an alternative to other traditional research methods.
- A cornerstone of Photovoice research involves the training and participation of community members during the analysis process. Additionally, the results of the analysis are often intended for some form of direct change or transformation that is valued by the community.

Exercises

Reflexive Journal Entry Prompt

After learning about these different types of qualitative analysis:

- Which of these approaches make the most sense to you and how you view the world?
- Which of them are most appealing and why?
- Which do you want to learn more about?

Exercises

Decision Point: How will you conduct your analysis?

- Thinking about what you need to accomplish with the data you have collected, which of these analytic approaches will you use?
    - What makes this the most effective choice?
- Outline the steps you plan to take to conduct your analysis
- What peer-reviewed resources have you gathered to help you learn more about this method of analysis? (keep these handy for when you write-up your study!)

Resources

Resources for learning more about Photovice:

> Liebenberg, L. (2018). Thinking critically about photovoice: Achieving empowerment and social change.
>
> Mangosing, D. (2015, June 18). Photovoice training and orientation.
>
> University of Kansas, Community Toolbox. (n.d.). Section 20. Implementing Photovoice in Your Community.
>
> Woodgate et al. (2017, January). Worth a thousand words? Advantages, challenges and opportunities in working with photovoice as a qualitative research method with youth and their families.

A few exemplars of studies employing Photovoice:

> Fisher-Borne, M., & Brown, A. (2018). A case study using Photovoice to explore racial and social identity among young Black men: Implications for social work research and practice.
>
> Houle et al. (2018). Public housing tenants' perspective on residential environment and positive well-being: An empowerment-based Photovoice study and its implications for social work.
>
> Mitchell, F. M. (2018). "Water Is Life": Using photovoice to document American Indian perspectives on water and health.

Media Attributions

- discussing around table © Activités culturelles UdeM is licensed under a Public Domain license
- thematic map © Cory Cummings
- codebook and decision rules
- constant compare © JohannaMarie is licensed under a CC0 (Creative Commons Zero) license
- community meeting © Korean Resource Center ???? is licensed under a CC BY-ND (Attribution NoDerivatives) license
- photo exhibit © University of the Fraser Valley, I Lead Abbey Youth 4 Change is licensed under a CC BY (Attribution) license

Notes

1. Kleining, G., & Witt, H. (2000). The qualitative heuristic approach: A methodology for discovery in psychology and the social sciences. Rediscovering the method of introspection as an example. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, *1*(1).
2. Burck, C. (2005). Comparing qualitative research methodologies for systemic research: The use of grounded theory, discourse analysis and narrative analysis. *Journal of Family Therapy*, *27*(3), 237-262.
3. Mogashoa, T. (2014). Understanding critical discourse analysis in qualitative research. *International Journal of Humanities Social Sciences and Education*, *1*(7), 104-113.

4. Contandriopoulos, D., Larouche, C., Breton, M., & Brousselle, A. (2018). A sociogram is worth a thousand words: proposing a method for the visual analysis of narrative data. *Qualitative Research*, 18(1), 70–87.
5. Elliott, L. (2016, January, 16). *Dangers of "damage-centered" research*. The Ohio State University, College of Arts and Sciences: Appalachian Student Resources. https://u.osu.edu/appalachia/2016/01/16/dangers-of-damage-centered-research/
6. Smith, L. T. (2012). *Decolonizing methodologies: Research and indigenous peoples* (2nd ed.). Zed Books Ltd.
7. PAR-L. (2010). *Introduction to feminist research.* [Webpage]. https://www2.unb.ca/parl/research.htm#:~:text=Methodologically%2C%20feminist%20research%20differs%20from,standpoints%20and%20experiences%20of%20women.
8. Mafile'o, T. (2004). Exploring Tongan Social Work: Fekau'aki (Connecting) and Fakatokilalo (Humility). *Qualitative Social Work*, 3(3), 239–257.
9. Duke Mod U Social Science Research Institute. (2016, November 11). *How to know you are coding correct: Qualitative research methods.* [Video]. YouTube. https://www.youtube.com/watch?v=iL7Ww5kpnIM&feature=youtu.be
10. Wolf, H. R. (2010). Growing up in New York City: A generational memoir (1941-1960). *American Studies Journal*, 54. http://www.asjournal.org/54-2010/growing-up-in-new-york-city/
11. Wolf, H. R. (2010). Growing up in New York City: A generational memoir (1941-1960). *American Studies Journal*, 54. http://www.asjournal.org/54-2010/growing-up-in-new-york-city/
12. Clarke, V., Braun, V., & Hayfield, N. (2015). Thematic analysis. In J. A. Smith (ed.) *Qualitative psychology: A practical guide to research methods*, (3rd ed.). 222–248.
13. Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, 15(3), 398–405.
14. Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288.
15. Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage publications.
16. Charmaz, K. (2014). *Constructing grounded theory*. Sage Publications
17. Gallicano, T. (2013, July 22). *An example of how to perform open coding, axial coding and selective coding.* [Blog post]. https://prpost.wordpress.com/2013/07/22/an-example-of-how-to-perform-open-coding-axial-coding-and-selective-coding/
18. Harrington, A. (2012). The fall of the schizophrenogenic mother. *The Lancet*, 379(9823), 1292–1293.
19. Harrington, A. (2012). The fall of the schizophrenogenic mother. *The Lancet*, 379(9823), 1292–1293.
20. Mitchell, F. M. (2018). "Water Is Life": Using photovoice to document American Indian perspectives on water and health. *Social Work Research*, 42(4), 277–289.

20. Quality in qualitative studies: Rigor in research design

Chapter Outline

1. Introduction to qualitative rigor (13 minute read)
2. Ethical responsibility and cultural respectfulness (4 minute read)
3. Critical considerations (6 minute read)
4. Data capture: Striving for accuracy in our raw data (6 minute read)
5. Data management: Keeping track of our data and our analysis (8 minute read)
6. Tools to account for our influence (22 minute read)

Content warning: Examples in this chapter contain references to fake news, mental health treatment, peer-support, misrepresentation, equity and (dis)honesty in research.

We hear a lot about fake news these days. Fake news has to do with the quality of journalism that we are consuming. It begs questions like: does it contain misinformation, is it skewed or biased in its portrayal of stories, does it leave out certain facts while inflating others. If we take this news at face value, our opinions and actions may be intentionally manipulated by poor quality information. So, how do we avoid or challenge this? The oversimplified answer is, we find ways to check for quality. While this isn't a chapter dedicated to fake news, it does offer an important comparison for the focus of this chapter, rigor in qualitative research. **Rigor** is concerned with the quality of research that we are designing and consuming. While I devote a considerable amount of time in my clinical class talking about the importance of adopting a non-judgmental stance in practice, that is not the case here; I want you to be judgmental, critical thinkers about research! As a social worker who will hopefully be producing research (we need you!) and definitely consuming research, you need to be able to differentiate good science from rubbish science. Rigor will help you to do this.



This chapter will introduce you to the concept of rigor and specifically, what it looks like in qualitative research. We will begin by considering how rigor relates to issues of ethics and how thoughtfully involving community partners in our research can add additional dimensions in planning for rigor. Next, we will look at rigor in how we capture and manage qualitative data, essentially helping to ensure that we have quality raw data to work with for our study. Finally, we will devote time to discussing how researchers, as human instruments, need to maintain accountability throughout the research process. Finally, we will examine tools that encourage this accountability and how they can be integrated into your research design. Our hope is that by the end of this chapter, you will begin to be able to identify some of the hallmarks of quality in qualitative research, and if you are designing a qualitative research proposal, that you consider how to build these into your design.

20.1 Introduction to qualitative rigor

Learning Objectives

Learners will be able to…

- Identify the role of rigor in qualitative research and important concepts related to qualitative rigor
- Discuss why rigor is an important consideration when conducting, critiquing and consuming qualitative

research
- Differentiate between quality in quantitative and qualitative research studies

In Chapter 11 we talked about quality in quantitative studies, but we built our discussion around concepts like **reliability** and **validity**. With qualitative studies, we generally think about quality in terms of the concept of **rigor**. The difference between quality in quantitative research and qualitative research extends beyond the type of data (numbers vs. words/sounds/images). If you sneak a peek all the way back to Chapter 7, we discussed the idea of different paradigms or fundamental frameworks for how we can think about the world. These frameworks value different kinds of knowledge, arrive at knowledge in different ways, and evaluate the quality of knowledge with different criteria. These differences are essential in differentiating qualitative and quantitative work.

Quantitative research generally falls under a **positivist** paradigm, seeking to uncover knowledge that holds true across larger groups of people. To accomplish this, we need to have tools like reliability and validity to help produce internally consistent and externally **generalizable findings** (i.e. was our study design dependable and do our findings hold true across our population).

In contrast, qualitative research is generally considered to fall into an alternative paradigm (other than positivist), such as the **interpretive** paradigm which is focused on the subjective experiences of individuals and their unique perspectives. To accomplish this, we are often asking participants to expand on their ideas and interpretations. A positivist tradition requires the information collected to be very focused and discretely defined (i.e. closed questions with prescribed categories). With qualitative studies, we need to look across unique experiences reflected in the data and determine how these experiences develop a richer understanding of the phenomenon we are studying, often across numerous perspectives.

Rigor is a concept that reflects the quality of the process used in capturing, managing, and analyzing our data as we develop this rich understanding. Rigor helps to establish standards through which qualitative research is critiqued and judged, both by the scientific community and by the practitioner community.



For the scientific community, people who review qualitative research studies submitted for publication in scientific journals or for presentations at conferences will specifically look for indications of rigor, such as the tools we will discuss in this chapter. This confirms for them that the researcher(s) put safeguards in place to ensure that the research took place systematically and that consumers can be relatively confident that the findings are not fabricated and can be directly connected back to the **primary sources** of data that was gathered or the **secondary data** that was analyzed.

As a note here, as we are critiquing the research of others or developing our own studies, we also need to recognize the limitations of rigor. No research design is flawless and every researcher faces limitations and constraints. We aren't looking for a researcher to adopt every tool we discuss below in their design. In fact, one of my mentors, speaks explicitly about "misplaced rigor", that is, using techniques to support rigor that don't really fit what you are trying to accomplish with your research design. Suffice it to say that we can go overboard in the area of rigor and it might not serve our study's best interest. As a consumer or evaluator of research, you want to look for steps being taken to reflect quality and transparency throughout the research process, but they should fit within the overall framework of the study and what it is trying to accomplish.

From the perspective of a practitioner, we also need to be acutely concerned with the quality of research. Social work has made a commitment, outlined in our Code of Ethics (NASW,2017), to competent practice in service to our clients based on "empirically based knowledge" (subsection 4.01). When I think about my own care providers, I want them to be using "good" research–research that

we can be confident was conducted in a credible way and whose findings are honestly and clearly represented. Don't our clients deserve the same from us?



As providers, we will be looking to qualitative research studies to provide us with information that helps us better understand our clients, their experiences, and the problems they encounter. As such, we need to look for research that accurately represents:

- Who is participating in the study
- What circumstances is the study being conducted under
- What is the research attempting to determine

Further, we want to ensure that:

- Findings are presented accurately and reflect what was shared by participants (**raw data**)
- A reasonably good explanation of how the researcher got from the raw data to their findings is presented
- The researcher adequately considered and accounted for their potential influence on the research process

As we talk about different tools we can use to help establish qualitative rigor, I will try to point out tips for what to look for as you are reading qualitative studies that can reflect these. While rigor can't "prove" quality, it can demonstrate steps that are taken that reflect thoughtfulness and attention on the part of the researcher(s). This is a link from the American Psychological Association on the topic of reviewing qualitative research manuscripts. It's a bit beyond the level of critiquing that I would expect

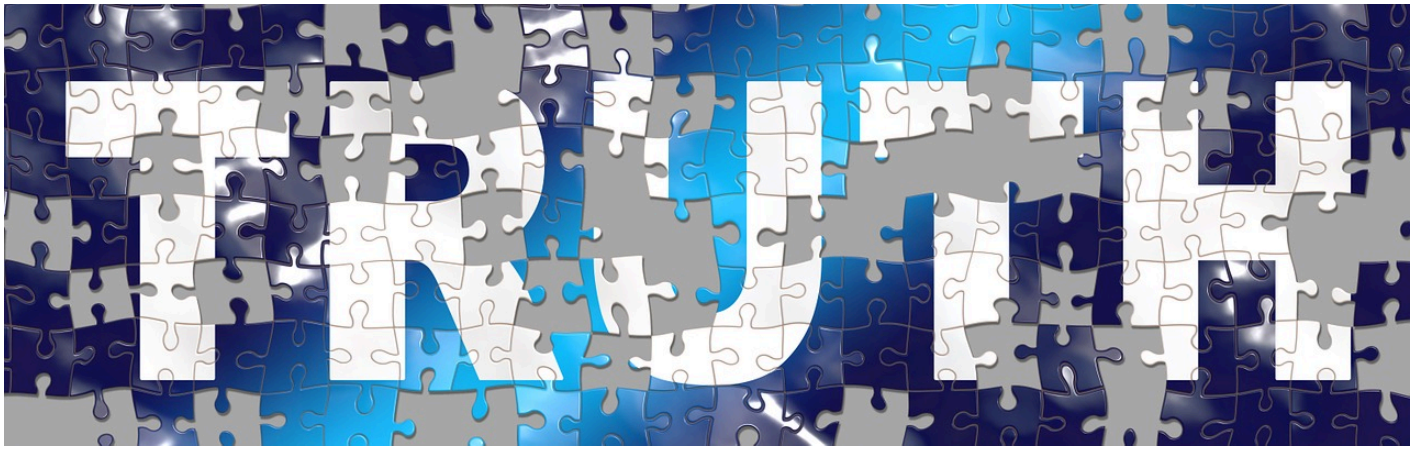
from a beginning qualitative research student, however, it does provide a really nice overview of this process. Even if you aren't familiar with all the terms, I think it can be helpful in giving an overview of the general thought process that should be taking place.

To begin breaking down how to think about rigor, I find it helpful to have a framework to help understand different concepts that support or are associated with rigor. Lincoln and Guba (1985) have suggested such a framework for thinking about qualitative rigor that has widely contributed to standards that are often employed for qualitative projects. The overarching concept around which this framework is centered is **trustworthiness**. Trustworthiness is reflective of how much stock we should put in a given qualitative study—is it really worth our time, headspace, and intellectual curiosity? A study that isn't trustworthy suggests poor quality resulting from inadequate forethought, planning, and attention to detail in how the study was carried out. This suggests that we should have little confidence in the findings of a study that is not trustworthy.

According to Lincoln and Guba (1985)[1] trustworthiness is grounded in responding to four key ideas and related questions to help you conceptualize how they relate to your study. Each of these concepts is discussed below with some considerations to help you to compare and contrast these ideas with more positivist or quantitative constructs of research quality.

Truth value

You have already been introduced to the concept of **internal validity**. As a reminder, establishing internal validity is a way to ensure that the change we observe in the dependent variable is the result of the variation in our independent variable—did we actually design a study that is truly testing our hypothesis. In much/most qualitative studies we don't have hypotheses, independent or dependent variables, but we do still want to design a study where our audience (and ourselves) can be relatively sure that we as the researcher arrived at our findings through a systematic and scientific process, and that those findings can be clearly linked back to the data we used and not some fabrication or falsification of that data; in other words, the **truth value** of the research process and its findings. We want to give our readers confidence that we didn't just make up our findings or "see what we wanted to see".



Key question for establishing truth value... How can we establish confidence that our research findings are the result of using quality data and a rigorous research process?

Applicability

Another concept you are familiar with is **generalizability** (or **external validity**), the idea that findings apply more broadly, beyond the sample of a given study. Most qualitative studies don't make extensive claims about generalizability, because they acknowledge that findings apply to specific participants being studied in a given set of circumstances (context). We want a deep, rich understanding of these few experiences, generally not broad findings that apply to many. However, as qualitative researchers, we owe it to our audience and to our participants to present our research in such a way that the reader gets a detailed understanding of:

- who we were studying
- how we went about studying them
- what we found

By clearly explaining these elements, we help to establish the **applicability** of our study. This is important so that the reader can determine if what we found in our study under our circumstances, might apply to similar situations they are interested in. Our audience can't do that if we do a poor job explaining our study and its findings.

Key question for establishing applicability... How can research consumers determine the extent to which the findings of our study apply beyond the specific context of our study to other situations in the 'real world'?



Consistency

The concept of **reliability** has to do with research studies being able to produce stable or repeatable results. With qualitative research, we aren't necessarily looking for any study to produce the same exact results because we generally recognize and value the uniqueness of each individual person and set of circumstances under which the research takes place. For instance, we wouldn't necessarily expect that some other researcher viewing the same set of data as us to come to the exact same conclusion as we would, because they have had other life experiences that might lead them to a different interpretation. However, we are still concerned that some sense of **consistency** is brought to the research process, and that findings are not completely arbitrary. Consistency is closely related to the systematic nature of research. If we use a systematic approach to gathering and analyzing our data, we provide some evidence of consistency in how we went about our study. Another researcher could at least follow the same steps that we did, hypothetically.

Key question for establishing consistency... How can we demonstrate that we used a replicable and transparent process to carry out our research?



Neutrality

Quantitative research is largely focused on producing **objective truth**, that is to say, that research should be as free of bias as possible in how we go about collecting and analyzing our data. In qualitative research, we are often trying to uncover and understand **subjective truths**, including our own subjective influences on the research process. While we generally recognize that true objectivity in qualitative studies is largely unattainable, we try to account for our subjective influence in a variety of ways to help encourage a sense of **neutrality** in our work.



Key question for establishing neutrality... How can we best assure that our findings are determined by the data we had and the analytical process we used, and not unduly influenced by our own biases, self-interests, or opinions as the researcher?

These concepts reflect a set of standards that help to determine the integrity of qualitative studies. At the end of this chapter you will be introduced to a range of tools to help support or reflect these various standards in qualitative research. Because different qualitative designs (e.g. phenomenology, narrative,

ethnographic), that you will learn more about in Chapter 22 emphasize or prioritize different aspects of quality, certain tools will be more appropriate for these designs. Since this chapter is intended to give you a general overview of rigor in qualitative studies, exploring additional resources will be necessary to best understand which of these concepts are prioritized in each type of design and which tools best support them.

Key Takeaways

- Qualitative research is generally conducted within an interpretativist paradigm. This differs from the post-positivist paradigm in which most quantitative research originates. This fundamental difference means that the overarching aim of these different approaches to knowledge building differ, and consequently, our standards for judging the quality of research within these paradigms differ.
- Assessing the quality of qualitative research is important, both from a researcher and a practitioner perspective. On behalf of our clients and our profession, we are called to be critical consumers of research. To accomplish this, we need strategies for assessing the scientific rigor with which research is conducted.
- Trustworthiness and associated concepts, including credibility, transferablity, dependability and confirmability, provide a framework for assessing rigor or quality in qualitative research.

20.2 Ethical responsibility and cultural respectfulness

Learning Objectives

Learners will be able to...

- Discuss the connection between rigor and ethics as they relate to the practice of qualitative research
- Explain how the concepts of accountability and transparency lay an ethical foundation for rigorous qualitative research

The two concepts of rigor and ethics in qualitative research are closely intertwined. It is a commitment to ethical research that leads us to conduct research in rigorous ways, so as not to put forth research that is of poor quality, misleading, or altogether false. Furthermore, the tools that demonstrate rigor in our research are reinforced by solid ethical practices. For instance, as we build a rigorous protocol for collecting interview data, part of this protocol must include a well-executed, ethical **informed consent** process; otherwise, we hold little hope that our efforts will lead to **trustworthy data**. Both ethics and rigor shine a light on our behaviors as researchers. These concepts offer standards by which others can

critique our commitment to quality in the research we produce. They are both tools for **accountability** in the practice of research.

Related to this idea of accountability, rigor requires that we promote a sense of **transparency** in the qualitative research process. We will talk extensively in this chapter about tools to help support this sense of transparency, but first, I want to explore why transparency is so important for ethical qualitative research. As social workers, our own knowledge, skills, and abilities to help serve our clients are our tools. Similarly, qualitative research demands the social work researcher be an actively involved human instrument in the research process.

While quantitative researchers also makes a commitment to transparency, they may have an easier job of demonstrating it. Let's just think about the data analysis stage of research. The quantitative researcher has a data set, and based on that data set there are certain tests that they can run. Those tests are mathematically defined and computed by statistical software packages and we have established guidelines for interpreting the results and reporting the findings. There is most certainly tremendous skill and knowledge exhibited in the many decisions that go into this analysis process; however, the rules and requirements that lay the foundation for these mathematical tests mean that much of this process is prescribed for us. The prescribed procedures offer quantitative researchers a shorthand for talking about their transparency.

In comparison, the qualitative researcher, sitting down with their data for analysis will engage in a process that will require them to make hundreds or thousands of decisions about what pieces of data mean, what label they should have, how they relate to other ideas, what the larger significance is as it relates to their final results. That isn't to say that we don't have procedures and processes as qualitative researchers, we just can't rely on mathematics to make these decisions precise and clear. We have to rely on ourselves as human instruments. Adopting a commitment to transparency in our research as qualitative researchers means that we are actively describing for our audience the role we have as human instruments and we consider how this is shaping the research process. This allows us to avoid unethically representing what we did in our research process and what we found.

I think that as researchers we can sometimes think of data as an object that is not inherently valuable, but rather a means to an end. But if we see qualitative data as part of sacred stories that are being shared with us, doesn't it feel like a more precious resource? Something worthy of thoughtfully and even gently gathering, something that needs protecting and safe-keeping. Adhering to a rigorous research process can help to honor these commitments and avoid the misuse of data as a precious resource. Thinking like this will hopefully help us to demonstrate greater cultural humility as social work researchers.

Key Takeaways

- Ethics and rigor both are interdependent and call attention to our behaviors as researchers and the quality and

care with which our research is conducted.
- Accountability and transparency in qualitative research helps to demonstrate that as researchers we are acting with integrity. This means that we are clear about how we are conducting our research, what decisions we are making during the research process, and how we have arrived at these decisions.

Exercises

While this activity is early in the chapter, I want you to consider for a few moments about how accountability relates to your research proposal.

- Who are you accountable to as you carry plan and carry out your research
- In what ways are you accountable to each of the people you listed in the previous question?

20.3 Critical considerations

Learning Objectives

Learners will be able to…

- Identify some key questions for a critical critique of research planning and design
- Differentiate some alternative standards for rigor according to more participatory research approaches

As I discussed above, rigor shines a spotlight on our actions as researchers. A critical perspective is one that challenges traditional arrangements of power, control and the role of structural forces in maintaining oppression and inequality in society. From this perspective, rigor takes on additional meaning beyond the internal integrity of the qualitative processes used by you or I as researchers, and suggest that standards of quality need to address accountability to our participants and the communities that they represent, NOT just the scientific community. There are many evolving dialogues about what criteria constitutes "good" research from critical traditions, including participatory and empowerment approaches that have their roots in critical perspective. These discussions could easily stand as their own chapter, however, for our purposes, we will borrow some questions from these critical debates to consider how they might inform the work we do as qualitative researchers.



Who gets to ask the questions?

In the case of your research proposal, chances are you are outlining your research question. Because our research question truly drives our research process, it carries a lot of weight in the planning and decision-making process of research. In many instances, we bring our fully-formed research projects to participants, and they are only involved in the collection of data. But critical approaches would challenge us to involve people who are impacted by issues we are studying from the onset. How can they be involved in the early stages of study development, even in defining our question? If we treat their lived experience as expertise on the topic, why not start early using this channel to guide how we think about the issue? This challenges us to give up some of our control and to listen for the "right" question before we ask it.

Who owns the data and the findings?

Answering this question from a traditional research approach is relatively clear—the researcher or rather, the university or research institution they represent. However, critical approaches question this. Think about this specifically in terms of qualitative research. Should we be "owning" pieces of other people's stories, since that is often the data we are working with? What say do people get in what is done with their stories and the findings that are derived from them? Unfortunately, there aren't clear answers. These are some critical questions that we need to struggle with as qualitative researchers.

- How can we disrupt or challenge current systems of data ownership, empowering participants to maintain greater rights?
- What could more reciprocal research ownership arrangments look like?
- What are the benefits and consequences of disrupting this system?
- What are the benefits and consequences of perpetuating our current system?



What is the sustained impact of what I'm doing?

As qualitative researchers, our aim is often exploring meaning and developing understanding of social phenomena. However, criteria from more critical traditions challenge us to think more tangibly and with more immediacy. They require us to answer questions about how our involvement with this specific

group of people within the context of this project may directly benefit or harm the people involved. This not only applies in the present but also in the future.

We need to consider questions like:

- How has our interaction shaped participants' perceptions of research?
- What are the ripple effects left behind from the questions we raised by our study?
- What thoughts or feelings have been reinforced or challenged, both within the community but also for outsiders?
- Have we built/strengthened/damaged relationships?
- Have we expanded/depleted resources for participants?

We need to reflect on these topics in advance and carefully considering the potential ramifications of our research before we begin. This helps to demonstrate critical rigor in our approach to research planning. Furthermore, research that is being conducted in participatory traditions should actively involve participants and other community members to define what the immediate impacts of the research should be. We need to ask early and often, what do they need as a community and how can research be a tool for accomplishing this? Their answers to these questions then become the criteria on which our research is judged. In designing research for direct and immediate change and benefit to the community, we also need to think about how well we are designing for sustainable change. Have we crafted a research project that creates lasting transformation, or something that will only be short-lived?

As students and as scholars we are often challenged by constraints as we address issues of rigor, especially some of the issues raised here. One of the biggest constraints is time. As a student, you are likely building a research proposal while balancing many demands on your time. To actively engage community members and to create sustainable research projects takes considerable time and commitment. Furthermore, we often work in highly structured systems that have many rules and regulations that can make doing things differently or challenging convention quite hard. However, we can begin to make a more **equity-informed research agenda** by:

- Reflecting on issues of power and control in our own projects
- Learning from research that models more reciprocal relationships between researcher and researched
- Finding new and creative ways to actively involve participants in the process of research and in sharing the benefits of research

In the resource box below, you will find links for a number of sources to learn more about participatory research methods that embody the critical perspective in research that we have been discussing.

As we turn our attention to rigor in the various aspects of the qualitative research process, continue to think about what critical criteria might also apply to each of these areas.

Key Takeaways

- Traditional research methods, including many qualitative approaches, may fail to challenge the ways that the practice of research can disenfranchise and disempower individauls and communities.
- Researchers from critical perspectives often question the power arrangments, roles, and objectives of more traditional research methods, and have been developing alternatives such as participatory research approaches. These participatory approaches engage participants in much more active ways and furthermore, they evaluate the quality of research by the direct and sustained benefit that it brings to participants and their communities.

Resources

Bergold, J., & Thomas, S. (2012). Participatory research methods: A methodological approach in motion

Center for Community Health and Development, University of Kansas. (n.d.). Community toolbox: Section.2 Community-based participatory research

New Tactics in Human Rights. (n.d.). Participatory research for action.

Pain et al. (2010). Participatory action research toolkit: An introduction to using PAR as an approach to learning, research and action.

Participate. (n.d.). Participatory research methods.

20.4 Data capture: Striving for accuracy in our raw data

Learning Objectives

Learners will be able to…

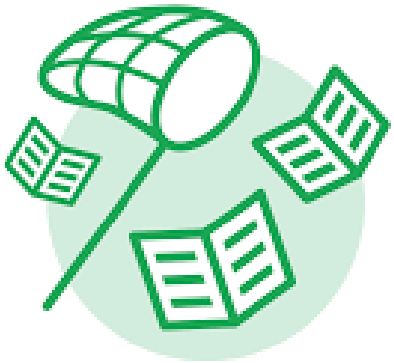
- Explain the importance of paying attention to the data collection process for ensuring rigor in qualitative research
- Identify key points that they will need to consider and address in developing a plan for gathering data to support rigor in their study

It is very hard to make a claim that research was conducted in a rigorous way if we don't start with quality raw data. That is to say, if we botch our data collection, we really can't produce trustworthy findings, no matter how good our analysis is. So what is quality raw data? From a qualitative research

perspective, quality raw data means that the data we capture provides an accurate representation of what was shared with us by participants or through other data sources, such as documents. This section is meant to help you consider rigor as it pertains to how you capture your data. This might mean how you document the information from your interviews or focus groups, how you record your field notes as you are conducting observations, what you track down and access for other artifacts, or how you produce your entries in your **reflexive journal** (as this can become part of your data, as well).

This doesn't mean that all your data will look the same. However, you will want to anticipate the type(s) of data you will be collecting and what format they will be in. In addition, whenever possible and appropriate, you will want the data you collect to be in a consistent format. So, if you are conducting interviews and you decide that you will be capturing this data by taking field notes, you will use a similar strategy for gathering information at each interview. You would avoid using field notes for some, recording and transcribing others, and then having emailed responses from the remaining participants. You might be wondering why this matters, after all, you are asking them the same questions. However, using these different formats to capture your data can make your data less comparable. This may have led to different information being shared by the participant and different information being captured by the researcher. For instance, if you rely on email responses, you lose the ability to follow up with probing questions you may have introduced in an in-person interview. Those participants who were recorded may not have felt as free to share information when compared to those interviews where you took field notes. It becomes harder to know if variation in your data is due to diversity in peoples' experiences or just differences in how you went about capturing your data. Now we will turn our attention to quality in different types of data.

As qualitative researchers, we often are dealing with written data. At times, it may be participants who are doing the writing. We may ask participants to provide written responses to questions or we may use writing samples as artifacts that are produced for some other purpose that we have permission to include in our study. In either case, ideally we are including this written data with as little manipulation as possible. If we do things like take passages or ideas out of context or interpret segments in our own words, we run a much greater risk of misrepresenting the data that is being shared with us. This is a direct threat to rigor, compromising the quality of the raw data we are collecting. If we need to clarify what a participant means by one of their responses and we have the opportunity to follow up with them, we want to capture their own words as closely as we can when they provide their explanation. This is also true if we ask participants to provide us with drawings. For instance, we may ask youth to provide a drawn response to a question as an age-appropriate way to respond to a question, but we might follow-up by asking them to explain their drawing to us. We would want to capture their description as close to their own words as possible, including both the drawing and the description in our data.



COLLECT & CAPTURE

Researchers may also be responsible for producing written data. Rigorous **field notes** strive to capture participants' words as accurately as possible, which usually means quoting more and paraphrasing less. Of course we can't avoid paraphrasing altogether (unless you have incredible shorthand skills, which I definitely do not), but the more interpreting or filtering we do as we capture our data, the less trustworthy it becomes. You also want to stick to a consistent method of recording your field notes. It becomes much harder to analyze your data if you have one system one day and another system another day. The quality of the notes may differ greatly and differences in organization may make it challenging to compare across your data. Finally, rigorous field notes usually capture context, as well. If you are gathering field notes for an interview or during a focus group, this may mean that you take note of non-verbal information during the exchange. If you are conducting an observation, your field notes might contain detailed information about the setting and circumstances of the observation.

As qualitative researchers, we may also be working with audio, video, or other forms of media data. Much of what we have already discussed in respect to written data also applies to these data formats, as well. The less we manipulate or change the original data source, the better. For example, if you have an audio recording of your focus group, you want your transcript to be as close to verbatim as possible. Also, if we are working with a visual or aural medium, like a performance, capturing context and description—including audience reactions—with as much detail as possible is vital if we are looking to analyze the meaning of such an event or experience.

This topic shouldn't require more than a couple sentences as you write up your research proposal. However, these sentences should reflect some careful forethought and planning. Remember, this is the hand-off! If you are a relay runner, this is the point where the baton gets passed as the participant or source transfers information to the study. Also, you want to ensure that you select a strategy that can be consistent and part of systematic process. Now we need to come up with a plan for managing our data.

Examples

Data will be collected using semi-structured interviews. Interviews will be digitally recorded and transcribed verbatim. In addition, the researcher will take field notes during each interview (see field note template, appendix A).

As they are gathered, documents will be assigned a study identification number. Along with their study ID, a brief description of the document, its source, and any other historical information will be kept in the data tracking log (see data tracking log, appendix B).

Key Takeaways

- Anticipating and planning for how you will systematically and consistently gather your data is crucial for a rigorous qualitative research project.
- When conducting qualitative research, we not only need to consider the data that we collect from other sources, but the data that we produce ourselves. As human instruments in the research process, our reaction to the data also becomes a form of data that can shape our findings. As such, we need to think about how we can capture this as well.

Exercises

- How will you ensure that you use a consistent and systematic approach for qualitative data collection in your proposal?

20.5 Data management: Keeping track of our data and our analysis

Learning Objectives

Learners will be able to…

- Explain how data management and data analysis in qualitative projects can present unique challenges or opportunities for demonstrating quality in the research process

- Plan for key elements to address or include in a data management plan that supports qualitative rigor in the study

Elements to think about

Once data collection begins, we need a plan for what we are going to do with it. As we talked about in our chapter devoted to qualitative data collection, this is often an important point of departure between quantitative and qualitative methods. Quantitative research tends to be much more sequential, meaning that first we collect all the data, then we analyze the data. If we didn't do it this way, we wouldn't know what numbers we are dealing with. However, with qualitative data, we are usually collecting and beginning to analyze our data simultaneously. This offers us a great opportunity to learn from our data as we are gathering it. However, it also means that if you don't have a plan for how you are going to manage these dual processes of data collection and data analysis, you are going to get overwhelmed twice as fast! A rigorous process will have a clearly defined process for labeling and tracking your data artifacts, whether they are text documents (e.g. transcripts, newspaper clippings, advertisements), photos, videos, or audio recordings. These may be physical documents, but more often than not, they are electronic. In either case, a clear, documented labeling system is required. This becomes very important because you are going to need to come back to this artifact at some point during your analysis and you need to have a way of tracking it down. Let's talk a bit more about this.

You were introduced to the term **iterative** process in our previous discussions about qualitative data analysis. As a reminder, an iterative process is one that involves repetition, so in the case of working with qualitative data, it means that we will be engaging in a repeating and evolving cycle of reviewing our data, noting our initial thoughts and reactions about what the data means, collecting more data, and going back to review the data again. Figure 20.1 depicts this iterative process. To adopt a rigorous approach to qualitative analysis, we need to think about how we will capture and document each point of this iterative process. This ishow we demonstrate **transparency** in our data analysis process, how we detail the work that we are doing as human instruments.



20.1 Qualitative data analysis process

During this process, we need to consider:

- How will we capture our thoughts about the data, including what we are specifically responding to in the data?
- How do we introduce new data into this process?
- How do we record our evolving understanding of the data and what those changes are prompted by?

So we have already talked about the importance of labeling our artifacts, but each artifact is likely to contain many ideas. For instance, think about the many ideas that are shared in a single interview. Because of this, we need to also have a clear and standardized way of labeling smaller segments of data within each artifact that represent discrete or separate ideas. If you recall back to our analysis chapter, these labels are called **units**. You are likely to have many, many units in each artifact. Additionally, as suggested above, you need a way to capture your thought process as you respond to the data. This documentation is called **memoing**, a term you were introduced to in our analysis chapter. These various

components, labeling your artifacts, labeling your units, and memoing, come together as you produce a rigorous plan for how you document your data analysis. Again, **rigor** here is closely associated with transparency. This means that you are using these tools to document a clear road map for how you got from your **raw data** to your findings. The term for this road map is an **audit trail**, and we will speak more about it in the next section. The test of this aspect of rigor becomes your ability to work backwards, or better yet, for someone else to work backwards. Could someone not connected with your project look at your findings, and using your audit trail, trace these ideas all the way back to specific points in your raw data? The term for this is having an **external audit** and will also be further explained below. If you can do this, we sometimes say that your findings are clearly "grounded in your data".

What our plan for data management might look like.

If you are working with physical data, you will need a system of logging and storing your artifacts. In addition, as you break your artifacts down into units you may well be copying pieces of these artifacts onto small note cards or post-its that serve as your data units. These smaller units become easier to manipulate and move around as you think about what ideas go together and what they mean collectively. However, each of these smaller units need a label that links them back to their artifact. But why do I have to go through all this? Well, it isn't just for the sake of transparency and being able to link your findings back to the original raw data, although that is certainly important. You also will likely reach a point in your analysis where themes are coming together and you are starting to make sense of things. When this occurs, you will have a pile of units from various artifacts under each of these themes. At this point you will want to know where the information in the units came from. If it was verbal data, you will want to know who said it or what source it came from. This offers us important information about the **context** of our findings and who/what they are connected to. We can't determine this unless we have a good labeling system.



You will need to come up with a system that makes sense to you and fits for your data. As an example,

I'm often working with transcripts from interviews or focus groups. As I am collecting my data, each transcript is numbered as I obtain it. Also, the transcripts themselves have continuous line numbers on them. When I start to break-up or deconstruct my data, each unit gets a label that consists of two numbers separated by a period. The number before the period is the transcript that the unit came from and the number after the period is the line number within that transcript so that I can find exactly where the information is. So, if I have a unit labeled 3.658, it means that this data can be found in my transcript labeled 3 and on line 658.

Now, I often use electronic versions of my transcripts when I break them up. As I showed in our data analysis chapter, I create an excel file where I can cut and paste the data units, their label, and the preliminary **code** I am assigning to this idea. I find excel useful because I can easily sort my data by codes and start to look for emerging themes. Furthermore, above I mentioned memoing, or recording my thoughts and responses to the data. I can easily do this in excel, by adding an additional column for memoing where I can put my thoughts/responses by a particular unit and date it, so I know when I was having that thought. Generally speaking, I find that excel makes it pretty easy for me to manipulate or move my data around while I'm making sense of it, while also documenting this. Of course, the qualitative data analysis software packages that I mentioned in our analysis chapter all have their own systems for activities such as assigning labels, **coding**, and **memoing**. And if you choose to use one of these, you will want to be well acquainted with how to do this before you start collecting data. That being said, you don't need software or even excel to do this work. I know many qualitative researchers who prefer having physical data in front of them, allowing them to shift note cards around and more clearly visualize their emerging themes. If you elect for this, you just need to make sure you track the moves you are making and your thought process during the analysis. And be careful if you have a cat, mine would have a field day with piles of note cards left on my desk!

Key Takeaways

- Due to the dynamic and often iterative nature of qualitative research, we need to proactively consider how we will store and analyze our qualitative data, often at the same time we are collecting it.
- Whatever data management system we plan for, it needs to have consistent ways of documenting our evolving understanding of what our data mean. This documentation acts as an important bridge between our raw qualitative data and our qualitative research findings, helping to support rigor in our design.

20.6 Tools to account for our influence

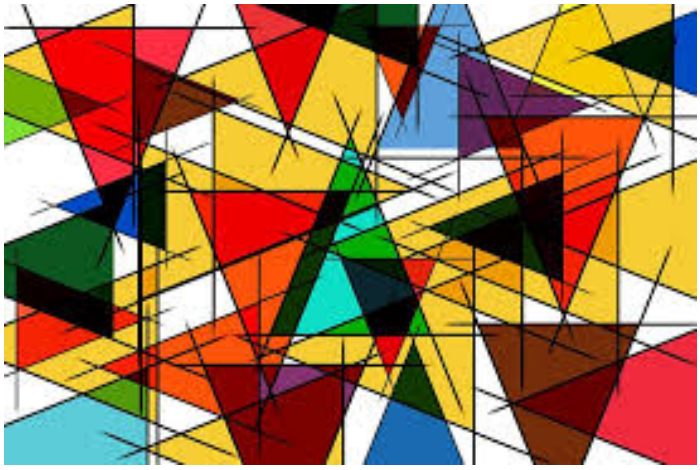
Learning Objectives

Learners will be able to...

- Identify key tools for enhancing qualitative rigor at various stages of the research process
- Begin to critique the quality of existing qualitative studies based on the use of these tools
- Determine which tools may strengthen the quality of our own qualitative research designs

So I've saved the best for last. This is a concrete discussion about tools that you can utilize to demonstrate qualitative rigor in your study. The previous sections in this chapter suggest topics you need to think about related to rigor, but this suggests strategies to actually accomplish it. Remember, these are tools you should also be looking for as you examine other qualitative research studies. As I previously mentioned, you won't be looking to use all of these in any one study, but rather determining which tools make the most sense based on your study design.

Some of these tools apply throughout the research process, while others are more specifically applied at one stage of research. For instance, an **audit trail** is created during your analysis phase, while **peer debriefing** can take place throughout all stages of your research process. These come to us from the work of Lincoln and Guba (1985).[2] Along with the argument that we need separate criteria for judging the quality of from the **interpretivist** paradigm (as opposed to **positivist** criteria of **reliability** and **validity**), they also proposed a compendium of tools to help meet these criteria. We will review each of these tools and an example will be provided after the description.



Observer triangulation

Observer triangulation involves including more than one member of your research team to aid in analyzing the data. Essentially, you will have at least two sets of eyes looking at the data, drawing it out, and then comparing findings, converging on agreement about what the final results should be. This helps us to ensure that we aren't just seeing what we want to see.

> *Example. You and another member of your research team both review and code the same qualitative data. You meet regularly to compare your coding and the themes that are emerging. You discuss differences of opinion and agree on a strategy for resolving these.*

Data triangulation

Data triangulation is a strategy that you build into your research design where you include data from multiple sources to help enhance your understanding of a topic. This might mean that you include a variety of groups of people to represent different perspectives on the issue. This can also mean that you collect different types of data. The main idea here is that by incorporating different sources of data (people or types), you are seeking to get a more well-rounded or comprehensive understanding of the focus of your study.

> *Example.*

People: Instead of just interviewing mental health consumers about their treatment, you also include family members and providers.

Types: I have conducted a case study where we included interviews and the analysis of multiple documents, such as emails, agendas, and meeting minutes.

Peer debriefing

Peer debriefing means that you intentionally plan for and meet with a qualitative researcher outside of your team to discuss your process and findings and to help examine the decisions you are making, the logic behind them, and your potential influence and accountability in the research process. You will often meet with a peer debriefer multiple times during your research process and may do things like: review your **reflexive journal**; review certain aspects of your project, such as preliminary findings; discuss current decisions you are considering; and review the current status of your project. The main focus here is building in some objectivity to what can become a very subjective process. We can easily become very involved in this research and it can be hard for us to step back and thoughtfully examine the decisions we are making.

Example. You ask one of your social work faculty not connected to your research project to act as your peer debriefer. You meet every two weeks to discuss the progress in your research and review both your methodological and reflexive research journals, including the decisions you have been making about how to proceed. This includes reviewing your findings and how you are arriving at them. You put this person in your IRB as part of your research team.

Member-checking

Member-checking has to do with incorporating research participants into the data analysis process. This may mean actively including them throughout the analysis, either as a co-researcher or as a consultant. This can also mean that once you have the findings from your analysis, you take these to your participants (or a subset of your participants) and ask them to review these findings and provide you feedback about their accuracy. I will often ask participants when I member-check, can you hear your voice in these findings? Do you recognize what you shared with me in these results? We often need to preface member-checking by saying that we are bringing together many people's ideas, so we are often trying to represent multiple perspectives, but we want to make sure that their perspective is included in there. This can be a very important step in ensuring that we did a reasonable job getting

from our raw data to our findings…did we get it right. It also gives some power back to participants, as we are giving them some say in what our findings look like.



Example. After conducting a focus group and analyzing the data, you contact the participants by email, sending them a copy of the preliminary findings. You ask them to give you feedback about how accurately these findings represent the ideas that were presented in the focus group and if they have anything they want to add or challenge. You built in this member-checking into your informed consent so that participants knew they would be asked to do this from the beginning.

Thick description

Providing a **thick description** means that you are giving your audience a rich, detailed description of your findings and the context in which they exist. As you read a thick description, you walk away feeling like you have a very vivid picture of what the research participants felt, thought, or experienced, and that you now have a more complete understanding of the topic being studied. Of course, a thick description can't just be made up at the end. You can't hope to produce a thick description if you haven't done work early on to collect detailed data and performed a thorough analysis. Our main objective with a thick description is being accountable to our audience in helping them to understand what we learned in the most comprehensive way possible.

Example. As you are writing up your findings, you continue to refine them, adding more details about the context of your study, such as the social and political climate of the places where you are collecting data and the circumstances that led to the study itself. You also offer clear explanations of the themes and how they relate to each other (and how they differ). Your explanation is well-supported by quotes that reflect these ideas and how your interpretation of the data was shaped along the way.

Reflexivity

Reflexivity pertains to how we understand and account for our influence, as researchers, on the research process. In social work practice, we talk extensively about our "use of self" as social workers, meaning that we work to understanding how our unique personhood (who we are) impacts or influences how we work with our clients. Reflexivity is about applying this to the process of research, rather than practice. It assumes that our values, beliefs, understanding, and experiences all may influence the decisions that we make as we engage in research. By engaging in qualitative research with reflexivity, we are attempting to be transparent about how we are shaping and being shaped by the research we are conducting.

Example. Reflexivity is often captured in a reflexive journal kept throughout the research process, as we have been practicing with. You may also choose to include elements of reflexivity in the presentation of your findings. Sometimes qualitative researchers do this by providing a positioning statement. A positioning statement is a description that incorporates reflexive information about how the researcher is personally and professionally connected to this specific research project and may accompany a research report, manuscript or presentation; it links who the researcher is to how the research was conducted.

Prolonged engagement

Prolonged engagement means that we are extensively spending time with participants or are in the community we are studying. We are visiting on multiple occasions during the study in an attempt to get the most complete picture or understanding possible. This can be very important for us as we attempt to analyze and interpret our data. If we haven't spent enough time getting to know our participants and their community, we may miss the meaning of data that is shared with us because we don't understand the cultural subtext in which this data exists. The main idea here is that we don't know what we don't know; furthermore, we can't know it unless we invest time getting to know it! There's no short-cut here, you have to put in the time.

Example. For your research project, spend time getting to know the location where you will be collecting data and the people that frequent it. Once you start data collection, you also spend considerable time in this same location, making detailed observations and really trying to get to know the 'culture' of the place. You conduct interviews while you are there, but you also spend about an hour before and after each interview getting to know the area and the people better. You also attend some of the community functions that take place there and even volunteer at a couple events a few months into the study.

Audit trail

Creating an **audit trail** is something we do during our data analysis process as qualitative researchers. An audit trail is essentially creating a map of how you got from your raw data to your research findings. This means that we should be able to work backwards, starting with your research findings and trace them back to your raw data. It starts with labeling our data as we begin to break it apart (deconstruction) and then reassemble it (reconstruction). It allows us to determine where ideas came from and how/why we put ideas together to form broader themes. An audit trail offers transparency in our data analysis process. It is the opposite of the "black box" we spoke about in our qualitative analysis chapter, making it clear how we got from point A to point B.



Example. During your research study, you engage in detailed note-taking, including a research methods journal where you document your decision-making throughout the research process and memoing as you are analyzing your data. You label your data units clearly so you can trace each individual unit back to its original source. As you move your

data units around and determine which ideas belong together and what they mean, you record each of these decisions and how you arrived at them.

External audit

An **external audit** is when we actually bring in a qualitative researcher not connected to our project once the study has been completed to examine the research project and the findings to "evaluate the accuracy and evaluate whether or not the findings, interpretations and conclusions are supported by the data" (Robert Wood Johnson Foundation, External Audits). An external auditor will likely look at all of our research materials, but will likely make extensive use of our audit trail to ensure that a clear link can be established between our findings and the raw data we collected by an external observer. Much like a peer debriefer, an external auditor can offer an outside critique of the study, thereby helping us to reflect on the work we are doing and how we are going about it.

Example. You hire an external qualitative research auditor, someone not connected to your research project but who you know is knowledgeable about qualitative research, to conduct an external audit. You share your data, findings, and audit trail materials with them. They review these materials and a month later, produce a report for you that documents their conclusions about the trustworthiness of the connection between your findings and the original data you collected.

Negative case analysis

Negative case analysis involves including data that contrasts, contradicts, or challenges the majority of evidence that we have found or expect to find. This may come into play in our sampling, meaning that we may seek to recruit or include a specific participant or group of participants because they represent a divergent opinion. Or, as we begin our analysis, we may identify a unique or contrasting idea or opinion that seems to contradict the majority of what our other data seem to be point to. In this case, we choose to intentionally analyze and work to understand this unique perspective in our data. As with a thick description, a negative case analysis is attempting to offer the most comprehensive and complete understanding of the phenomenon we are studying, including divergent or contradictory ideas that may be held about it.

Example. You are conducting a study that is analyzing published personal memoirs on a specific topic. After you have gathered your memoirs and begin reviewing them, you realize that one of them goes in a radically different direction than the others. Rather than ditching it, you analyze it as a separate case and try to do some additional information hunting to find out more about this particular memoir, the author, and its circumstances. Because the findings from this particular memoir differ so much from the main findings of the study from the other data, you write up an additional negative case report to supplement your findings and highlight this unique experience contrasting it with your other findings.

Now let's take some time to think through each of the stages of the design process and consider how we might apply some of these strategies. Again, these tools are to help us, as human instruments, better account for our role in the qualitative research process and also to enhance the trustworthiness of our research when we share it with others. It is unrealistic that you would apply all of these, but attention to some will indicate that you have been thoughtful in your design and concerned about the quality of your work and the confidence in your findings.

First let's discuss sampling. We have already discussed that qualitative research generally relies on **non-probability sampling** and have reviewed some specific non-probability strategies you might use. However, along with selecting a strategy, you might also include a couple of the rigor-related tools discussed above. First, you might choose to employ data triangulation. For instance, maybe you are conducting an **ethnography** studying the culture of a peer-support clubhouse. As you are designing your study, along with extensive observations you plan to make in the clubhouse, you are also going to conduct interviews with staff, board members, and focus groups with members. In this way you are combining different types of data (i.e. observations, focus groups, interviews) and perspectives (i.e. yourself as the researcher, members, staff, board). In addition, you might also consider using negative case analysis. At the planning stage, this could involve you intentionally sampling a case or set of cases that are likely to provide an alternative view or perspective compared to what you might expect to find. Finally, specifically articulating your sampling rationale can also enhance the rigor of your research (Barusch, Gringeri, & George, 2011).[3] While this isn't listed in our tools table, it is generally a good practice when reporting your research (qualitative or quantitative) to outline your sampling strategy with a brief rationale for the choices you made. This helps to improve the transparency of your study.

Next, we can progress to data gathering. The main rigor-related tool that directly applies to this stage of your design is likely prolonged engagement. Here we build in or plan to spend extensive time with participants gathering data. This might mean that we return for repeated interviews with the same participants or that we go back numerous times to make observations and take field notes. While this can take many forms, the overarching idea here is that you build in time to immerse yourself in the context and culture that you are studying. Again, there is no short-cut here, it demands time in the field getting to know people, places, significance, history, etc. You need to appreciate the context and the culture of the situation you are studying. Something special to consider here is insider/outsider status.

If you would consider yourself an "outsider", that is to say someone who does not belong to the same group or community of people you are studying, it may be quite obvious that you will need to spend time getting to know this group and take considerable time observing and reflecting on the significance of what you see. However, if you are a researcher who is a member of the particular community you are studying, or an "insider", I would suggest that you still need to work to objectively to take a step back, make observations, and try to reflect on what you see, what you thought you knew, and what you come to know about the community you belong to. In both cases, prolonged engagement requires good self-reflection and observation skills.

A number of these tools may be applied during the data analysis process. First, if you have a research team, you might use observer triangulation, although this might not be an option as a student unless you are building a proposal as a group. As explained above, observer triangulation means that more than one of you will be examining the data that has been collected and drawing results from it. You will then compare these results and ultimately converge on your findings.

Example. I'm currently using the following strategy on a project where we are analyzing focus group data that was collected over a number of focus groups. We have a team of four researchers and our process involves:

1. *reviewing our initial focus group transcripts*
2. *individually identifying important categories that were present*
3. *collectively processing these together and identifying specific labels we would use for a second round of coding*
4. *individually returning to the transcripts with our codes and coding all the transcripts*
5. *collectively meeting again to discuss what subthemes fell under each of the codes and if the codes fit or needed to be changed/merged/expanded*

While the process was complex, I do believe this triangulation of observers enriched our analysis process. It helped us to gain a clearer understanding of our results as we collectively discussed and debated what each theme meant based on our individual understandings of the data.

While we did discuss negative case analysis above in the sampling phase, it is also worth mentioning here. Contradictory findings may creep up during our analysis. One of our participants may share something or we may find something in a document that seemingly is at odds with the majority of the rest of our data. Rather than ignoring this, negative case analysis would seek to understand this perspective and what might be behind this contradiction. In addition, we may choose to construct an audit trail as we move from raw data to our research findings during our data analysis. This means that we will institute a strategy for tracking our analysis process. I imagine that most researchers develop their own variation on this tracking process, but at its core, you need to find a way to label your segments of data so that you know where they came from once you start to break them up. Furthermore, you will be making decisions about what groups of data belong together and what they mean. Your tracking process for your audit trail will also have to provide a way to document how you arrived at these decisions. Often towards the end of an analysis process, researchers may choose to

employ member checking (although you may also implement this throughout your analysis). In the example above where I was discussing our focus group project, we plan to take our findings back to some of our focus group participants to see if they feel that we captured the important information based on what they shared with us. As discussed in sampling, it is also a good practice to make sure to articulate your qualitative analysis process clearly. Unfortunately, I've read a number of qualitative studies where the researchers provide little detail regarding what their analysis looked like and how they arrived at their results. This often leaves me with questions about the quality of what was done.

Now we need to share our research with others. The most relevant tool specific to this phase is providing a thick description of our results. As indicated in the table, a thick description means that we offer our audience a very detailed, rich narrative in helping them to interpret and make sense of our results. Remember, the main aim of qualitative research is not necessarily to produce results that generalize to a large group of people. Rather, we are seeking to enhance understanding about a particular experience, issue, or phenomenon by studying it very extensively for a relatively small sample. This produces a deep, as opposed to, a broad understanding. A thick description can be very helpful by offering detailed information about the sample, the context in which the study takes place, and a thorough explanation of findings and often how they relate to each other. As a consumer of research, a thick description can help us to make our own judgments about the implications of these results and what other situations or populations these findings might apply to.



You may have noticed that a few of the tools in our table haven't yet been discussed in the qualitative process yet. This is because some of these rigor-related tools are meant to span the researcher process. To begin with, reflexivity is a tool that best applied through qualitative research. I encourage students in my social work practice classes to find ways to build reflexivity into their professional lives as a way of improving their professional skills. This is no less true of qualitative research students. Throughout our research process, we need to consider how our use-of-self is shaping the decisions we are making and how the research may be transforming us during the process. What led you to choose your research

question? Why did you group those ideas together? What caused you to label your theme that? What words do you use to talk about your study at a conference? The qualitative researcher has much influence throughout this process, and self-examination of that influence can be an important piece of rigor. As an example, one step that I sometimes build into qualitative projects is reflexively journaling before and after interviews. I'm often driving to these interviews, so I'll turn my Bluetooth on in the car and capture my thoughts before and after, transcribing them later. This helps me to check-in with myself during data collection and can help me illuminate insights I might otherwise miss. I have also found this to be helpful to use in my peer debriefing. Peer debriefing can be used throughout the research process. Meeting with a peer debriefer throughout the research process can be a good way to consistently reflect on your progress and the decisions you are making throughout a project. A peer debriefer can make connections that we may otherwise miss and question aspects of our project that may be important for us to explore. As I mentioned, combining reflexivity with peer debriefing can be a powerful tool for processing our self-reflection in connection with the progress of our project.

Finally, the use of an external audit really doesn't come into play until the end of the research process, but an external auditor will look extensively at the whole research process. Again, this is a researcher who is unattached to the project and seeking to follow the path of the project in hopes of providing an external perspective on the trustworthiness of the research process and its findings. Often, these auditors will begin at the end, starting with the findings, and attempt to trace backwards to the beginning of the project. This is often quite a laborious task and some qualitative scholars debate whether the attention to objectivity in this strategy may be at odds with the aims of qualitative research in illuminating the uniquely subjective experiences of participants by inherently subjective researchers. However, it can be a powerful tool for demonstrating that a systematic approach was used.

As you are thinking about designing your qualitative research proposal, consider how you might use some of these tools to strengthen the quality of your proposed research. Again, you might be using these throughout the entire research process, or applying them more specifically to one stage of the process (e.g. data collection, data analysis). In addition, as you are reviewing qualitative studies to include in your literature review or just in developing your understanding of the topic, make sure to look out for some of these tools being used. They are general indicators that we can use to assess the attention and care that was given to using a scientific approach to producing the knowledge that is being shared.

Key Takeaways

- As qualitative researchers there are a number of tools at your disposal to help support quality and rigor. These tools can aid you in assessing the quality of others' work and in supporting the quality of your own design.
- Qualitative rigor is not a box we can tick complete somewhere along our research project's timeline. It is something that needs to be attended to thoughtfully throughout the research process; it is a commitment we make to our participants and to our potential audience.

Exercises

List out 2-3 tools that seem like they would be a good fit for supporting the rigor of your qualitative proposal. Also, provide a justification as to why they seem relevant to the design of your research and what you are trying to accomplish.

- Tool:
  - Justification:
- Tool:
  - Justification:
- Tool:
  - Justification:

Media Attributions

- researchers © gdsteam is licensed under a CC BY (Attribution) license
- 2320267692_02d7ef919b_k © daveynin is licensed under a CC BY (Attribution) license
- truth © geralt is licensed under a CC0 (Creative Commons Zero) license
- walk © MabelAmber is licensed under a CC0 (Creative Commons Zero) license
- consistency © Ron Sela is licensed under a CC BY (Attribution) license
- decrease researcher bias © Cory Cummings
- young lady in a dilemma is licensed under a Public Domain license
- young man in a dilemma is licensed under a Public Domain license
- private property © Joseph Kessler is licensed under a CC0 (Creative Commons Zero) license
- data capture © Gaelen Pinnock is licensed under a CC BY-SA (Attribution ShareAlike) license
- Organize fish. Image of sign for united workers. is licensed under a Public Domain license
- triangles © geralt is licensed under a CC0 (Creative Commons Zero) license
- member is licensed under a Public Domain license
- trail © Madereugeneandrew is licensed under a CC BY-SA (Attribution ShareAlike) license
- tools © ctsu is licensed under a CC BY-SA (Attribution ShareAlike) license

Notes

1. Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newberry Park, CA: Sage
2. Lincoln, YS. & Guba, EG. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.
3. Barusch, A., Gringeri, C., & George, M. (2011). Rigor in qualitative social work research: A review of strategies used in published articles. *Social Work Research*, 35(1), 11–19.

21. Qualitative research dissemination

Chapter Outline

1. Ethical responsibility and cultural respectfulness (8 minute read)
2. Critical considerations (5 minute read)
3. Informing your dissemination plan (11 minute read)
4. Final product taking shape (10 minute read)

Content warning: Examples in this chapter contain references to research as a potential tool to stigmatize or oppress vulnerable groups, mistreatment and inequalities experienced by Native American tribes, sibling relationships, caregiving, child welfare, criminal justice and recidivism, first generation college students, Covid-19, school culture and race, health (in)equity, physical and sensory abilities, and transgender youth.

Your sweat and hard work has paid off! You've planned your study, collected your data, and completed your analysis. But alas, no rest for the weary student researcher. Now you need to share your findings. As researchers, we generally have some ideas where and with whom we desire to share our findings, but these plans may evolve and change during our research process. Communicating our findings with a broader audience is a critical step in the research process, so make sure not to treat this like an afterthought. Remember, research is about making a contribution to collective knowledge-building in the area of study that you are interested in. Indeed, research is of no value if there is no audience to receive it. You worked hard...get those findings out there!



In planning for this phase of research, we can consider a variety of methods for sharing our study findings. Among other options, we may choose to write our findings up as an article in a professional

journal, provide a report to an organization, give testimony to a legislative group, or create a presentation for a community event. We will explore these options in a bit more detail below in section 21.4 where we talk more about different types of qualitative research products. We also want to think about our intended audience.

Exercises

For your research, answer these two key questions as you are planning for dissemination:

- Who are you targeting to communicate your findings to? In other words, who needs to hear the results of your study?
- What do you hope your audience will take away after learning about your study?

Of course, we can't know how our findings will be received, but we will want to work to anticipate what expectations our target audience might have and use this information to tailor our message in a way that is clear, thorough and consistent with our data (keep it honest!). We will further discuss different audiences you might want to reach with your research and a few considerations for each type of audience that may shape your **dissemination plan**. Before we tackle these sections, we are going to take some time to think through ethical and critical considerations that should be at the forefront of your mind as you plan for the dissemination of your research. Remember, your research is NOT a static, inanimate object. It is a reflection of your participants. Furthermore, others will review, interpret and potentially form opinions based on your research Your research has real implications for individuals, groups, communities, agencies, programs, etc.

21.1 Ethical responsibility and cultural respectfulness

Learning Objectives

Learners will be able to...

- Identify key ethical considerations in developing their qualitative research dissemination plan
- Conceptualize how research dissemination may impact diverse groups, both presently and into the future

Have you ever been misrepresented or portrayed in a negative light? It doesn't feel good. It especially doesn't feel good when the person portraying us has power, control and influence. While you might

not feel powerful, research can be a powerful tool, and can be used and abused for many ends. Once research is out in the world, it is largely out of our control, so we need to approach dissemination with care. Be thoughtful about how you represent your work and take time to think through the potential implications it may have, both intended and unintended, for the people it represents.

As alluded to in the paragraph above, research comes with hefty responsibilities. You aren't off the hook if you are conducting quantitative research. While quantitative research deals with numbers, these numbers still represent people and their relationships to social problems. However, with qualitative research, we are often dealing with a smaller sample and trying to learn more from them. As such, our job often carries additional weight as we think about how we will represent our findings and the people they reflect. Furthermore, we probably hope that our research has an impact; that in some way, it leads to change around some issue. This is especially true as social work researchers. Our research often deals with oppressed groups, social problems, and inequality. However, it's hard to predict the implications that our research may have. This suggests that we need to be especially thoughtful about how we present our research to others.

Two of the core values of social work involve respecting the inherent dignity and worth of each person, practicing with integrity, and behaving in a trustworthy manner.[1] As social work researchers, to uphold these values, we need to consider how we are representing the people we are researching. Our work needs to honestly and accurately reflect our findings, but it also needs to be sensitive and respectful to the people it represents. In Chapter 6 we discussed research ethics and introduced the concept of **beneficence** or the idea that research needs to support the welfare of participants. Beneficence is particularly important as we think about our findings becoming public and how the public will receive, interpret and use this information. Thus, both as social workers and researchers, we need to be conscientious of how dissemination of our findings takes place.

Exercises

As you think about the people in your sample and the communities or groups to which they belong, consider some of these questions:

- How are participants being portrayed in my research?
- What characteristics or findings are being shared or highlighted in my research that may directly or indirectly be associated with participants?
- Have the groups that I am researching been stigmatized, stereotyped, and/or misrepresented in the past? If so, how does my research potentially reinforce or challenge these representations?
- How might my research be perceived or interpreted by members of the community or group it represents?
- In what ways does my research honor the dignity and worth of participants?



Qualitative research often has a voyeuristic quality to it, as we are seeking a window into participants' lives by exploring their experiences, beliefs, and values. As qualitative researchers, we have a role as stewards or caretakers of data. We need to be mindful of how data are gathered, maintained, and most germane to our conversation here, how data are used. We need to craft research products that honor and respect individual participants (micro), our collective sample as a whole (meso), and the communities that our research may represent (macro).

As we prepare to disseminate our findings, our ethical responsibilities as researchers also involve honoring the commitments we have made during the research process. We need to think back to our early phases of the research process, including our initial conversations with research partners and other stakeholders who helped us to coordinate our research activities. If we made any promises along the way about how the findings would be presented or used, we need to uphold them here. Additionally, we need to abide by what we committed to in our **informed consent**. Part of our informed consent involves letting participants know how findings may be used. We need to present our findings according to these commitments. We of course also have a commitment to represent our research honestly.

As an extension of our ethical responsibilities as researchers, we need to consider the impact that our findings may have, as well as our need to be socially conscientious researchers. As scouts, we were taught to leave our campsite in a better state than when we arrived. I think it is helpful to think of research in these terms. Think about the group(s) that may be represented by your research; what impact might your findings have for the lives of members of this group? Will it leave their lives in a better state than before you conducted your research? As a responsible researcher, you need to be thoughtful, aware and realistic about how your research findings might be interpreted and used by others. As social workers, while we hope that findings will be used to improve the lives of our clients, we can't ignore that findings can also be used to further oppress or stigmatize vulnerable groups; research is not apolitical and we should not be naive about this. It is worth mentioning the concept of sustainable research here. Sustainable research involves conducting research projects that have a long-term, sustainable impact for the social groups we work with. As researchers, this means that we need to actively plan for how our research will continue to benefit the communities we work with into the future. This can be supported by staying involved with these communities, routinely checking-in and seeking input from community members, and making sure to share our findings in ways that community

members can access, understand, and utilize them. Nate Olson provides a very inspiring Ted Talk about the importance of building resilient communities. As you consider your research project, think about it in these terms.

Key Takeaways

- As you think about how best to share your qualitative findings, remember that these findings represent people. As such, we have a responsibility as social work researchers to ensure that our findings are presented in honest, respectful, and culturally sensitive ways.
- Since this phase of research deals with how we are going to share our findings with the public, we need to actively consider the potential implications of our research and how it may be interpreted and used.

Exercises

- Is your work, in some way, helping to contribute to a resilient and sustainable community? It may not be a big tangible project as described in Olson's Ted Talk, but is it providing a resource for change and growth to a group of people, either directly or indirectly? Does it promote sustainability amongst the social networks that might be impacted by the research you are conducting?

21.2 Critical considerations

Learning Objectives

Learners will be able to...

- Identify how issues of power and control are present in the dissemination of qualitative research findings
- Begin to examine and account for their own role in the qualitative research process, and address this in their findings

This is the part of our research that is shared with the public and because of this, issues like reciprocity, ownership, and transparency are relevant. We need to think about who will have access to the tangible products of our research and how that research will get used. As researchers, we likely benefit directly from research products; perhaps it helps us to advance our career, obtain a good grade, or secure

funding. Our research participants often benefit indirectly by advancing knowledge about a topic that may be relevant or important to them, but often don't experience the same direct tangible benefits that we do. However, a participatory perspective challenges us to involve community members from the outset in discussions about what changes would be most meaningful to their communities and what research products would be most helpful in accomplishing those changes. This is especially important as it relates to the role of research as a tool to support empowerment.

Ownership of research products is also important as an issue of power and control. We will discuss a range of venues for presenting your qualitative research, some of which are more amenable to shared ownership than others. For instance, if you are publishing your findings in an academic journal, you will need to sign an agreement with that publisher about how the information in that article can be used and who has access to it. Similarly, if you are presenting findings at a national conference, travel and other conference-related expenses and requirements may make access to these research products prohibitive. In these instances, the researcher and the organization(s) they negotiate with (e.g. the publishing company, the conference organizing body) share control. However, disseminating qualitative findings in a public space, public record, or community-owned resource means that more equitable ownership might be negotiated. An equitable or reciprocal arrangement might not always be able to be reached, however. Transparency about who owns the products of research is important if you are working with community partners. To support this, establishing a **Memorandum Of Understanding (MOU) or Memorandum of Agreement (MOA)** early in the research process is important. This document should clearly articulate roles, responsibilities, and a number of other details, such as ownership of research products between the researcher and the partnering group(s).

Resources for learning more about MOUs and MOAs

Center for Community Health and Development, University of Kansas. (n.d.). Section 9. Understanding and writing contracts and memoranda of agreement.

Collaborative Center for Health Equity, University of Wisconson Madison. (n.d.). Standard agreement for research with community organizations.

Office of Research, UC Davis. (n.d.). Research MOUs.

Office of Research, The University of Texas at Dallas. (n.d.). Types of agreements.

In our discussion about qualitative research, we have also frequently identified the need for the qualitative researcher to account for their role throughout the research process. Part of this accounting can specifically apply to qualitative research products. This is our opportunity to demonstrate to our audience that we have been reflective throughout the course of the study and how this has influenced the work we did. Some qualitative research studies include a **positionality statement** within the final product. This is often toward the beginning of the report or the presentation and includes information about the researcher(s)'s identity and worldview, particularly details relevant to the topic being studied. This can include why you are invested in the study, what experiences have shaped how

you have come to think about the topic, and any positions or assumptions you make with respect to the topic. This is another way to encourage transparency. It can also be a means of relegating or at least acknowledging some of our power in the research process, as it can provide one modest way for us, as the researcher, to be a bit more exposed or vulnerable, although this is a far cry from making the risks of research equitable between the researcher and the researched. However, the positionality statement can be a place to integrate our identities, who we are as an individual, a researcher, and a social work practitioner. Granted, for some of us that might be volumes, but we need to condense this down to a brief but informative statement–don't let it eclipse the research! It should just be enough to inform the audience and allow them to draw their own conclusions about who is telling the story of this research and how well they can be trusted. This student provides a helpful discussion of the positionality statement that she developed for her study. Reviewing your **reflexive journal** (discussed in Chapter 20 as a tool to enhance qualitative rigor) can help in identifying underlying assumptions and positions you might have grounded in your reactions throughout the research process. These insights can be integrated into your positionality statement. Please take a few minutes to watch this informative video of a student further explaining what a positionality statement is and providing a good example of one.

Key Takeaways

- The products of qualitative research often benefit the researcher disproportionately when compared to research participants or the communities they represent. Whenever possible, we can seek out ways to disseminate research in ways that addresses this imbalance and supports more tangible and direct benefits to community members.
- Openly positioning ourselves in our dissemination plans can be an important way for qualitative researchers to be transparent and account for our role.

21.3 Informing your dissemination plan

Learning Objectives

Learners will be able to…

- Appraise important dimensions of planning that will inform their research dissemination plan, including:

audience, purpose, context and content
- Apply this appraisal to key decisions they will need to make when designing their qualitative research product(s)

This section will offer you a general overview of points to consider as you form the dissemination plan for your research. We will start with considerations regarding your audience, then turn our attention to the purpose of your research, and finally consider the importance of attending to both content and context as you plan for your final research product(s).

Audience

Perhaps the most important consideration you have as you plan how to present your work is your audience. Research is a product that is meant to be consumed, and because of this, we need to be conscious of our consumers. We will speak more extensively about knowing your audience in Chapter 24, devoted to both sharing and consuming research. Regardless of who your audience is (e.g. community members, classmates, research colleagues, practicing social workers, state legislator), there will be common elements that will be important to convey. While the way you present them will vary greatly according to who is listening, Table 21.1 offers a brief review of the elements that you will want your audience to leave with.

Table 21.1 Elements to consider when planning for your audience

Element	Purpose
Aim	What did my research aim to accomplish and why is it important
Process	How did I go about conducting my research and what did I do to ensure quality
Concepts	What are the main ideas that someone needs to know to make sense of my topic and how are they integrated into my research plan
Findings	What were my results and under what circumstances are they valid
Connection	How are my findings connected to what else we know about this topic and why are they important

Once we determine who our audience is, we can further tailor our dissemination plan to that specific group. Of course, we may be presenting our findings in more than one venue, and in that case, we will have multiple plans that will meet the needs of each specific audience.

It's a good idea to pitch your plan first. However you plan to present your findings, you will want to have someone preview before you share with a wider audience. Ideally, whoever previews will be a person

from your target audience or at least someone who knows them well. Getting feedback can go a long way in helping us with the clarity with which we convey our ideas and the impact they have on our audience. This might involve giving a practice speech, having someone review your article or report, or practice discussing your research one-on-one, as you would with a poster presentation. Let's talk about some specific audiences that you may be targeting and their unique needs or expectations.

Below I will go through some brief considerations for each of these different audiences. I have tried to focus this discussion on elements that are relevant specific to qualitative studies since we do revisit this topic in Chapter 24.



Research community

When presenting your findings to an academic audience or other research-related community, it is probably safe to a make a few assumptions. This audience is likely to have a general understanding of the research process and what it entails. For this reason, you will have to do less explaining of research-related terms and concepts. However, compared to other audiences, you will probably have to provide a bit more detail about what steps you took in your research process, especially as they relate to qualitative rigor, because this group will want to know about how your research was carried out and how you arrived at your decisions throughout the research process. Additionally, you will want to make a clear connection between which qualitative design you chose and your research question; a **methodological justification**. Researchers will also want to have a good idea about how your study fits within the wider body of scientific knowledge that it is related to and what future studies you feel are needed based on your findings. You are likely to encounter this audience if you are disseminating through a peer-reviewed journal article, presenting at a research conference, or giving an invited talk in an academic setting.

Professional community

We often find ourselves presenting our research to other professionals, such as social workers in the field. While this group may have some working knowledge of research, they are likely to be much more focused on how your research is related to the work they do and the clients they serve. While you will need to convey your design accurately, this audience is most likely to be invested in what you learned and what it means (especially for practice). You will want to set the stage for the discussion by doing a good job expressing your connection to and passion for the topic (a **positionality statement** might be particularly helpful here), what we know about the issue, and why it is important to their professional lives. You will want to give good **contextual** information for your qualitative findings so that practitioners can know if these findings might apply to people they work with. Also, as since social work practitioners generally place emphasis on person-centered practice, hearing the direct words of participants (quotes) whenever possible, is likely to be impactful as we present qualitative results. Where academics and researchers will want to know about implications for future research, professionals will want to know about implications for how this information could help transform services in the future or understand the clients they serve.

Lay community

The lay community are people who don't necessarily have specialized training or knowledge of the subject, but may be interested or invested for some other reason; perhaps the issue you are studying affects them or a loved one. Since this is the general public, you should expect to spend the most time explaining scientific knowledge and research processes and terminology in accessible terms. Furthermore, you will want to invest some time establishing a personal connection to the topic (like I talked about for the professional community). They will likely want to know why you are interested and why you are a credible source for this information. While this group may not be experts on research, as potential members of the group(s) that you may be researching, you do want to remember that they are experts in their own community. As such, you will want to be especially mindful of approaching how you present findings with a sense of cultural humility (although hopefully you have this in mind across all audiences). It will be good to discuss what steps you took to ensure that your findings accurately reflect what participants shared with you (**rigor**). You will want to be most clear with this group about what they should take away, without overstating your findings.

Regardless of who your audience is, remember that you are an ambassador. You may represent a topic, a population, an organization, or the whole institution of research, or any combination of these. Make sure to present your findings honestly, ethically, and clearly. Furthermore, I'm assuming that the research you are conducting is important because you have spent a lot of time and energy to arrive at

your findings. Make sure that this importance comes through in your dissemination. Tell a compelling story with your research!

Exercises

Who needs to hear the message of your qualitative research?

What will they know in advance?

- Example. If you are presenting your research about caregiver fatigue to a caregiver support group, you won't need to spend time describing the role of caregivers because your audience will have lived experience.

What terms will they likely already be familiar with and which ones will require additional explanation?

- Example. If you are presenting your research findings to a group of academics, you wouldn't have to explain what a sampling frame is, but if you are sharing it with a group of community members from a local housing coalition, you will need to help them understand what this is (or maybe use a phrase that is more meaningful to them).

What will your audience be looking for?

- Example. If you are speaking to a group of child welfare workers about your study examining trauma-informed communication strategies, they are probably going to want to know how these strategies might impact the work that they do.

What is most impactful or valued by your audience?

- Example. If you are sharing your findings at a meeting with a council member, it may be especially meaningful to share direct quotes from constituents.

Purpose

Being clear about the purpose of your research from the outset is immeasurably helpful. What are you hoping to accomplish with your study? We can certainly look to the overarching purpose of qualitative research, that being to develop/expand/challenge/explore understanding of some topic. But, what are you specifically attempting to accomplish with your study? Two of the main reasons we conduct research are to raise awareness about a topic and to create change around some issue. Let's say you are conducting a study to better understand the experience of recidivism in the criminal justice system. This is an example of a study whose main purpose is to better understand and raise awareness around a particular social phenomenon (recidivism). On the other hand, you could also conduct a study that examines the use of strengths-based strategies by probation officers to reduce recidivism. This would fall into the category of research promoting a specific change (the use of strengths-based strategies among probation officers). I would wager that your research topic falls into one of these two very broad categories. If this is the case, how would you answer the corresponding questions below?

Exercises

Are you seeking to raise awareness of a particular issue with your research? If so,

- Whose awareness needs raising?
- What will "speak" most effectively to this group?
- How can you frame your research so that it has the most impact?

Are you seeking to create a specific change with your research? If so,

- What will that change look like?
- How can your research best support that change occurring?
- Who has the power to create that change and what will be most compelling in reaching them?

How you answer these questions will help to inform your dissemination plan. For instance, your dissemination plan will likely look very different if you are trying to persuade a group of legislators to pass a bill versus trying to share a new model or theory with academic colleagues. Considering your purposes will help you to convey the message of your research most effectively and efficiently. We invest a lot of ourselves in our research, so make sure to keep your sights focused on what you hope to accomplish with it!

Content and context

As a reminder, qualitative research often has a dual responsibility for conveying both content and context. You can think of **content** as the actual data that is shared with us or that we obtain, while **context** is the circumstances under which that data sharing occurs. Content conveys the message and context provides us the clues with which we can decode and make sense of that message.

> *Example. We might conduct a phenomenological study (a type of qualitative study design we discuss further in Chapter 22) about what it means to be a first-generation college student. To accomplish this, we might be conducting in-depth interviews with a number of first-generation college students across a number of colleges and universities. The interview data that participants share with us will be the content for our analysis. However, there may be many elements that inform the context of the study: the reason for conducting the study in the first place (perhaps you, as the researcher, are a first-generation college student); the various supports, or lack thereof, at the schools that these students attend; the diverse backgrounds that these students represent; and the political climate in the country towards higher education.*

While quantitative research may provide some contextual information, especially in regards to describing its sample, it rarely receives as much attention or detail as it does in qualitative studies.

Because of this, you will want to plan for how you will attend to both the content and context of your study in planning for your dissemination.

Key Takeaways

- Research is an intentional act; you are trying to accomplish something with it. To be successful, you need to approach dissemination planfully.
- Planning the most effective way of sharing our qualitative findings requires looking beyond what is convenient or even conventional, and requires us to consider a number of factors, including our audience, the purpose or intent of our research and the nature of both the content and the context that we are trying to convey.

21.4 Final product taking shape

Learning Objectives

Learners will be able to...

- Evaluate the various means of disseminating research and consider their applicability for your research project
- Determine appropriate building blocks for designing your qualitative research product

As we have discussed, qualitative research takes many forms. It should then come as no surprise that qualitative research products also come in many different packages. To help guide you as the final products of your research take shape, we will discuss some of the building blocks or elements that you are likely to include as tools in sharing your qualitative findings. These are the elements that will allow you to flesh out the details of your dissemination plan.

Building blocks

There are many building blocks that are at our disposal as we formulate our qualitative research product(s). Quantitative researchers have charts, graphs, tables, and narrative descriptions of numerical output. These tools allow the quantitative researcher to tell the story of their research with numbers. As qualitative researchers, we are tasked with telling the story of our research findings as well, but our tools look different. While this isn't an exhaustive list of tools that are at our disposal as qualitative

researchers, a number of commonly used elements in sharing qualitative findings are discussed here. Depending on your study design and the type of data you are working with, you may use one or some combination of the building blocks discussed below.

Themes

Themes are a very common element when presenting qualitative research findings. They may be called themes, but they may also go by other names: categories, dimensions, main ideas, etc. Themes offer the qualitative researcher a way to share ideas that emerged from your analysis that were shared by multiple participants or across multiple sources of data. They help us to distill the large amounts of qualitative data that we might be working with into more concise and manageable pieces of information that are more consumable for our audience. When integrating themes into your qualitative research product, you will want to offer your audience: the title of the theme (try to make this as specific/meaningful as possible), a brief description or definition of the theme, any accompanying dimensions or sub-themes that may be relevant, and examples (when appropriate).

Quotes

Quotes offer you the opportunity to share participants' exact words with your audience. Of course, we can't only rely on quotes, because we need to knit the information that is shared into one cohesive description of our findings and an endless list of quotes is unlikely to support this. Because of this, you will want to be judicious in selecting your quotes. Choose quotes that can stand on their own, best reflect the sentiment that is being captured by the theme or category of findings that you are discussing, and are likely to speak to and be understood by your audience. Quotes are a great way to help your findings come alive or to give them greater depth and significance. If you are using quotes, be sure to do so in a balanced manner—don't only use them in some sections but not others, or use a large number to support one theme and only one or two for another. Finally, we often provide some brief demographic information in a parenthetical reference following a quote so our reader knows a little bit about the person who shared the information. This helps to provide some context for the quote.

Kohli and Pizarro (2016)[2] provide a good example of a qualitative study using quotes to exemplify their themes. In their study, they gathered data through short-answer questionnaires and in-depth interviews from racial-justice oriented teachers of Color. Their study explored the experiences and motivations of these teachers and the environments in which they worked. As you might guess, the words of the teacher-participants were especially powerful and the quotes provided in the results section were very informative and important in helping to fulfill the aim of the research study. Take a few minutes to review this article. Note how the authors provide a good amount of detail as to what each

of the themes meant and how they used the quotes to demonstrate and support each theme. The quotes help bring the themes to life and anchor the results in the actual words of the participants (suggesting greater **trustworthiness** in the findings).

Example. Let's say you have been interviewing teenagers about communication they have received on the topic Covid-19 and their understanding of it. Below is an example of a theme and quotes that you share in your results section after completing your analysis.

Themes: Teenagers often receive conflicting information about Covid-19 and evaluating these messages seems like an impossible task. Many teens described feeling bombarded by messages surrounding Covid-19 from sources including their parents/guardians, the news, their friends, social media, their teachers, and employers. They identify that these messages are often in conflict with one another. Teens commented that most of the time these messages were delivered with heightened affect and strong emotional expressions, drawing in their attention, but making it hard to know what to make of any of it. These tensions often led to feelings of helplessness or apathy.

> "I just feel so frustrated. Talk about it is everywhere and non-stop, in our Zoom class sessions, around the dinner table, on Instagram and it feels like everyone is either yelling or confused. It's just so exhausting. How are we supposed to know who we should listen to? It doesn't even seem worth it to try, because then more information comes out. I usually just try to tune it all out."

Figure 21.1 below offers a more extensive example of a theme being reported along with supporting quotes from a study conducted by Karabanow, Gurman, and Naylor (2012).[3] This study focused on the role of work activities in the lives of "Guatemalan street youth". One of the important themes had to do with intersection of work and identity for this group. In this example, brief quotes are used within the body of the description of the theme, and also longer quotes (full sentence(s)) to demonstrate important aspects of the description.

Figure 21.1. Example theme from Karabanow et al. 2012

Work-based Identity: Creativity and Self-Worth

Work, be it formal or informal, is beneficial for street youth not only for its financial benefits; but it helps youth to develop and rebuild their sense of self, to break away from destructive patterns, and ultimately contributes to any goals of exiting street life. Although many of the participants were aware that society viewed them as "lazy" or "useless," they tended to see themselves as contributing members of society earning a valid and honest living. One participant said, "Well, a lot of people say, right? 'The kid doesn't want to do anything. Lazy kid' right? And I wouldn't like for people to say that about me, I'd rather do something so that they don't say that I'm lazy. I want to be someone important in life." This youth makes an interesting and important connection in this statement: he intrinsically associates "being someone" with "doing something" – he accepts the work-based identity that characterizes much of contemporary capitalist society. Many of the interviews subtly enforced this idea that in the informal economy, as in the formal economy, "who one is" is largely dependent on "what one does." This demonstrates two important ideas: that street youth working in the informal sector are surprisingly 'mainstream' in their underlying beliefs and ambitions, and that work – be it formal or informal – plays a crucial role in allowing street youth, who have often dealt with trauma, isolation and low self-esteem, to rebuild a sense of self-worth.

Many of the youth involved in this study dream of futures that echo traditional ideals: "to have my family all together…to have a home, or rather to have a nice house…to have a good job." Several explained that this future is unattainable without hard work; many viewed those who "do nothing" as people who "waste their time" and think that "your life isn't important to you." On the other hand, those who value their lives and wish to attain a future of "peace and tranquility" must "look for work, that's what needs to be done to have that future because if God allows it, in the future maybe you can find a partner, form a family and live peacefully." For these youth, working – be it in the formal or informal sector – is essential to a feeling of "moving forward (*seguir adelante*)." This movement forward begins with self-esteem. Although the focus of this study was not the troubled pasts of the participants, many alluded to the difficulties they have faced and the various traumas that forced them onto the streets. Several of the youth noted that working was a catalyst in rebuilding positive feelings about oneself: one explained, "[When I'm working,] I feel happy, powerful…Sometimes when I go out to sell, I feel happy." Another said:

> For me, when I'm working I feel free because I know that I'm earning my money in an honest way, not stealing right. Because when you're stealing, you don't feel free, right? Now when you're working, you're free, they can't arrest you or anything because you're selling. Now if you're stealing and everything, you don't feel free. But when you're selling you feel free, out of danger.

This feeling of being "free" or "powerful" rests on the idea that money is "earned" and not stolen; being able to earn money is associated with being "someone," with being a valid and contributing member of society.

In addition, work helps street youth to break away from destructive patterns. One participant spoke of her experience working full time at a café:

> For me, working means to be busy, to not just be there….It helps us meet other people, like new people and not to be always in the same scene. Because if you're not busy, you feel really bored and you might want to, I don't know, go back to the same thing you were in before…you even forget your problems because you're keeping busy, you're talking to other people, people who don't know you.

For this participant, a formal job was beneficial in that it supplied her with a daily routine and allowed her to interact with non-street people – these factors helped to separate her from the destructive lifestyle of the street, and helped her to "move forward." Although these benefits are indeed most obvious with formal employment, many participants spoke of the positive effects of informal work as well, although to varying degrees. In Guatemala, since the informal economy accounts for over half of the country's GNP, there is a wide range of under-the-table informal work available. These jobs frequently bring youth out of the street context and, therefore, provide similar benefits to a formal job, as described by the above participant. As to informal work that takes place on the street, such as hawking or car watching, the benefits of work are present, although to a different degree. Even hawking, for example, gives young workers a routine and a chance to interact with non-street people. As one young man continuously emphasized throughout his interview, "work helps you to keep your mind busy, to be in another mind-set, right? To not be thinking the same thing all the time: 'Oh, drugs, drugs, drugs…'" As explained earlier, the code of the hawking world dictates that vendors cannot sell while high

– just like a formal job, hawking helps to distance youth workers from some of their destructive street habits. However, as one participant thoughtfully noted, it is difficult to break these habits when one is still highly embroiled in street culture; "it depended on who was around me because if they were in the same problems as I was, I stopped working and I started doing the same as they did. And if I was surrounded by serious people, then I got my act together." While certain types of informal work, like cleaning or waitressing, can help youth to distance themselves from destructive patterns, others, such as car watching and selling, may not do enough to separate youth from their peers. While the routine and activity do have positive effects, they often are not sufficient.

Among some of the participants, there was the sentiment that informal work could function as a transition stage towards exiting the street; it could "change your life." One participant said "there are lots of vendors who've gotten off the streets, if you make an effort, you go out to sell, you can get off the street. Like myself, when I was selling, I mean working, I got off the street, I went home and I managed to stay there quite a long time." One might credit this success to several factors: first, the money the seller may have been able to save and accumulate; second, the routine of selling may have helped the seller to break from destructive patterns, such as drug use, and also prepared the seller for the demands of formal sector employment; and, thirdly, selling may have enabled the seller to develop the necessary confidence and sense of self to attempt exiting the street.

Pictures or videos

If our data collection involves the use of photographs, drawings, videos or other artistic expression of participants or collection of artifacts, we may very well include selections of these in our dissemination of qualitative findings. In fact, if we failed to include these, it would seem a bit inauthentic. For the same reason we include quotes as direct representations of participants' contributions, it is a good idea to provide direct reference to other visual forms of data that support or demonstrate our findings. We might incorporate narrative descriptions of these elements or quotes from participants that help to interpret their meaning. Integrating pictures and quotes is especially common if we are conducting a study using a Photovoice approach, as we discussed in Chapter 17, where a main goal of the research technique is to bring together participant generated visuals with collaborative interpretation.

Take some time to explore the website linked here. It is the webpage for The Philidelphia Collaborative for Health Equity's PhotoVoice Exhibit Gallery and offers a good demonstration of research that brings together pictures and text.

Graphic or figure

Qualitative researchers will often create a graphic or figure to visually reflect how the various pieces of your findings come together or relate to each other. Using a visual representation can be especially compelling for people who are visual learners. When you are using a visual representation, you will want to: label all elements clearly; include all the components or themes that are part of your findings; pay close attention to where you place and how you orient each element (as their spatial arrangement carries meaning); and finally, offer a brief but informative explanation that helps your reader to interpret

your representation. A special subcategory of visual representation is process. These are especially helpful to lay out a sequential relationship within your findings or a model that has emerged out of your analysis. A process or model will show the 'flow' of ideas or knowledge in our findings, the logic of how one concept proceeds to the next and what each step of the model entails.

Noonan and colleagues (2004)[4] conducted a qualitative study that examined the career development of high achieving women with physical and sensory disabilities. Through the analysis of their interviews, they built a model of career development based on these women's experiences with a figure that helps to conceptually illustrate the model. They place the 'dyanmic self' in the center, surrounded by a dotted (permeable) line, with a number of influences outside the line (i.e. family influences, disability impact, career attitudes and behaviors, sociopoltical context, developmental opportunities and social support) and arrows directed inward and outward between each influence and the dynamic self to demonstrate mutual influence/exchange between them. The image is included in the results section of their study and brings together "core categories" and demonstrates how they work together in the emergent theory or how they relate to each other. Because so many of our findings are dynamic, like Noonan and colleagues, showing interaction and exchange between ideas, figures can be especially helpful in conveying this as we share our results.

Example
Figure 21.2 was created by Ede and Starrin (2014)[5] in their qualitative study examining the experience of workers who have to take time off employment for mental health reasons. It shows how the various themes (and subthemes) relate to each other, informing the linear process they depict.

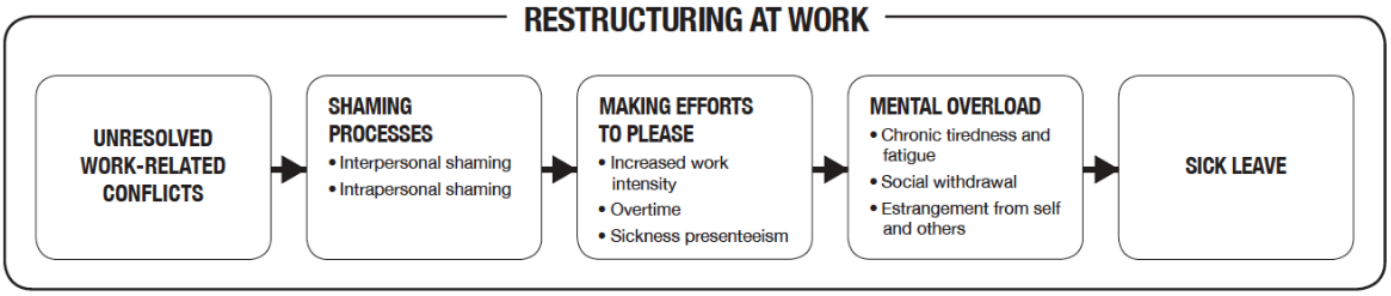


Figure 21.2 Figure illustrating qualitative results

Composites

Going one step further than the graphic or figure discussed above, qualitative researchers may decide to combine and synthesize findings into one integrated representation. In the case of the graphic or figure, the individual elements still maintain their distinctiveness, but are brought together to reflect how they are related. In a composite however, rather than just showing that they are related (static), the audience

actually gets to 'see' the elements interacting (dynamic). The integrated and interactive findings of a composite can take many forms. It might be a written narrative, such as a fictionalized case study that reflects of highlights the many aspects that emerged during analysis. It could be a poem, dance, painting or any other performance or medium. Ultimately, a composite offers an audience a meaningful and comprehensive expression of our findings. If you are choosing to utilize a composite, there is an underlying assumption that is conveyed: you are suggesting that the findings of your study are best understood holistically. By discussing each finding individually, they lose some of their potency or significance, so a composite is required to bring them together. As an example of a composite, consider that you are conducting research with a number of First Nations Peoples in Canada. After consulting with a number of Elders and learning about the importance of oral traditions and the significance of storytelling, you collaboratively determine that the best way to disseminate your findings will be to create and share a story as a means of presenting your research findings. The use of composites also assumes that the 'truths' revealed in our data can take many forms. The Transgender Youth Project hosted by the Mandala Center for Change, is an example of legislative theatre combining research, artistic expression, and political advocacy and a good example of action-oriented research.

Counts

While you haven't heard much about numbers in our qualitative chapters, I'm going to break with tradition and speak briefly about them here. For many qualitative projects we do include some numeric information in our final product(s), mostly in the way of counts. Counts usually show up in the way of frequency of demographic characteristics of our sample or characteristics regarding our artifacts, if they aren't people. These may be included as a table or they may be integrated into the narrative we provide, but in either case, our goal in including this information is to offer the reader information so they can better understand who or what our sample is representing. The other time we sometimes include count information is in respect to the frequency and coverage of the themes or categories that are represented in our data. Frequency information about a theme can help the reader to know how often an idea came up in our analysis, while coverage can help them to know how widely dispersed this idea was (e.g. did nearly everyone mention this, or was it a small group of participants).

Key Takeaways

- There are a wide variety of means by which you can deliver your qualitative research to the public. Choose one that takes into account the various considerations that we have discussed above and also honors the ethical commitments that we outlined early in this chapter.

- Presenting qualitative research requires some amount of creativity. Utilize the building blocks discussed in this chapter to help you consider how to most authentically and effectively convey your message to a wider audience.

Exercises

- What means of delivery will you be choosing for your dissemination plan?
- What building blocks will best convey your qualitative results to your audience?

Media Attributions

- woman with megaphone © mohamed_hassan
- Giraffe through window © Karen Arnold is licensed under a Public Domain license
- audience © Linnaea Mallette is licensed under a Public Domain license
- restructuring at work © Ede, L. & Starrin, B. is licensed under a CC BY (Attribution) license

Notes

1. National Association of Social Workers. (2017). NASW code of ethics. Retrieved from https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English
2. Kohli, R., & Pizarro, M. (2016). Fighting to educate our own: Teachers of Color, relational accountability, and the struggle for racial justice. *Equity & Excellence in Education*, 49(1), 72-84.
3. Karabanow, J., Gurman, E., & Naylor, T. (2012). Street youth labor as an Expression of survival and self-worth. *Critical Social Work*, 13(2).
4. Noonan, B. M., Gallor, S. M., Hensler-McGinnis, N. F., Fassinger, R. E., Wang, S., & Goodman, J. (2004). Challenge and success: A Qualitative study of the career development of highly achieving women with physical and sensory disabilities. *Journal of Counseling Psychology*, 51(1), 68.
5. Ede, L., & Starrin, B. (2014). Unresolved conflicts and shaming processes: risk factors for long-term sick leave for mental-health reasons. *Nordic Journal of Social Research*, 5, 39-54.

22. A survey of qualitative designs

Chapter Outline

1. Case study (12 minute read)
2. Constructivist (9 minute read)
3. Oral history (10 minute read)
4. Ethnography (8 minute read)
5. Phenomenology (9 minute read)
6. Narrative (9 minute read)

Content warning: Examples in this chapter contain references to research as a bullying, housing insecurity, suicide, environmental oppression, race and access to leadership, older adult residential care, LGBTQ+ rights, immigration experiences, the lived experience of being a Person of Color in the United States, case management, discrimination, having a chronic disease or condition, HIV, religion, and sex work.

Qualitative inquiry reflects a rich diversity of approaches with which we can explore the world. These approaches originate from philosophical and theoretical traditions that offer different strategies for us to systematically examine social issues. The placement of this chapter presented challenges for us. In many respects, your choice of design type is central to your research study, and might very well be one of the first choices you make. Based on this, we had considered leading off our qualitative section with this chapter, thereby exposing you to a range of different types of designs. Obviously, we had second thoughts. We ended up putting it at the end because we realized that if we opened up with this part of the discussion, you really wouldn't have the background information to help you make sense of some of the differences between the various designs. Throughout our exploration of qualitative design thus far, we have discussed a number of decision points for you to consider as you design your study. Each of these decisions ties into your research question and ultimately will also be informed by, and help to inform, your research design choice. Your design choice truly reflects how these design elements are being brought together to respond to your research question and tell the story of your findings.

As we discussed in Chapter 19, qualitative research tends to flow in an iterative vein, suggesting that we are often engaged in a cyclical process. This is true in the design phase of your study as well. You may revisit preliminary plans and decide that you now want to make changes to more effectively address the way in which you understand your research question or to improve the quality of your overall design. Don't beat yourself up for this, this is part of the creative process of research! There is no perfect design and you are much better served by being a dynamic and critical thinker during the design process, rather than rigidly adhering to the first idea that comes along. We will now explore six different qualitative designs. Each will just be a brief introduction to that particular type of research, including what the main purpose of that design is and some basic information about conducting research in that

vein. If you are interested in creating a proposal using a particular design, a number of resources and example studies are provided for each category.

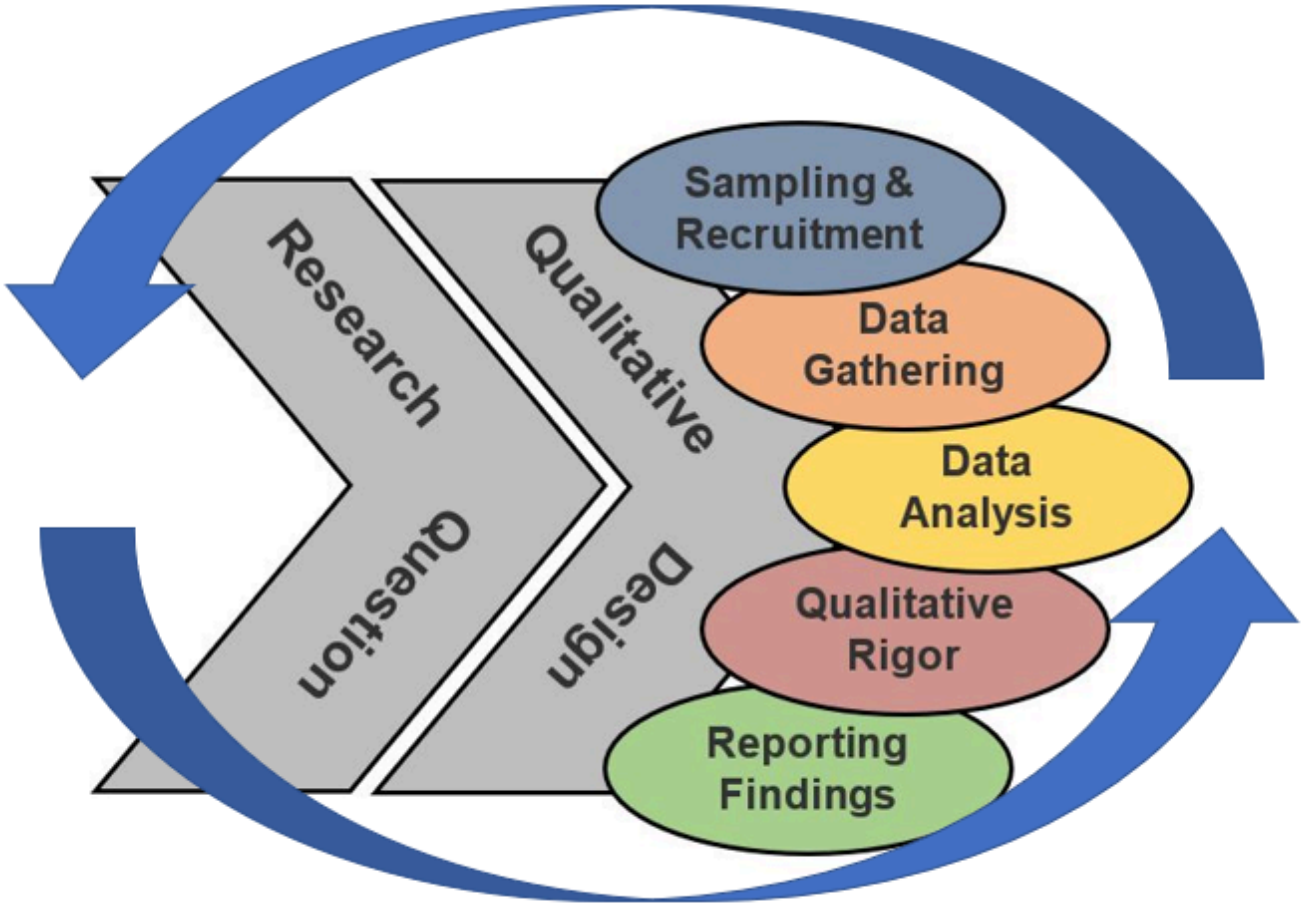


Figure 22.1 Representation of qualitative research process

Exercises

Below is a brief checklist and justification questions to help you think about consistency across your qualitative design. When you have finished this chapter, come back to this exercise and see if you can complete this as it applies to your proposal.

- Is my research question a good fit for a qualitative approach?
    - If yes, explain why this is:
    - If no, consider a quantitative approach, or revising your research question so it is a better fit.

- Is my research question a good fit for the specific qualitative research design I have chosen?
    - If yes, explain why this is:
    - If no, explain why not, and what approach you might consider as an alternative:
    - If you're not yet sure about which design you might choose, review the ones discussed in this chapter and consider what the value/purpose of each of them is. Which one seems like the best match for your question? (if you still aren't sure, it might be good to consult with your professor)

22.1 Case study

Learning Objectives

Learners will be able to...

- Begin to distinguish key features that are associated with case study design
- Determine when a case study design may be a good fit for a qualitative research study

What is the purpose of case study research?

We've already covered that qualitative research is often about developing a deep understanding of a topic from a relatively small sample, rather than a broader understanding from the many. This is especially true for case study research. **Case studies** are essentially a 'deep dive' into a very focused topic. Skeptics of qualitative research often discount the value in studying the experiences and understandings of individuals and small groups, arguing that this type of research produces little value because it doesn't necessarily apply to a large number of people (i.e. produce **generalizable findings**). Hopefully you recognize the **positivist** argument here. These folks are likely to be unimpressed with the narrow focus that a case study adopts, suggesting that the restricted purview of a case study has little value to the scientific community. However, **interpretativist** qualitative researchers would counter that by thoroughly studying people, interactions, events, and the context in which they occur, researchers uncover key information about human beings, social interactions, and the nature of society itself. Remember, from this interpretative philosophical orientation we are not looking for what is "true" for the many, but we are seeking to recognize and better understand the complexity of life and human experiences; the multiple truths of a few. Case studies can be excellent for this!

Part of the allure of case studies stem from their diversity. You might choose to study:

- **Individuals**, *such as a client with a unique need or a social worker with a unique position*
- **Small Groups**, *such as a newly formed anti-bullying student task force at a school*
- **Population** (usually relatively small), *such as the residents of a subsidized housing community that are losing their homes in a gentrifying area*
- **Events**, *such as a member of a senior center dying by suicide*
- **Process**, *such as a community organizing entity targeting a local ordinance allowing waste storage in a community with few socioeconomic resources*

If we choose to utilize a case study design for our research, the use of theory can be incredibly helpful to guide and support our purpose throughout the research process. The Writing Center at Colorado State University offers a very helpful web resource for all aspects of case study development, and one page is specifically dedicated to theoretical application for case study development. They outline three general categories of theory: individual theories, organizational theories, and social theories, all of which case study researchers might draw from. These are especially helpful for us as social work researchers,who may focus on research across micro, mezzo, and macro environments (as evidenced in the aforementioned case study examples). For instance, if you are the researcher in the last example, looking at community members challenging a local ordinance, you might draw on Community Organizing Theory and Capabilities Perspective to structure your study. As an alternative, if you are studying the experience of the first Black woman board president of a national organization, you might borrow from Minority Stress and Strengths Perspective as models as you develop your inquiry. Whatever your focus, theory can be an important tool to aid in orienting and directing your work.



What is involved with case study research?

Due to the diversity of topics studied and types of case study design, no two case studies look alike (just like snowflakes). For this reason, I'm going to focus this section on some common hallmarks of case studies that will hopefully help you as you think about designing and consuming case study research.

As the name implies, our emphasis with case study research is to provide an understanding of a specific case. The range of what qualifies as a case is extensive, but regardless, we are primarily aiming to explore and describe what is going on in the given case we are studying. As case study researchers, this means we need to work hard to gather rich details. We aren't satisfied with surface, generic overviews or summaries, as these won't provide the multidimensional understanding we are hoping for. Thinking back to our chapter on qualitative rigor, a case study researcher might aim to produce a **thick description** with the details they gather as a sign of **rigor** in their work. To gather these details, we need to be open to subtleties and nuances about our topic. If we are expending the energy to study a case in this level of detail, the research assumptions are that the case could provide valuable information and that we currently know relatively little about this case. As such, we don't want to assume that we know what we are looking for. This means that we need to build in ways to capture unanticipated data and check our own assumptions as we design and conduct our study. We might use tools like reflexive journaling and peer debriefing to support rigor in this area.

Another good way to demonstrate both rigor and cultural humility when using this approach is engage stakeholders actively throughout the research process who are intimately involved with the case. This demonstrates good research practice in at least two ways. It potentially helps you to gather relevant and more meaningful data about the case, as a person who is connected to the case will likely know what to look for and where. Secondly, and more importantly, it reflects transparency and respect for the subjects of the case you are studying.

Another key feature of most case studies is that they don't rely on one source of data. Again, returning to our exploration of qualitative rigor, triangulation is a very important concept for case study research. Because our target is relatively narrow in case study design, we often try to approach understanding it from many different angles. As a metaphor, you might think of developing a 360° view of your case. What level of dimensionality can you introduce by looking at different types of data or different perspectives on the issue you are studying? While other types of qualitative research may rely solely on data collected from one method, such as interviews, case studies traditionally require multiple. So, in the example above where you are studying the residents of a subsidized housing community that are losing their homes in a gentrifying area, you might decide to gather data by:

- Conducting interviews with residents
- Making observations in the community
- Attending community meetings
- Conducting key informant interviews with clergy, educators, human service providers, librarians,

historians, and local politicians who serve the area
- Examining correspondence that community members share with you about the impending changes
- Examining media coverage about the impending changes

Furthermore, if you are invested in engaging stakeholders as discussed above, you could form a resident advisory group that would help to oversee the research process in its entirety. Ideally this group would have input into how results are shared and what they would hope to gain as a result of the study (i.e. what kind of change would they like to see come from this).

Case studies can often draw out the creativity in us as we consider the range of sources we may want to tap for data on our case. Of course, this creativity comes at a price, in that we invite the challenge of designing **research protocols** for all these different methods of data collection and address them thoroughly in our IRB applications! Finally, with the level of detail and variety of data sources we have already discussed, case studies endeavor to pay attention to and provide a good accounting of **context**. If we are working to provide a rich, thick description of our case, we need to offer our audience information about the context in which our case exists. This can mean that we collect data on a range of things that might include:

- the socio-polticial environment surrounding our case
- the background or historical information that preceded our case
- the demographic information that helps to describe the local community that our case exists in

As you consider what contextual information you plan to gather and share, stay fluid. Again, it is likely that we won't know in advance the many contextual features that are reflected in our case. If you are doing a good job listening to your participants and engaging stakeholder in your process, they will tell you what is important to note. As social workers, we draw on a person-in-environment approach to help us conceptualize the ways in which our clients interact with the world around them and the challenges they encounter. Similarly, as researchers, we want to conceptualize case study-in-environment as we are developing our case study projects.

Key Takeaways

- Case studies offer an effective qualitative design when seeking to describe or understand a very specific phenomenon in great detail. The focus of a "case" can cover a range of different topics, including a person, a group, an event or a process.
- The design of a case study usually involves capturing multiple sources of data to help generate a rich understanding of both the content and the context of the case.

Exercises

Based on your social work passions and interests:

- What is a specific topic you feel might be well-suited for a case study?
- What potential sources of data would you use for your case study?
- What sorts of contextual information would you want to make sure to search for to get a really comprehensive understanding of your case?

Resources

To learn more about case study research

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers.

Gibbs, G.R. (2012, October, 24). Types of case studies: Part 1 of 3 on case studies.

Gibbs, G.R. (2012, October, 24). Planning a case study: Part 2 of 3 on case studies.

Gibbs, G.R. (2012, October, 24). Replication or single cases: Part 3 of 3 on case studies.

Harrison et al. (2017). Case study research: Foundations and methodological orientations.

Hyett et al. (2014). Methodology or method? A critical review of qualitative case study reports.

Lock, I., & Seele, P. (2018). Gauging the rigor of qualitative case studies in comparative lobbying research. A framework and guideline for research and analysis.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage publications.

Starman, A. B. (2013). The case study as a type of qualitative research.

Writing@CSU, the Writing Studio: Colorado State University (n.d.). Case studies.

Yin, R. K. (2014). *Case study research and applications: Design and methods*. Thousand Oaks, CA: Sage publications.

For examples of case study research

Chan, C., & Holosko, M. J. (2017). The utilization of social media for youth outreach engagement: A case study.

Gabriel, M. G. (2019). Christian faith in the immigration and acculturation experiences of Filipino American youth.

Paddock et al. (2018). Care home life and identity: A qualitative case study.

22.2 Constructivist

Learning Objectives

Learners will be able to...

- Begin to distinguish key features that are associated with constructivist design
- Determine when a constructivist design may be a good fit for a qualitative research study

What is the purpose of constructivist research?

Constructivist research seeks to develop a deep understanding of the meaning that people attach to events, experiences, or phenomena. It draws heavily from the idea that our realities are constructed through shared social interaction, within which each person holds a unique perspective that is anchored in their own position (where they are situated in the world) and their evolving life experiences to date. Constructivist research then seeks to bring together unique individual perspectives around a common topic or idea (the basis of the research question), to determine what a shared understanding for this particular group of participants might be. By developing a common or shared understanding, we are better able to appreciate the multiple sides or facets of any given topic, helping us to better appreciate the richness of the world around us. You can think about constructivist research as being akin to cultural humility. When we approach practice with a sense of cultural humility, we assume that people who participate in a shared culture experience it from their own unique perspective. As we work with them, we try our best to understand and respect their personal understanding of that culture. Similarly, in constructivist research, we attempt to bring together (and honor) these unique individual perspectives on a given topic and construct a shared understanding, attempting to take what might be one-dimensional and making it multidimensional.

Constructivist research, as a method of inquiry, originated out of the work of Lincoln and Guba (1985),[1] although it was initially termed "naturalism". In stark contrast to more **positivist** research traditions that make the assumption that the broad aim of research as an approach to knowledge building is to produce generalizable findings, constructivist research assumes that any knowledge produced through the research process is **context-dependent**. This means that constructivist findings are specific to those who contributed to that knowledge building and the situation in which it took place. That isn't to say that these results might not have broader value or application, but the aim of the constructivist researcher is not to make that claim. The aim of the constructivist design is to provide a rich, full, detailed account of both the research process and the research findings. This inlcudes a detailed

description of the context in which the research is taking place. In this way, the research consumer can determine the value and application of the research findings. The video by Robertson (2007)[2] in the resources box offers a good overview of this methodology and many of the assumptions that underlie this approach.



If you are a researcher considering a constructivist design, Rodwell (1998)[3] suggests that you should consider the focus, fit, and feasibility of your study for this particular methodology. While she provides a very helpful discussion across all three areas, her attention to 'fit' for constructivist inquiry is perhaps most relevant for our abbreviated overview of this methodology. In her discussion of 'fit', Rodwell argues that research questions well-suited for constructivist research are:

- Multi-dimensional: meaning that multiple constructions or understandings of the "reality" of the topic are being sought
- Investigator interactive: meaning that the topic is susceptible to researcher influence by virtue of the researcher having to be very involved in data collection and therefore accountable for considering their role in the knowledge production process
- Context-dependent: meaning that the circumstances surrounding the participants and the research process must be taken into account
- Complex: meaning we should assume there are multiple causes that contribute to the problem

under investigation (and that the research is seeking to explore, rather than collapse that complexity)
- Value-laden: meaning that the topic we are studying is best understood in a way that accounts for the diverse values and opinions people attach to it.

What is involved with constructivist research?

As you may have surmised from the discussion above, the cornerstone of constructivist research is the researcher engaging in immersive exchanges with participants in an effort to 'construct' the meaning that they attach to the topic being studied.

Again, drawing on Rodwell's (1998) [4] description of this methodology, a constructivist researcher needs to recruit a [pb_glossaryid="918"]**purposive**[/pb_glossary] sample that has unique and diverse first-hand knowledge of the topic being studied. They will gather data from this sample regarding their respective realities or understandings of the topic. They will attempt to account for the context in which the study is taking place (including the researcher's own influence as a **human instrument**). Throughout the analysis process they will work towards producing **negotiated outcomes**, taking time to clarify and verify that findings accurately capture the sentiment of participants; treating participants as experts in their own reality. Finally, they will bring this knowledge together in a way that attempts to reflect the complex and multidimensional understandings of the topic being studied.

Constructivist research findings are well-suited for being presented as a case report. This allows for many realities or understandings of a given topic to be constructed. When you think about the value of constructivist research for social work, review some of the research articles listed below as examples. Envision using the findings from Allen's (2011)[5] study about women's resistance to abuse to help us improve shelter-based intervention and public health prevention efforts. Also, as a manager in an older adult care facility, you could use Cook and Brown-Wilson's (2011)[6] work focused on nursing home residents and their social relationships with staff to help inform ongoing staff training efforts that are more centered in nurturing social connections.

Key Takeaways

- Constructivist studies are well suited to develop a rich, multidimensional understanding of a topic through the extensive study of the experience of that topic across multiple observers. The individual realities experienced by participants are brought together to developed a shared, constructed understanding.
- The end result of a constructivist research project should help the consumer to see the phenomenon being studied from many different perspectives and with an appreciation of its complexity and nuance.

Resources

To learn more about constructivist research

Drisko, J. W. (2013). Constructivist research in social work. In A. E. Fortune, W. J. Reid, & R. L. Miller, Jr. (Eds.), *Qualitative research in social work* (2nd ed.), (pp. 81-106). New York : Columbia University Press.

Lincoln, Y. S., & Guba, E. G. (2013). *The constructivist credo*. Walnut Creek, CA: Left Coast Press, Inc.

Mojtahed et al. (2014). Equipping the constructivist researcher: The combined use of semi-structured interviews and decision-making maps.

Robertson, I. (2007, May 13). Naturalistic or constructivist inquiry.

Rodwell, M. K. (1998). *Social work constructivist research*. New York: Routledge

Stewart, D. L. (2010). Researcher as instrument: Understanding" shifting" findings in constructivist research.

For examples of constructivist research

Allen, M. (2011). Violence and voice: Using a feminist constructivist grounded theory to explore women's resistance to abuse.

Coleman et al. (2012). A constructivist study of trust in the news.

Cook, G., & Brown-Wilson, C. (2010). Care home residents' experiences of social relationships with staff.

Leichtentritt et al. (2011). Construction of court petitions in cases of alternative placement of children at risk: Meaning-making strategies that social workers use to shape court decisions.

O'Callaghan et al. (2012). Music's relevance for adolescents and young adults with cancer: A constructivist research approach.

22.3 Oral history

Learning Objectives

Learners will be able to…

- Begin to distinguish key features that are associated with oral history design
- Determine when an oral history design may be a good fit for a qualitative research study

What is the purpose of oral history research?

As outlined by the Oral History Association (OHA, 2009), "Oral history interviews seek an in-depth account of personal experience and reflections, with sufficient time allowed for the narrators (interviewees) to give their story the fullness they desire. The content of oral history interviews is grounded in reflections on the past as opposed to commentary on purely contemporary events".[7] Much like case studies with their intentionally narrow focus, **oral histories** are dedicated to developing a deep understanding with a relatively limited scope. This may include a single oral history provided by one interviewee, or a series of oral histories that are offered around a unifying topic, event, experience or shared characteristic.

Now, what makes this a form of research and not just a venue for sharing stories (valuable in-and-of-itself), is that these stories are connected systematically and there is a central question or series of questions that we as researchers are attempting to answer. For instance, the Columbia Center for Oral History Research at Incite hosts the Human Rights Campaign Oral History Project. This project seeks to understand: "What can a single organization tell us about a social movement and social change? How do historic moments shape organizations and vice versa? How do institutions with diverse constituencies reconcile competing needs and agendas for a forward-thinking movement, all while effectively responding to consistent external attacks?"[8] By interviewing people connected with this organization and its work, this oral history project is simultaneously hoping to gain a rich understanding of the Human Rights Campaign (HRC), but also an appreciation of how social change may occur more broadly, with HRC as an instructive example.

Particularity relevant for social work research, oral histories are often used for the purpose of studying and promoting social change, as in the HRC example. For instance, Groundswell is a network of "oral historians, activists, cultural workers, community organizers, and documentary artists" dedicated to the use of oral history as a tool for social change.[9] The central idea here is that by sharing our stories, we can learn from each other. Much like in narrative therapy traditions, our stories contain valuable and transformative information. In the case of narrative therapy, the narrative is transformative for the individual, but in the case of oral histories, the hope is that these shared narratives are transformative for the audience by offering new perspectives on the world, what it needs, and what it offers. Ideally this transformation leads to action and broader social change.



What is involved in oral history research?

While the core of oral history research involves interviewing people to capture their historical accounts to help explore a broader question or set of questions, the research process is a bit more involved than this. Moyer (1999)[10] offers an overview of the steps involved in conducting oral history research.

1. Formulate a central question, set of questions, or issue
2. Plan the project. Consider such things as end products, budget, publicity, evaluation, personnel, equipment, and time frames.
3. Conduct background research
4. Interview
5. Process interviews
6. Evaluate research and interviews and cycle back to step 1 if the central question is not sufficiently answered, or go on to step 7 if it is
7. Organize and present results
8. Store materials archivally

Of course, these are generic steps and only a beginning introduction to oral history design. Each of these steps has its own learning curve and nuance. For instance, interviewing for oral histories can vary in both preparation and application when compared to interviewing for other forms of qualitative research. Resources for further learning on oral history research are offered at the end of this section to help you become more knowledgeable and proficient. In addition to this overview of the design process, there are a number of unique principles associated with conducting oral histories. Let's discuss a few of these.

Oral history as a relationship between the interviewer and interviewee

Just as with other forms of interviewing, the expectation is the participation is voluntary and only proceeds after informed consent is provided. While this is very important for all research, it is perhaps especially important for oral histories because of some of the aspects discussed below (e.g. public access, frequent disclosure of identifying information) that differentiate oral histories.[1112] Thoroughly explaining what oral histories are, how they are conducted, and the nature of the research final products is especially important. In addition, interviewees for oral histories often have a greater degree of control in their storytelling, with less direction from the interviewer (compared with other forms of qualitative interviewing).[1314] This potentially challenges some of the power dynamics in more traditional research traditions. While the interviewer does provide the initial prompt or question and hopes to obtain an in-depth account, the interviewee is largely in control of how the story is told.

Oral history as a research product

Consistent with our NASW code of ethics and the expectations of all qualitative researchers, interviewees should be treated with dignity and respect. For the purposes of oral history research, this is in part demonstrated through crafting significant historical questions and engaging in prior research and preparation to inform the study (generally) and the interview (specifically).[1516]. This will lay the foundation for a well-informed oral history project. The oral history is a detailed historical recounting by one person or a small group of people. It is meant to be a 'window in time' through the lens of the interviewee.[17] Because an oral history involves the detailed telling of personal stories and experiences it is often expected that the finished products of oral histories will often provide identifying information; it is often unavoidable in recounting the history. In fact, the interviewee is typically identified by name due to the extensive detail and contextually identifying information that is gathered.[1819] Again, this should be made abundantly clear during the recruitment process and spelled out in the informed consent.

Oral history as an ongoing commitment

Traditional research is often shared with the public through journal articles or conference proceedings, and these often do not provide access to the data. While oral history research may be shared in these venues, the expectation is generally that oral history interviews that are collected will also be made accessible to future researchers and the public.[20] To accommodate this, researchers need to be planful in how they will provide this access in a sustainable way. This also means they need to have access to and operating knowledge of technology that will allow for quality audio capture and maintenance of these oral histories.[2122] Furthermore, this obligation needs to be very clear to participants before they

share their hisitories. Also, because of the level of access that is often afforded to oral history interviews, researchers can't guarantee how others may use or portray these interviews in the future and should be mindful not to overpromise such guarantees to participants.

Cultural considerations with storytelling

I think it is also important for us to consider the cultural implications of storytelling and the connection this holds for oral history research. Many cultural groups have and continue to depend on storytelling as a means of transmitting culture through time and space. Lately, I have been thinking about this as a response to the racial conflict we have been experiencing in the United States. It can be particularly powerful to hear the stories of others and to allow ourselves to be changed by them. The author Ta-Nehisi Coates book *Between the World and Me* is a profound nonfiction work that is written as a letter to his teenage son about what it means to be a Black man in America, drawing on his own memories, experiences and observations. In addition, Takunda Muzondiwa, offers a beautifully articulated performance of spoken word poetry about her history as a young woman immigrating from Zimbabwe to New Zealand. I believe these stories can be powerful antidotes to the fear and ignorance that fuels so much of the structural oppression and racial division in this country. Gathering oral histories can help contribute to elevating these voices and hopefully promoting understanding. However, I think we also have to be very aware of the danger in this practice of cultural appropriation. It requires us to be extremely vigilant in how these stories are obtained and presented, and who has ownership of them.

Key Takeaways

- Oral histories offer a unique qualitative research design that support an individual or group of participants reflecting on a unique experience, event, series of events, or even a lifetime. While they explicitly explore the past, they often do so to learn about how change occurs and what lessons can be applied to our present.
- While many aspects of oral histories are consistent with other forms of qualitative research (e.g. the use of interviews to collect data, analyzing narrative data for themes), oral histories have some defining features that differentiate it from other designs, such as a common expectation for public access to collected data.

Exercises

Reflexive Journal Entry Prompt

For me, oral history has a bit of a different feel when compared to other qualitative designs because it really highlights intimate details of one person's (or a small group) life. in a way that makes confidentiality a real challenge in many

cases (or even impossible). That being said, I'm also really drawn to the potential of this approach for allowing people to share wisdom and for us to learn from each other.

Based on what you have read here and maybe after checking out some of the resources below, what are your thoughts about using oral histories?

- What do you see as strengths?
- What are barriers or challenges that you foresee?
- What oral history data might help to strengthen or develop your practice knowledge? (whose wisdom and historical perspective might you learn from)

Resources

To learn more about oral histories and oral history archives

Columbia University, Interdisciplinary Center for Innovative Theory and Empirics (n.d.) Columbia Center for Oral History Research at INCITE.

Groundswell. (2014). Groundswell: Oral history for social change.

Institute for Museum and Library Services. (n.d.). Oral history in the digital age.

International Oral History Association. (n.d.). International Oral History Association, homepage.

Moyer, J. (1999). Step-by-step guide to oral history.

Oral History Association (2009, October). Principles and best practices.

UCLA (2015). UCLA Center for Oral History Research.

For examples of oral history research

Gardella, L. G. (2018). Social work and hospitality: An oral history of Edith Stolzenberg.

Jenkins, S. B. (2017). "We were all kind of learning together" The emergence of LGBTQ+ affirmative psychotherapy & social services, 1960-1987: oral history study.

Johnston et al. (2018). The rise, fall and re-establishment of Trinity Health Services: Oral history of a student-run clinic based at an inner-city Catholic Church.

La Rose, T. (2019). Rediscovering social work leaders through YouTube as archive: The CASW oral history project 1983/1984.

22.4 Ethnography

Learning Objectives

Learners will be able to...

- Distinguish between key features associated with ethnographic design
- Determine when an ethnographic design may be a good fit for a qualitative research study

What is the purpose of ethnography research?

Ethnography is a qualitative research design that is used when we are attempting to learn about a culture by observing people in their natural environment. While many immediately associate culture with ethnicity, remember that cultures are all around us, and we exist in many simultaneously. For example, you might have a culture within your family, at your school, at work, as part of other organizations or groups that you belong to. Culture exists where we have a social grouping that creates shared understanding, meaning, customs, artifacts, rituals, and processes.

Cultural groups can exist in-person and in virtual spaces. Culture challenges us to consider how people understand and dynamically interact with their environment. Creswell (2013) outlines the role of the ethnographer as, "describing and interpreting the shared and learned patterns of values, behaviors, beliefs and languages of culture-sharing groups" (p.90).[23] Below is a brief list of areas where we may find "culture-sharing groups".

- Work
- School
- Home
- Peer Groups
- Support Groups
- Cause-Related Groups
- Organizations
- Interest-Related Groups

Exercises

Respond to the following questions.

1. *What cultures do you participate in?*
2. *What cultures might the clients you work with in your field placements participate in?*
3. *What cultures might the participants you are interested in studying participate in?*

Reflecting on this question can help us to see ourselves and our clients or our research participants as multidimensional people and to develop solid research proposals.

Now that we have discussed what culture is, why is it important that we research it? More specifically, why is it important that we have ethnography, a type of qualitative research dedicated to studying culture? As social work practitioners and educators, we talk extensively about concepts like cultural competence and cultural humility. As a profession, we have taken the position that understanding culture is vital to what we do. Ideologically, Social Work recognizes that people have very different experiences throughout their lives. Some of these experiences are shared and can come to shape the perspective of groups of people, and in turn, how these groups interact with the world around them and with each other. By studying these shared perspectives, ethnographers hope to learn both how groups of people are shaped by and come to shape their environment (this is the definition of a fancy term, **reciprocal determinism**). Ethnographic research can be one source of information that helps support culturally informed social work practice. Note that I specifically said one source. As an ethnographer, we are typically an "outsider" observing and learning about a culture. As practitioners, we should also be educated about culture directly from our clients because they have "insider" knowledge. Both are valuable and can be helpful for the work we do, but I would argue that we give priority to our client's perspective, as they are an authority on their experience of culture.

As you think about the value of ethnographic research, it can also be helpful to think about what types of things we might learn from it. Let's take a specific example. What if we wanted to study the culture around a student study group. What are some of the things we might hope to learn by examining the culture of this group?

- What motivates them to participate in the group?
- What are their expectations about the group?
- What do they hope to get out of the group?
- What are the group norms?
- What are the formal and informal roles of the group?
- What functions does the group serve?
- What types of group dynamics are evident?
- What influence external to the group impact the group, and how?



What is involved with ethnography research?

As a process of uncovering and making sense of a culture, ethnographic research involves the researcher immersing themselves in the culture to gain direct and indirect information through keen observation, discussion with culture-sharing members, and review of cultural artifacts. To accomplish this successfully, the ethnographer will need to spend extensive time in the field, both to gather enough data to comprehensively describe the culture, and to gain a reasonable understanding of the context in which the culture takes place so that they can interpret the data as accurately as possible. Hammersley (1990)[24] outlines some general guidelines for conducting ethnographic research.

- Data is drawn from a range of sources
- While data gathering is systematic, it is emergent and begins with a loose structure
- Parameters are usually placed on the setting(s) from which data is gathered
- Observing behavior in everyday life
- Analysis involves the interpretation of human behavior and making sense out of the actions of the culture group

Below I provide some additional details around each of these principles to help contextualize how these might compare and contrast with other qualitative designs we have been discussing.

Data is drawn from a range of sources

Since our objective is to understand a culture as comprehensively as possible, ethnographies require

multiple sources of data. If someone wanted to study the culture within your social work program, what sorts of data might they utilize? They might include discussions with students, staff, and faculty; observations of classes, functions, and meetings; review of documents like mission statements, annual reports, and course evaluations. These are only a small sampling of data sources that you might include to gain the most holistic understanding of the program.

While data gathering is systematic, it is emergent and begins with a loose structure

While some qualitative studies begin with an extensive and detailed plan for data gathering, ethnographies begin with a considerable amount of flexibility. This is because we often don't know in advance what will be important in developing an understanding of a culture and where that information might come from. As such, we would need to spend time in the culture, being attentive and open to learning from the context.

Parameters are usually placed on the setting(s) from which data is gathered

Culture can extend across space and time, making it overwhelming as we initially consider how to focus our efforts while still allowing for the emergent design discussed above. Because of this, ethnographies are often confined to one particular setting or group. I don't know if any of you are fans of the TV series The Office (either the British or American versions), but it actually offers us a good example here. The series is based on following the antics that take place in office environment with a group of co-workers through a mockumentary . The series is about understanding the culture of that office. The majority of filming takes place in a small office and with a relatively small group of people. These parameters help to define the storyline, or for our purposes, the scope of our data gathering.

Observing behavior in everyday life

Compared to other qualitative approaches where data gathering may take place through a more formal process (e.g. scheduled interviews, routine observations of specified exchange), ethnographies usually involve collecting data in everyday life. To capture an authentic representation of culture, we need to see it in action. Thus, we need to be prepared to gather data about culture as it is being produced and experienced.

Analysis involves the interpretation of human behavior and making sense out of the actions of the culture group

Related to the last point about observing behavior in everyday life, culture is created and transmitted through social interactions. As ethnographers, the main thrust of our work is to observe and interpret how people engage with each other, and what these interactions mean.

Cultural considerations with storytelling

As I mentioned in the oral history section, I think we also need to be really attentive to the possibility of cultural appropriation and exploitation when conducting ethnographies. This is really true for all types of research, but it deserves special attention here because of the duration of time ethnography requires immersing yourself in the culture you are studying. It makes me think of my time as a case manager. As a case manager, I think we need to be acutely aware of demonstrating great respect and humility when we are working with people in their homes. We are entering into a very personal space with them to conduct our work and I believe that it requires special care and attention. Ethnography work is much like this. As an ethnographer, you are attempting to enter into the very personal space of that cultural group. Before doing so, as researchers, I think we need to very carefully consider what benefits does this study offer. If the only answer is that we benefit professionally or academically, then is it really worth it for us to be so intrusive? Of course, actively including community members in the research process and allowing them to help determine the benefits they hope to recognize from such a study can be a good way to overcome this.

Key Takeaways

- Ethnographic studies allow researchers to experience and describe a culture by immersing themselves within a culture-sharing group.
- Ethnographic research requires that researchers be attentive observers and curious explorers as they spend extensive time in the field viewing cultural rituals and artifacts, speaking with cultural group members, and participating in cultural practices. This requires spending extensive time with this group to understand the nuances and intricacies of cultural phenomenon.

Resources

To learn more about ethnography research

Genzuk, M. (2003). A synthesis of ethnographic research.

Isaacs, E., TEDxBroadway. (2013, January, 28). "Ethnography"–Ellen Isaacs.

Wall, S. (2015, January). Focused ethnography: A methodological adaptation for social research in emerging contexts.

Reeves et al. (2013). Ethnography in qualitative educational research: AMEE Guide No. 80.

Sangasubana, N. (2011). How to conduct ethnographic research.

For examples of ethnography research

Avby et al. (2017). Knowledge use and learning in everyday social work practice: A study in child investigation work.

Hicks, S., & Lewis, C. (2018). Investigating everyday life in a modernist public housing scheme: The implications of residents' understandings of well-being and welfare for social work.

Lumsden, K., & Black, A. (2017). Austerity policing, emotional labour and the boundaries of police work: an ethnography of a police force control room in England.

22.5 Phenomenology

Learning Objectives

Learners will be able to…

- Begin to distinguish key features that are associated with phenomenological design
- Determine when a phenomenological study design may be a good fit for a qualitative research study

What is the purpose of phenomenology research?

Phenomenology is concerned with capturing and describing the lived experience of some event or "phenomenon" for a group of people. One of the major assumptions in this vein of research is that we all experience and interpret our encounters with the world around us. Furthermore, we interpret these experiences from our own unique worldview, shaped by our beliefs, values and previous encounters. We then go on to attach our own meaning to them. By studying the meaning that people attach to their

experiences, phenomenologists hope to understand these experiences in much richer detail. Ideally, this allows them to translate a unidimensional idea that they are studying into a multidimensional understanding that reflects the complex and dynamic ways we experience and interpret our world.

As an example, perhaps we want to study the experience of being a student in a social work research class, something you might have some first-hand knowledge with. Putting yourself into the role of a participant in this study, each of you has a unique perspective coming into the class. Maybe some of you are excited by school and find classes enjoyable; others may find classes boring. Some may find learning challenging, especially with traditional instructional methods; while others find it easy to digest materials and understand new ideas. You may have heard from your friends, who took this class last year, that research is hard and the professor is evil; while the student sitting next to you has a mother who is a researcher and they are looking forward to developing a better understanding of what she does. The lens through which you interpret your experiences in the class will likely shape the meaning you attach to it, and no two students will have the exact same experience, even though you all share in the phenomenon—the class itself. As a phenomenologist, I would want to try to capture how various students experienced the class. I might explore topics like: what did you think about the class, what feelings were associated with the class as a whole or different aspects of the class, what aspects of the class impacted you and how, etc. I would likely find similarities and differences across your accounts and I would seek to bring these together as themes to help more fully understand the phenomenon of being a student in a social work research class. From a more professionally practical standpoint, I would challenge you to think about your current or future clients. Which of their experiences might it be helpful for you to better understand as you are delivering services? Here are some general examples of phenomenological questions that might apply to your work:

- *What does it mean to be part of an organization or a movement?*
- *What is it like to ask for help or seek services?*
- *What is it like to live with a chronic disease or condition?*
- *What do people go through when they experience discrimination based on some characteristic or ascribed status?*

Just to recap, phenomenology assumes that…

1. Each person has a unique worldview, shaped by their life experiences
2. This worldview is the lens through which that person interprets and makes meaning of new phenomena or experiences
3. By researching the meaning that people attach to a phenomenon and bringing individual perspectives together, we can potentially arrive at a shared understanding of that phenomenon that has more depth, detail and nuance than any one of us could possess individually.

This figure provides a visual interpretation of these assumptions.

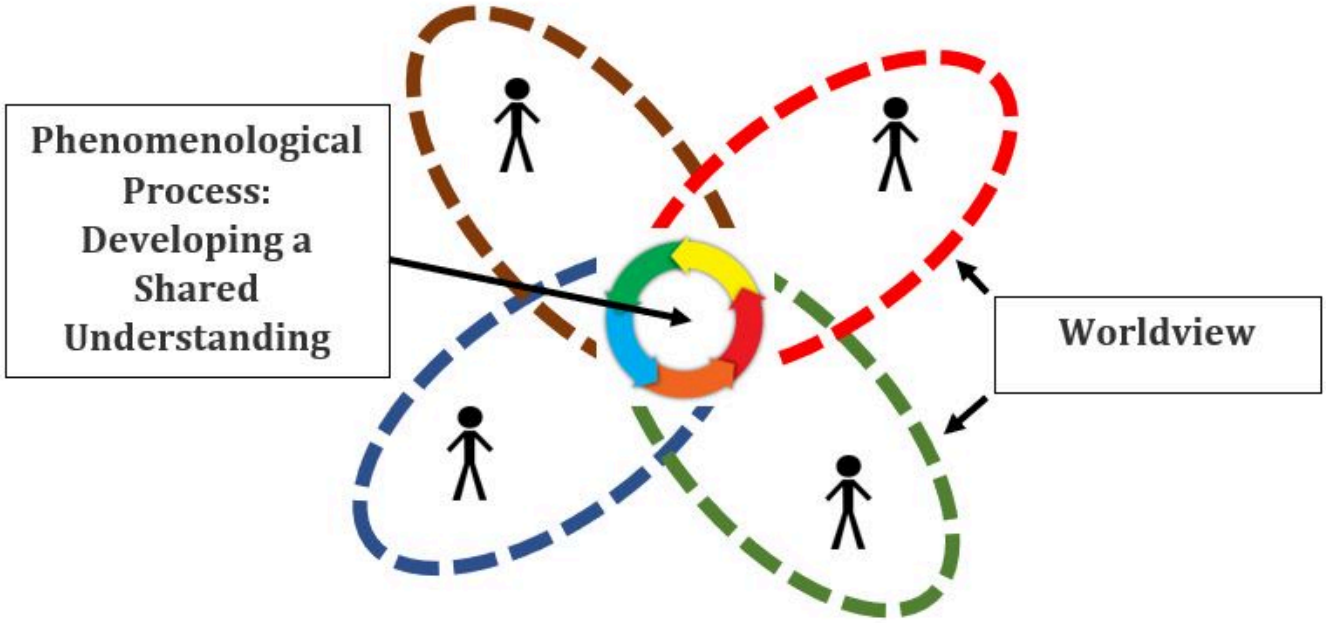


Figure 22.2 Illustration of the phenomenological process

What is involved in phenomenology research?

Again, phenomenological studies are best suited for research questions that center around understanding a number of different peoples' experiences of particular event or condition, and the understanding that they attach to it. As such, the process of phenomenological research involves gathering, comparing, and synthesizing these subjective experiences into one more comprehensive description of the phenomenon. After reading the results of a phenomenological study, a person should walk away with a broader, more nuanced understanding of what the lived experience of the phenomenon is.

While it isn't a hard and fast rule, you are most likely to use **purposive** sampling to recruit your sample for a phenomenological project. The logic behind this sampling method is pretty straightforward since you want to recruit people that have had a specific experience or been exposed to a particular phenomenon, you will intentionally or purposefully be reaching out to people that you know have had this experience. Furthermore, you may want to capture the perspectives of people with different worldviews on your topic to support developing the richest understanding of the phenomenon. Your goal is to target a range of people in your recruitment because of their unique perspectives.

For instance, let's say that you are interested in studying the subjective experience of having a diagnosis

of Human Immunodeficiency Virus (HIV). We might imagine that this experience would be quite different across time periods (e.g. the 1980's vs. the 2010's), geographic locations (e.g. New York City vs. the Kingdom of Eswatini in southern Africa), and social group (e.g. Conservative Christian church leaders in the southern US vs. sex workers in Brazil). By using purposive sampling, we are attempting to intentionally generate a varied and diverse group of participants who all have a lived experience of the same phenomenon. Of course, a purposive recruitment approach assumes that we have a working knowledge of who has encountered the phenomenon we are studying. If we don't have this knowledge, we may need to use other non-probability approaches, like **convenience** or **snowball** sampling. Depending on the topic you are studying and the diversity you are attempting to capture, Creswell (2013) suggests that a reasonable sample size may range from 3 -25 participants for a phenomenological study. Regardless of which sample size you choose, you will want a clear rationale that supports why you chose it.

Most often, phenomenological studies rely on interviewing. Again, the logic here is pretty clear—if we are attempting to gather people's understanding of a certain experience, the most direct way is to ask them. We may start with relatively unstructured questions: "can you tell me about your experience with…..", "what was it it like to….", "what does it mean to…". However, as our interview progresses, we are likely to develop probes and additional questions, leading to a semi-structured feel, as we seek to better understand the emerging dimensions of the topic that we are studying. Phenomenology embodies the **iterative** process that has been discussed; as we begin to analyze the data and detect new concept or ideas, we will integrate that into our continuing efforts at collecting new data. So let's say that we have conducted a couple of interviews and begin coding our data. Based on these codes, we decide to add new probes to our interview guide because we want to see if future interviewees also incorporate these ideas into how they understand the phenomenon. Also, let's say that in our tenth interview a new idea is shared by the participant. As part of this iterative process, we may go back to previous interviewees to get their thoughts about this new idea. It is not uncommon in phenomenological studies to interview participants more than once. Of course, other types of data (e.g. observations, focus groups, artifacts) are not precluded from phenomenological research, but interviewing tends to be the mainstay.

In a general sense, phenomenological data analysis is about bringing together the individual accounts of the phenomenon (most often interview transcripts) and searching for themes across these accounts to capture the essence or description of the phenomenon. This description should be one that reflects a shared understanding as well as the context in which that understanding exists. This **essence** will be the end result of your analysis.

To arrive at this essence, different phenomenological traditions have emerged to guide data analysis, including approaches advanced by van Manen (2016)[25], Moustakas (1994)[26], Polikinghorne (1989)[27] and Giorgi (2009)[28]. One of the main differences between these models is how the researcher accounts for and utilizes their influence during the research process. Just like participants, it is expected in phenomenological traditions that the researcher also possesses their own worldview. The researcher's worldview influences all aspects of the research process and phenomenology generally encourages the researcher to account for this influence. This may be done through activities like **reflexive journaling**

(discussed in Chapter 20 on qualitative rigor) or through **bracketing** (discussed in Chapter 19 on qualitative analysis), both tools helping researchers capture their own thoughts and reactions towards the data and its emerging meaning. Some of these phenomenological approaches suggest that we work to integrate the researcher's perspective into the analysis process, like van Manen; while others suggest that we need to identify our influence so that we can set it aside as best as possible, like Moustakas (Creswell, 2013).[29] For a more detailed understanding of these approaches, please refer to the resources listed for these authors in the box below.

Key Takeaways

- Phenomenology is a qualitative research tradition that seeks to capture the lived experience of some social phenomenon across some group of participants who have direct, first-hand experience with it.
- As a phenomenological researcher, you will need to bring together individual experiences with the topic being studied, including your own, and weave them together into a shared understanding that captures the "essence" of the phenomenon for all participants.

Exercises

Reflexive Journal Entry Prompt

- As you think about the areas of social work that you are interested in, what life experiences do you need to learn more about to help develop your empathy and humility as a social work practitioner in this field of practice?

Resources

To learn more about phenomenological research

Errasti-Ibarrondo et al. (2018). Conducting phenomenological research: Rationalizing the methods and rigour of the phenomenology of practice.

Giorgi, A. (2009). *The descriptive phenomenological method in psychology: A modified Husserlian approach*. Pittsburgh, PA: Duquesne University Press.

Koopman, O. (2015). Phenomenology as a potential methodology for subjective knowing in science education research.

Moustakas, C. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage.

Newberry, A. M. (2012). Social work and hermeneutic phenomenology.

Polkinghorne, D. E. (1989). Phenomenological research methods. In R. S. Valle & S. Halling (Eds.). *Existential-phenomenological perspectives in psychology* (pp. 41-60). Boston, MA: Springer.

Seymour, T. (2019, January, 30). Phenomenological qualitative research design.

Van Manen, M. (2016). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. New York: Routledge.

For examples of phenomenological research

Curran et al. (2017). Practicing maternal virtues prematurely: The phenomenology of maternal identity in medically high-risk pregnancy.

Kang, S. K., & Kim, E. H. (2014). A phenomenological study of the lived experiences of Koreans with mental illness.

Pascal, J. (2010). Phenomenology as a research method for social work contexts: Understanding the lived experience of cancer survival.

22.6 Narrative

Learning Objectives

Learners will be able to...

- Begin to distinguish key features associated with narrative design
- Determine when a narrative design may be a good fit for a qualitative research study

What is the purpose of narrative research?

As you savvy learners have likely surmised, narrative research, often referred to as narrative inquiry, is all about the narrative. For our purposes, **narratives** will be defined as those stories that we compose that allow us to make meaning of the world. Therefore, narrative inquiry is attempting to develop a rich understanding of what those narratives are, and weave them into a grander narrative that attempts to capture the unique and shared meanings we attach to our individual narratives. In other words, as narrative researchers, we want to understand how we make sense of what happens to us and around us.

As social workers, our profession is well-acquainted with the power of narratives. Michael White and

David Epston are social workers you may know of that harnessed this power of narratives in the therapeutic relationship by helping clients to tell and then transform their many-storied lives through narrative therapy. Just as narrative therapy encourages clients to explore the stories in their own lives and the significance they attach to them, narrative inquiry prompts research participants to share the stories they have regarding the topic we are studying. Just as we discussed in our chapter on qualitative data gathering, our aim in narrative inquiry is to elicit and understand stories, whereas narrative therapy is concerned with fostering a therapeutic relationship. Our hope is that narrative studies do, however, help the audience that consumes our research (whether that is providers, other researchers, politicians, community members) to better understand or appreciate the worldview of the population we are studying.

Fraser (2004)[30] suggests that narrative approaches are particularly well-suited for helping social workers to:

- make sense of language(s) that are used by individuals and groups
- examine multiple perspectives
- better understand human interactions
- develop an appreciation for context
- reduce our role as an expert (we are most called here to be skillful listeners)
- elevate the stories and perspectives of people who may be otherwise be disenfranchised or silenced

Narrative inquiry may be a good fit for your research proposal if you are looking to study some person/groups' understanding of an event, situation, role, period of time, or occurrence. Again, think about it like a story; what would you form your story plot around. The answer to that gets at the core of your research question for narrative inquiry. You want to understand some aspect of life more clearly through your participant's eyes. After all, that is what a good story does, transports us into someone else's world. As a student, you may not be able to access clients directly as research participants, but there are many people around you in your placement, at school, or in the community who may have valuable insights/perspectives on the topic you are interested in studying. In addition, you may be able to access publicly available sources that give you narrative information about a topic: autobiographies, memoirs, oral histories, blogs, journals, editorials, etc. These sources give you indirect information about how the author sees the world –just what you're looking for! These can become sources of data for you.



What is involved in narrative research?

At the risk of oversimplifying the process of narrative research, it is a journey with stories: finding stories, eliciting stories, hearing and capturing stories, understanding stories, integrating stories, and presenting stories. That being said, each leg of this journey is marked with its own challenges (and rewards!). We won't be diving deeply into each of these, but we will take time to think through a couple of brief considerations at each of these phases. As you read through these phases, be aware that they reflect the **iterative** nature of qualitative work that we have discussed previously. This means you won't necessarily complete one and move on to the next. For instance, you make be in the process of analyzing some of the data you have gathered (phase: understanding stories) and realize that a participant has just blown your mind with a new revelation that you feel like you need to learn more about to adequately complete your research. To do so, you may need to go back to other participants to see if they had similar experiences (phase: eliciting stories) or even go out and do some more recruitment of people who might share in this storyline (phase: finding new stories).

Finding stories

It can feel a bit daunting at first to consider where you would look to find narrative data. We have to determine who possesses the stories we want to hear that will help us to best answer our research question. However, don't dismay! Stories are all around us. As suggested earlier, as humans, we are constantly evolving stories that help us to make sense of our world, whether we are aware of it or not. Narrative data is not usually just drawn from one source, so this often means thoughtfully seeking out a variety of stories about the topic we are studying. This can include interviews, observations, and a

range of other artifacts. As you are thinking about your sample, consult back to Chapter 17 on qualitative sampling to aid you in developing your sampling strategy.

Eliciting stories

So, now you know where you want to get your narrative data, but how will you draw these stories out? As decent and ethical researchers, our objective is to have people share their stories with us, being fully informed about the research process and why we are asking them to share their stories. But this just gets our proverbial foot in the door. Next, we have to get people to talk, to open up and share. Just like in practice settings, this involves the thoughtful use of well-planned open-ended questions. Narrative studies often involve relatively unstructured interviews, where we provide a few broad questions in the hopes of getting people to expound on their perspective. However, we anticipate that we might need to have some strategic **probes** to help prompt the storytelling process. We also might be looking to extract narrative data from artifacts, in which case the data is there, we just need to locate and make sense of it.

Hearing and capturing stories

We need to listen! While we are trained in the art of listening as social workers, we need to make sure that we are clear *what* we are listening for. In narrative research we are listening for important narrative detail. Fraser (2004)[31] identifies that it is important to listen for emotions that the story conveys, the evolution or unfolding of the story, and last but not least, our own reactions. Additionally, we need to consider how we will capture the story—will we record it or will we take **field notes**? Again, we may be drawing narrative data from **artifacts**. If this is the case, we are "listening" with our eyes and through our careful review of materials and detailed note-taking.

Understanding stories

As we are listening, we are attending to many things as we go through this part of the analysis: word choice and meaning, emotions that are expressed/provoked, context of what is being shared, themes or main points, and changes in tone. We want to pay attention to both *what* the story is and *how* is it being told.

Integrating stories

Part of the work (and perhaps the most challenging part) of narrative research is the bringing together of many stories. We aim to look across the stories that are shared with us through the data we have gathered and ultimately converge on a narrative that honors both the diversity and the commonality that is reflected therein, all the while tracking our own personal story and the influence it has on shaping the evolving narrative. No small task! While integrating stories, Fraser (2004)[32] also challenges us to consider how these stories coming together are situated within broader socio-political-structural contexts that need to be acknowledged.

Key Takeaways

- The aim of narrative research is to uncover the stories that humans tell themselves to make sense of the world.
- To turn these stories into research, we need to systematically listen, understand, compare, and eventually combine these into one meta-narrative, providing us with a deeper appreciation of how participants comprehend the issue we are studying.

Exercises

Reflexive Journal Entry Prompt

Know that we have reviewed a number of qualitative designs, reflect on the following questions:

- Which designs suit you well as a social work researcher? What is it about these designs that resonate with you?
- Which designs would really challenge you as a social work researcher? What is it about these designs that make you apprehensive or uneasy?
- What design is best suited for your research question? Is your answer here being swayed by personal preferences?

Resources

To learn more about narrative inquiry

Fraser, H. (2004). Doing narrative research: Analysing personal stories line by line. *Qualitative Social Work*, 3(2), 179-201. https://journals.sagepub.com/doi/abs/10.1177/1473325004043383

Larsson, S., & Sjöblom, Y. (2010). Perspectives on narrative methods in social work research. *International*

Journal of Social Welfare, 19(3), 272-280.https://insights.ovid.com/international-social-welfare/ijsow/2010/07/000/perspectives-narrative-methods-social-work/3/00125820

Riessman, C. K., & Quinney, L. (2005). Narrative in social work: A critical review. *Qualitative Social Work*, 4(4), 391-412. https://journals.sagepub.com/doi/abs/10.1177/1473325005058643

Rudman, D.L. (2018, August, 24). *Narrative inquiry: What's your story?* [Video]. https://www.youtube.com/watch?v=rPyomRrBn_g

Shaw, J. (2017). A renewed call for narrative inquiry as a social work epistemology and methodology. *Canadian Social Work Review*, 34(2). https://www.erudit.org/en/journals/cswr/2017-v34-n2-cswr03365/1042889ar/

Writing@CSU, the Writing Studio: Colorado State University. (n.d.). *Narrative inquiry*. [Webpage]. https://writing.colostate.edu/guides/page.cfm?pageid=1346&guideid=63

For examples of narrative studies

Balogh, A. (2016). A narrative inquiry of charter school social work and the "No Excuses" Behavior Model. *Columbia Social Work Review*, 14(1), 19-25. https://journals.library.columbia.edu/index.php/cswr/article/view/1855

Klausen, R. K., Blix, B. H., Karlsson, M., Haugsgjerd, S., & Lorem, G. F. (2017). Shared decision making from the service users' perspective: A narrative study from community mental health centers in northern Norway. *Social Work in Mental Health*, 15(3), 354-371. https://www.tandfonline.com/doi/abs/10.1080/15332985.2016.1222981

Lietz, C. A., & Strength, M. (2011). Stories of successful reunification: A narrative study of family resilience in child welfare. *Families in Society*, 92(2), 203-210. https://journals.sagepub.com/doi/abs/10.1606/1044-3894.4102

Media Attributions

- mag glass © Andrea Piacquadio is licensed under a CC0 (Creative Commons Zero) license
- under construction © pngimg is licensed under a CC BY-NC (Attribution NonCommercial) license
- oral history © Ron Mader is licensed under a CC BY-SA (Attribution ShareAlike) license
- community rooted © Blakekc is licensed under a CC0 (Creative Commons Zero) license
- stories © Banalities is licensed under a CC BY (Attribution) license

Notes

1. Lincoln, Y. S., & Guba, E. G. (2013). *The constructivist credo*. Walnut Creek, CA: Left Coast Press, Inc.
2. Robertson, I. [Ian Robertson]. (2007, May 13). *Naturalistic or constructivist inquiry* [Video file]. https://www.youtube.com/watch?v=dAXEBHuSNWk&feature=youtu.be

3. Rodwell, M.K. (1998). *Social work constructivist research.* New York: Routledge
4. Rodwell, M.K. (1998). *Social work constructivist research.* New York: Routledge
5. Allen, M. (2011). Violence and voice: Using a feminist constructivist grounded theory to explore women's resistance to abuse. *Qualitative Research*, *11*(1), 23-45.
6. Cook, G., & Brown-Wilson, C. (2010). Care home residents' experiences of social relationships with staff. *Nursing Older People*, *22*(1), 24-29.
7. Oral History Association, OHA (2009). *Principles and best practices* [Webpage]. https://www.oralhistory.org/about/principles-and-practices-revised-2009/
8. Columbia Center for Oral History Research at Incite (n.d.). *Human Rights Campaign Oral History Project.* [Webpage]. https://www.ccohr.incite.columbia.edu/human-rights-campaign-oral-history
9. Groundswell. (n.d.). *Groundswell: Oral history for social change*. [Webpage]. http://www.oralhistoryforsocialchange.org/
10. Moyer, J. (1999). *Step-by-step guide to oral history.* [Webpage]. http://dohistory.org/on_your_own/toolkit/oralHistory.html#WHATIS
11. Oral History Association, OHA (2009). *Principles and best practices*. [Webpage]. https://www.oralhistory.org/about/principles-and-practices-revised-2009/
12. Silva, Y. (2019, November 8). *Oral history training: 8 basic principles of oral history*. Citaliarestauro. [Blogpost]. https://citaliarestauro.com/en/oral-history-training/
13. Oral History Association, OHA (2009). *Principles and best practices*. [Webpage]. https://www.oralhistory.org/about/principles-and-practices-revised-2009/
14. Silva, Y. (2019, November 8). *Oral history training: 8 basic principles of oral history*. Citaliarestauro. [Blogpost]. https://citaliarestauro.com/en/oral-history-training/
15. The American Foklife Center. (n.d.). *Oral history interviews*. The Library of Congress. https://www.loc.gov/folklife/familyfolklife/oralhistory.html#planning
16. Oral History Association, OHA (2009). *Principles and best practices*. [Webpage]. https://www.oralhistory.org/about/principles-and-practices-revised-2009/
17. Oral History Association, OHA (2009). *Principles and best practices*. [Webpage]. https://www.oralhistory.org/about/principles-and-practices-revised-2009/
18. Oral History Association, OHA (2009). *Principles and best practices*. [Webpage]. https://www.oralhistory.org/about/principles-and-practices-revised-2009/
19. Silva, Y. (2019, November 8). *Oral history training: 8 basic principles of oral history*. Citaliarestauro. [Blogpost]. https://citaliarestauro.com/en/oral-history-training/
20. Oral History Association, OHA (2009). *Principles and best practices*. [Webpage]. https://www.oralhistory.org/about/principles-and-practices-revised-2009/
21. The American Foklife Center. (n.d.). *Oral history interviews*. The Library of Congress. https://www.loc.gov/folklife/familyfolklife/oralhistory.html#planning
22. Oral History Association, OHA (2009). *Principles and best practices*. [Webpage]. https://www.oralhistory.org/about/principles-and-practices-revised-2009/
23. Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Los Angeles Sage.
24. Hammersley, M. (1990). What's wrong with ethnography? The myth of theoretical description. *Sociology*, *24*(4), 597-615.
25. van Manen, M. (2016). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. New York: Routledge.
26. Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.
27. Polkinghorne, D. E. (1989). Phenomenological research methods. In R. S. Valle & S. Halling (Eds.). *Existential-phenomenological perspectives in psychology* (pp. 41-60). Boston, MA: Springer.
28. Giorgi, A. (2009). *The descriptive phenomenological method in psychology: A modified Husserlian approach*. Pittsburgh, PA: Duquesne University Press.
29. Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Los Angeles

Sage.

30. Fraser, H. (2004). Doing narrative research: Analysing personal stories line by line. *Qualitative Social Work*, 3(2), 179-201.
31. Fraser, H. (2004). Doing narrative research: Analysing personal stories line by line. *Qualitative Social Work*, 3(2), 179-201. https://journals.sagepub.com/doi/abs/10.1177/1473325004043383
32. Fraser, H. (2004). Doing narrative research: Analysing personal stories line by line. *Qualitative Social Work*, 3(2), 179-201. https://journals.sagepub.com/doi/abs/10.1177/1473325004043383

PART 5: RESEARCH IN PRACTICE

23. Program evaluation

Chapter Outline

1. What is program evaluation? (5 minute read)
2. Planning your program evaluation (20 minute read, including video)
3. Process evaluations and implementation science (7 minute read)
4. Outcome and impact evaluations (5 minute read)
5. Ethics and culture in program evaluation (10 minute read)

Content warning: examples in this chapter contain references to BMI/weight/obesity, genocide, and residential schools for indigenous children.

Imagine you are working for a nonprofit focused on children's health and wellness in school. One of the grants you received this year funds a full-time position at a local elementary school for a teacher who will be integrating kinesthetic learning into their lesson plans for math classes for third graders. Kinesthetic learning is learning that occurs when the students do something physical to help learn and reinforce information, instead of listening to a lecture or other verbal teaching activity. You have read research suggesting that students retain information better using kinesthetic teaching methods and that it can reduce student behavior issues. You want to know if it might benefit your community.



Kids don't always like standing still.

When you applied for the grant, you had to come up with some outcome measures that would tell the foundation if your program was worth continuing to fund–if it's having an effect on your target population (the kids at the school). You told the foundation you would look at three outcomes:

1. How did using kinesthetic learning affect student behavior in classes?
2. How did using kinesthetic learning affect student scores on end-of-year standardized tests?
3. How did the students feel about kinesthetic teaching methods?

But, you say, this sounds like research! However, we have to take a look at the *purpose*, *origin*, *effect*, and *execution* of the project to understand the difference, which we do in section 23.1 in this chapter.

Those domains are where we can find the similarities and differences between program evaluation and research.

Realistically, as a practitioner, you're far more likely to engage in program evaluation than you are in research. So, you might ask why you are learning research methods and not program evaluation methods, and the answer is that you will use research methods in evaluating programs. Program evaluation tends to focus less on generalizability, experimental design, and replicability, and instead focuses on the practical application of research methods to a specific context in practice.

23.1 What is program evaluation?

Learning Objectives

Learners will be able to...

- Define program evaluation
- Discuss similarities and differences between program evaluation and research
- Determine situations in which program evaluation is more appropriate than research

Program evaluation can be defined as the systematic process by which we determine if social programs are meeting their goals, how well the program runs, whether the program had the desired effect, and whether the program has merit according to **stakeholders** (including in terms of the monetary costs and benefits). It's important to know what we mean when we say "evaluation." Pruett (2000)[1] provides a useful definition: "Evaluation is the systematic application of scientific methods to assess the design, implementation, improvement or outcomes of a program" (para. 1). That nod to scientific methods is what ties program evaluation back to research, as we discussed above. Program evaluation is action-oriented, which makes it fit well into social work research (as we discussed in Chapter 1).

> A quick side note: elsewhere in the text, we've talked about stakeholders and **gatekeepers** as distinct groups of people. While this distinction is accurate and important, in this chapter, I'm only going to use the word "stakeholders" because that's what you'll hear in the world of program evaluation and logic models.

Often, program evaluation will consist of mixed methods because its focus of is so heavily on the effect of the program *in your specific context*. Not that research doesn't care about the effects of programs—of course it does! But with program evaluation, we seek to ensure the way that we are applying our program works in our agency, with our communities and clients. Thinking back to the example at the

beginning of the chapter, consider the following: Does kinesthetic learning make sense for your school? What if your classroom spaces are too small? Are the activities appropriate for children with differing physical abilities who attend your school? What if school administrators are on board, but some parents are skeptical?



Sometimes, program evaluation feels a bit like a maze.

The project we talked about in the introductions—a real project, by the way—was funded by a grant from a foundation. The reality of the grant funding environment is that funders want to see that their money is not only being used wisely, but is having a material effect on the target population. This is a good thing, because we want to know our programs have a positive effect on clients and communities. We don't want to just keep running a program because it's what we've always done. (Consider the ethical implications of continuing to run an ineffective program.) It also forces us as practitioners to plan grant-funded programs with an eye toward evaluation. It's much easier to evaluate your program when you

can gather data at the beginning of the program than when you have to work backwards at the middle or end of the program.

How do program evaluation and research relate to each other?

As we talked about above, program evaluation and research are similar, particularly in that they both rely on scientific methods. Both use quantitative and qualitative methods, like data analysis and interviews. Effective program evaluation necessarily involves the research methods we've talked about in this book. Without understanding research methods, your program evaluation won't be very rigorous and probably won't give you much useful information.

However, there are some key differences between the two that render them distinct activities that are appropriate in different circumstances. Research is often exploratory and not evaluative at all, and instead looks for relationships between variables to build knowledge on a subject. It's important to note at the outset that what we're discussing below is not universally true of all projects. Instead, the framework we're providing is a broad way to think about the differences between program evaluation and research. Scholars and practitioners disagree on whether program evaluation is a subset of research or something else entirely (and everything in between). The important thing to know about that debate is that it's not settled, and what we're presenting below is just one way to think about the relationship between the two.

According to Mathison (2008),[2] the differences between program evaluation and research have to do with the domains of *purpose*, *origins*, *effect* and *execution.*

Table 23.1 Comparing program evaluation and research

	Program Evaluation	Research
Purpose	Judges merit or worth of the program	Produces generalizable knowledge and evidence
Origins	Stems from policy and program priorities of stakeholders	Stems from scientific inquiry based on intellectual curiosity
Effect	Provides information for decision-making on specific program	Advances broad knowledge and theory
Execution	Conducted within a setting of changing actors, priorities, resources and timelines	Usually happens in a controlled setting

Let's think back to our example from the start of the chapter—kinesthetic teaching methods for 3rd grade math—to talk more about these four domains.

Purpose

To understand this domain, we have to ask a few questions: why do we want to research or evaluate this program? What do we hope to gain? This is the *why* of our project (Mathison). Another way to think about it is as the **aim** of your research, which is a concept you hopefully remember from Chapter 2.

Through the lens of program evaluation, we're evaluating this program because we want to know its effects, but also because our funder probably only wants to give money to programs that do what they're supposed to do. We want to gather information to determine if it's worth it for our funder—or for *us* – to invest resources in the program.

If this were a research project instead, our purpose would be congruent, but different. We would be seeking to add to the body of knowledge and evidence about kinesthetic learning, most likely hoping to provide information that can be generalized beyond 3rd grade math students. We're trying to inform further development of the body of knowledge around kinesthetic learning and children. We'd also like to know if and how we can apply this program in contexts other than one specific school's 3rd grade math classes. These are not the only research considerations, but just a few examples.

Origins

Purpose and origins can feel very similar and be a little hard to distinguish. The main difference is that origins are about the *who*, whereas purpose is about the *why* (Mathison). So, to understand this domain, we have to ask about the source of our project—who wanted to get the project started? What do they hope this project will contribute?

For a program evaluation, the project usually arises from the priorities of funders, agencies, practitioners and (hopefully) consumers of our services. They are the ones who define the purpose we discussed above and the questions we will ask.

In research, the project arises from a researcher's intellectual curiosity and desire to add to a body of knowledge around something they think is important and interesting. Researchers define the purpose and the questions asked in the project.

Effect

The effect of program evaluation and research is essentially what we're going to use our results for. For program evaluation, we will use them to make a decision about whether a program is worth continuing, what changes we might make to the program in the future or how we might change the resources we devote going forward. The results are often also used by our funders to make decisions about whether

they want to keep funding our program or not. (Outcome evaluations aren't the only thing that funders will look at—they also sometimes want to know whether our processes in the program were faithful to what we described when we requested funding. We'll discuss outcome and process evaluations in section 23.4.)

The effect of research—again, what we're going to use our results for—is typically to add to the knowledge and evidence base surrounding our topic. Research can certainly be used for decision-making about programs, especially to decide which program to implement in the first place. But that's not what results are primarily used for, especially by other researchers.

Execution

Execution is fundamentally the *how* of our project. What are the circumstances under which we're running the project?

Program evaluation projects that most of us will ever work on are frequently based in a nonprofit or government agency. Context is extremely important in program evaluation (and program implementation). As most of us will know, these are environments with lots of moving parts. As a result, running controlled experiments is usually not possible, and we sometimes have to be more flexible with our evaluations to work with the resources we actually have and the unique challenges and needs of our agencies. This doesn't mean that program evaluations can't be rigorous or use strong research methods. We just have to be realistic about our environments and plan for that when we're planning our evaluation.

Research is typically a lot more controlled. We do everything we can to minimize outside influences on our variables of interest, which is expected of rigorous research. Of course, some research is *extremely* controlled, especially experimental research and randomized controlled trials. this all ties back to the purpose, origins, and effects of research versus those of program evaluation—we're primarily building knowledge and evidence.

In the end, it's important to remember that these are guidelines, and you will no doubt encounter program evaluation projects that cross the lines of research, and vice versa. Understanding how the two differ will help you decide how to move forward when you encounter the need to assess the effect of a program in practice.

Key Takeaways

- Program evaluation is a systematic process that uses the scientific research method to determine the effects of social programs.

- Program evaluation and research are similar, but they differ in purpose, origins, effect and execution.
- The purpose of program evaluation is to judge the merit or worth of a program, whereas the purpose of research is primarily to contribute to the body of knowledge around a topic.
- The origins of program evaluation are usually funders and people working in agencies, whereas research originates primarily with scholars and their scientific interests.
- Program evaluations are typically used to make decisions about programs, whereas research is used to add to the knowledge and evidence base around a topic.
- Executing a program evaluation project requires a strong understanding of your setting and context in order to adapt your evaluation to meet your goals in a realistic way. The execution of research is much more controlled and seeks to minimize the influence of context.

Exercises

- If you were conducting a research project on the kinesthetic teaching methods that we talked about in this chapter, what is one research question you could study that aligns with the purpose, origins, and effects of research?
- Consider the research project you've been building throughout this book. What is one program evaluation question you could study that aligns with the purpose, origins, and effects of program evaluation? How might its execution look different than what you've envisioned so far?

23.2 Planning your program evaluation

Learning Objectives

Learners will be able to...

- Discuss how planning a program evaluation is similar and different from planning a research project
- Identify program stakeholders
- Identify the basics of logic models and how they inform evaluation
- Produce evaluation questions based on a logic model

Planning a program evaluation project requires just as much care and thought as planning a research project. But as we discussed in section 23.1, there are some significant differences between program evaluation and research that mean your planning process is also going to look a little different. You have

to involve the program stakeholders at a greater level than that found with *most* types of research, which will sometimes focus your program evaluation project on areas you wouldn't have necessarily chosen (for better or worse). Your program evaluation questions are far less likely to be exploratory; they are typically evaluative and sometimes explanatory.

For instance, I worked on a project designed to increase physical activity for elementary school students at recess. The school had noticed a lot of kids would just sit around at recess instead of playing. As an intervention, the organization I was working with hired recess coaches to engage the kids with new games and activities to get them moving. Our plan to measure the effect of recess coaching was to give the kids pedometers at a couple of different points during the year, and see if there was any change in their activity level as measured by the number of steps they took during recess. However, the school was also concerned with the rate of obesity among students, and asked us to also measure the height and weight of the students to calculate BMI at the beginning and end of the year. I balked at this because kids are still growing and BMI isn't a great measure to use for kids and some kids were uncomfortable with us weighing them (with parental consent), even though no other kids would be in the room. However, the school was insistent that we take those measurements, and so we did that for all kids whose parents consented and who themselves assented to have their weight measured. We didn't think BMI was an important measure, but the school did, so this changed an element of our evaluation.

In an ideal world, your program evaluation is going to be part of your overall program plan. This very often doesn't happen in practice, but for the purposes of this section, we're going to assume you're starting from scratch with a program and really internalized the first sentence of this paragraph. (It's important to note that no one *intentionally* leaves evaluation out of their program planning; instead, it's just not something many people running programs think about. They're too busy… well, running programs. That's why this chapter is so important!)

In this section, we're going to learn about how to plan your program evaluation, including the importance of logic models. You may have heard people groan about logic models (or you may have groaned when you read those words), and the truth is, they're a lot of work and a little complicated. Teaching you how to make one from start to finish is a little bit outside the scope of this section, but what I am going to try to do is teach you how to interpret them and build some evaluation questions from them. (Pro-tip: logic models are a heck of a lot easier to make in Excel than Word.)

> The Centers for Disease Control has a great, simple framework for planning your program evaluation project that I'm going to walk through with you below.

It has three primary steps: engaging stakeholders, describing the program and focusing the evaluation.

Step 1: Engaging stakeholders

Stakeholders are the people and organizations that have some interest in or will be impacted by our program. Including as many stakeholders as possible when you plan your evaluation will help to make it as useful as possible for as many people as possible. The key to this step is to listen. However, a note of caution: sometimes stakeholders have competing priorities, and as the program evaluator, you're going to have to help navigate that. For example, in our kinesthetic learning program, the teachers at your school might be interested in decreasing classroom disruptions or enhancing subject matter learning, while the administration is solely focused on test scores, while the administration is solely focused on test scores. Here is where it's a great idea to use your social work ethics and research knowledge to guide conversations and planning. Improved test scores are great, but how much does that *actually* benefit the students?



Step 2: Describe the program

Once you've got stakeholder input on evaluation priorities, it's time to describe what's going into the program and what you hope your participants and stakeholders will get out of it. Here is where a logic model becomes an essential piece of program evaluation. A **logic model** "is a graphic depiction (road map) that presents the shared relationships among the resources, activities, outputs, outcomes, and impact for your program" (Centers for Disease Control, 2018, para. 1). Basically, it's a way to show how what you're doing is going to lead to an intended outcome and/or impact. (We'll discuss the difference between outcomes and impacts in section 23.4.)

Logic models have several key components, which I describe in the list below (CDC, 2018). The components are numbered because of where they come in the "logic" of your program—basically, where they come in time order.

1. Inputs: resources (e.g. people and material resources) that you have to execute your program.
2. Activities: what you're actually doing with your program resources.
3. Outputs: the direct products and results of your program.
4. Outcomes: the changes that happen because of your program inputs and activities.
5. Impacts: the long-term effects of your program.

This video gives you a good introduction to logic models and the ways they can look.

The CDC also talks about moderators—what they call "contextual factors"—that affect the execution of your program evaluation. This is an important component of the *execution* of your project, which we talked about in 23.1. Context will also become important when we talk about implementation science in section 23.3.

Let's think about our kinesthetic learning project. While you obviously don't have full information about what the project looks like, you've got a good enough idea for a little exercise below.

An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=347

Step 3: Focus the evaluation

So now you know what your stakeholder priorities are and you have described your program. It's time to figure out what questions you want to ask that will reflect stakeholder priorities and are actually possible given your program inputs, activities and outputs.

Why do inputs, activities and outputs matter for your question?

- Inputs are your resources for the evaluation—do you have to do it with existing staff, or can you hire an expert consultant? Realistically, what you ask is going to be affected by the resources you can dedicate to your evaluation project, just like in a research project.
- Activities are what you can *actually* evaluate—for instance, what effect does using hopscotch to teach multiplication have?
- And finally, outputs are most likely your indicators of change—student engagement with administrators for behavioral issues, end-of-grade math test scores, for example.

Key Takeaways

- Program evaluation planning should be rigorous like research planning, but will most likely focus more on stakeholder input and evaluative questions
- The three primary steps in planning a program evaluation project are engaging stakeholders, describing your program, and focusing your evaluation.
- Logic models are a key piece of information in planning program evaluation because they describe how a program is designed to work and what you are investing in it, which are important factors in formulating evaluation questions.

Exercises

Imagine your research project is a program evaluation project.

- Who would the key stakeholders be? What is each stakeholder's interest in the project?
- What are the activities (the action(s) you're evaluating) and outputs (data/indicators) for your program? Can you turn them into an evaluation question?

23.3 Process evaluation and implementation science

Learning Objectives

Learners will be able to…

- Define process evaluation
- Explain why process evaluation is important for programs
- Distinguish between process and outcome measures
- Explain the purpose of implementation science and how it relates to program evaluation

Something we often don't have time for in practice is evaluating how things are going internally with our programs. How's it going with all the documentation our agency asks us to complete? Is the space we're using for our group sessions facilitating client engagement? Is the way we communicate with volunteers effective? All of these things can be evaluated using a **process evaluation,** which is an analysis of how well your program ended up running, and sometimes how well it's going in real time. If you have the resources and ability to complete one of these analyses, I highly recommend it—even if it stretches your staff, it will often result in a greater degree of efficiency in the long run. (Evaluation should, at least in part, be about the long game.)

From a research perspective, process evaluations can also help you find irregularities in how you collect data that might be affecting your outcome or impact evaluations. Like other evaluations, ideally, you're going to plan your process evaluation before you start the project. Take an iterative approach, though, because sometimes you're going to run into problems you need to analyze in real time.



Process evaluations can tell you if you're on the right road to success in your program.

The RAND corporation is an excellent resource for guidance on program evaluation, and they describe process evaluations this way: "Process evaluations typically track attendance of participants, program adherence, and how well you followed your work plan. They may also involve asking about satisfaction of program participants or about staff's perception of how well the program was delivered. A process evaluation should be planned before the program begins and should continue while the program is running" (RAND Corporation, 2019, para. 1).[3]

There are several key data sources for process evaluations (RAND Corporation, 2019),[4] some of which are listed below.

- Participant data: can help you determine if you are actually reaching the people you intend to.
- Focus groups: how did people experience the program? How could you improve it from the participant perspective?
- Satisfaction surveys: did participants get what they wanted from the program?
- Staff perception data: How did the program go for staff? Were expectations realistic? What did they see in terms of qualitative changes for participants?

- Program adherence monitoring: how well did you follow your program plans?

Using these data sources, you can learn lessons about your program and make any necessary adjustments if you run the program again. It can also give you insights about your staff's needs (like training, for instance) and enable you to identify gaps in your programs or services.

Implementation science: The basics

A further development of process evaluations, **implementation science** is "the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services" (Bauer et al., 2015).[5]

Put more plainly, implementation science studies how we put evidence-based interventions (EBIs) into practice. It's essentially a form of process evaluation, just at a more macro level. Implementation science is a relatively new field of study that focuses on how to best put interventions into practice, and it's important because it helps us analyze on a macro level those factors that might affect our ability to implement a program. Implementation science focuses on the context of program implementation, which has significant implications for program evaluation.

A useful framework for implementation science is the EPIS (Exploration, Preparation, Implementation and Sustainment) framework. It's not the only one out there, but I like it because to me, it sort of mirrors the linear nature of a logic model.

The EPIS framework was developed by Aarons, Hurlburt and Horwitz (first published 2011). (The linked article is behind a paywall, the abstract is still pretty useful, and if you're affiliated with a college or university, you can probably get access through your library.) This framework emphasizes the importance of the context in which your program is being implemented—inner, organizational, context and outer, or the political, public policy and social contexts. What's happening in your organization and in the larger political and social sphere that might affect how your program gets implemented?

There are a few key questions in each phase, according to Aarons, Hurlburt and Horwitz (2011):[6]

- Exploration phase: what is the problem or issue we want to address? What are our options for programs and interventions? What is the best way to put them into practice? What is the organizational and societal context that we need to consider when choosing our option?
- Preparation: which option do we want to adopt? What resources will we need to put that option into practice? What are our organizational or sociopolitical assets and challenges in putting this option into practice?
- Implementation: what is actually happening now that we're putting our option into practice? How

is the course of things being affected by contexts?
- Sustainment: what can we do to ensure our option remains viable, given competing priorities with funding and public attention?

Implementation is a new and rapidly advancing field, and realistically, it's beyond what a lot of us are going to be able to evaluate in our agencies at this point. But even taking pieces of it—especially the pieces about the importance of context for our programs and evaluations—is useful. Even if you don't use it as an evaluative framework, the questions outlined above are good ones to ask when you're planning your program in the first place.

Key Takeaways

- A process evaluation is an analysis of how your program actually ran, and sometimes how it's running in real time.
- Process evaluations are useful because they can help programs run more efficiently and effectively and reveal agency and program needs.
- The EPIS model is a way to analyze the implementation of a program that emphasizes distinct phases of implementation and the context in which the phases happen.
- The EPIS model is also useful in program planning, as it mirrors the linear process of a logic model.

Exercises

- Consider your research project or, if you have been able to adapt it, your program evaluation project. What are some inner/organizational context factors that might affect how the program gets implemented and what you can evaluate?
- What are some things you would want to evaluate about your program's process? What would you gain from that information?

23.4 Outcome and impact evaluations

Learning Objectives

Learners will be able to...

- Define outcome
- Explain the principles of conducting an outcome evaluation
- Define impact
- Explain the principles of conducting an impact evaluation
- Explain the difference between outcomes and impacts

A lot of us will use "outcome" and "impact" interchangeably, but the truth is, they are different. An **outcome** is the final condition that occurs at the end of an intervention or program. It is the short-term effect—for our kinesthetic learning example, perhaps an improvement over last year's end-of-grade math test scores. An **impact** is the long-term condition that occurs at the end of a defined time period after an intervention. It is the longer-term effect—for our kinesthetic learning example, perhaps better retention of math skills as students advance through school. Because of this distinction, outcome and impact evaluations are going to look a little different.

But first, let's talk about how these types of evaluations are the same. Outcome and impact evaluations are all about change. As a result, we have to know what circumstance, characteristic or condition we are hoping will change because of our program. We also need to figure out what we think the causal link between our intervention or program and the change is, especially if we are using a new type of intervention that doesn't yet have a strong evidence base.

For both of these types of evaluations, you have to consider what type of research design you can actually use in your circumstances—are you coming in when a program is already in progress, so you have no baseline data? Or can you collect baseline data to compare to a post-test? For impact evaluations, how are you going to track participants over time?

The main difference between outcome and impact evaluation is the timing and, consequently, the difficulty and level of investment. You can pretty easily collect outcome data from program participants at the end of the program. But tracking people over time, especially for populations social workers serve, can be extremely difficult. It can also be difficult or impossible to control for whatever happened in your participant's life between the end of the program and the end of your long-term measurement period.

Impact evaluations require careful planning to determine how your follow-up is going to happen. It's a good practice to try to keep intermittent contact with participants, even if you aren't taking a measurement at that time, so that you're less likely to lose track of them.

Key Takeaways

- Outcomes are short-term effects that can be measured at the end of a program.
- Outcome evaluations apply research methods to the analysis of change during a program and try to establish a logical link between program participation and the short-term change.
- Impacts are long-term effects that are measured after a period of time has passed since the end of a program.
- Impact evaluations apply research methods to the analysis of change after a defined period of time has passed after the end of a program and try to establish a logical link between program participation and long-term change.

Exercises

Is each of the following examples an outcome or an impact? Choose the correct answer.



An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=347



An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=347



An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=347



An interactive or media element has been excluded from this version of the text. You can view it online here:
https://pressbooks.rampages.us/msw-research/?p=347

23.5 Ethics and culture in program evaluation

Learning Objectives

Learners will be able to...

- Discuss cultural and ethical issues to consider when planning and conducting program evaluation
- Explain the importance of stakeholder and participant involvement to address these issues

In a now decades-old paper, Stake and Mabry (1998)[7] point out, "The theory and practice of evaluation are of little value unless we can count on vigorous ethical behavior by evaluators" (p. 99). I know we always say to use the most recent scholarship available, but this point is as relevant now as it was over 20 years ago. One thing they point out that rings particularly true for me as an experienced program evaluator is the idea that we evaluators are also supposed to be "program advocates" (p. 99). We have to work through competing political and ideological differences from our stakeholders, especially funders, that, while sometimes present in research, are especially salient for program evaluation given its origins.

There's not a rote answer for these ethical questions, just as there are none for the practice-based ethical dilemmas your instructors hammer home with you in classes. You need to use your research and social work ethics to solve these problems. Ultimately, do your best to focus on rigor while meeting stakeholder needs.

One of the most important ethical issues in program evaluation is the implication of *not* evaluating your program. Providing an ineffective intervention to people can be extremely harmful. And what happens if our intervention actually *causes* harm? It's our duty as social workers to explore these issues and not just keep doing what we've always done because it's expedient or guarantees continued funding. I've evaluated programs before that turned out to be ineffective, but were required by state law to be delivered to a certain population. It's not just potentially harmful to clients; it's also a waste of precious resources that could be devoted to other, more effective programs.

We've talked throughout this book about ethical issues and research. All of that is applicable to program evaluation too. Federal law governing IRB practice does not require that program evaluation go through IRB if it is not seeking to gather generalizable knowledge, so IRB approval isn't a given for these projects. As a result, you're even more responsible for ensuring that your project is ethical.

Cultural considerations

Ultimately, social workers should start from a place of humility in the face of cultures or groups of which we are not a part. Cultural considerations in program evaluation look similar to those in research. Something to consider about program evaluation, though: is it your duty to point out potential cultural humility issues as part of your evaluation, even if you're not asked to? I'd argue that it is.

It is also important we make sure that our definition of success is not oppressive. For example, in Australia, the government undertook a program to remove Aboriginal children from their families and assimilated them into white culture. The program was viewed as successful, but the measures of success were based on oppressive beliefs and stereotypes. This is why stakeholder input is essential–especially if you're not a member of the group you're evaluating, stakeholders are going to be the ones to tell you that you may need to reconsider what "success" means.



Unrau , Gabor, and Grinnell (2007)[8] identified several important factors to consider when designing and executing a culturally sensitive program evaluation. First, evaluators need "a clear understanding of the impact of culture on human and social processes generally and on evaluation processes specifically and... skills in cross-cultural communications to ensure that they can effectively interact with people

from diverse backgrounds" (p. 419). These are also essential skills in social work practice that you are hopefully learning in your other classes! We should strive to learn as much as possible about the cultures of our clients when they differ from ours.

The authors also point out that evaluators need to be culturally aware and make sure the way they plan and execute their evaluations isn't centered on their own ethnic experience and that they aren't basing their plans on stereotypes about other cultures. In addition, when executing our evaluations, we have to be mindful of how our cultural background affects our communication and behavior, because we may need to adjust these to communicate (both verbally and non-verbally) with our participants in a culturally sensitive and appropriate way.

Consider also that the type of information on which *you* place the most value may not match that of people from other cultures. Unrau , Gabor, and Grinnell (2007)[9] point out that mainstream North American cultures place a lot of value on hard data and rigorous processes like clinical trials. (You might notice that we spend a lot of time on this type of information in this textbook.) According to the authors, though, cultures from other parts of the world value relationships and storytelling as evidence and important information. This kind of information is as important and valid as what we are teaching you to collect and analyze in most of this book.

Being the squeaky wheel about evaluating programs can be uncomfortable. But as you go into practice (or grow in your current practice), I strongly believe it's your ethical obligation to push for evaluation. It honors the dignity and worth of our clients. My hope is that this chapter has given you the tools to talk about it and, ultimately, execute it in practice.

For more information on the evaluation of social work practice, consult this open textbook called A primer on practice evaluation: How to participate in the process of evidence-based practice developed by Dr. Elspeth Slayter who also peer reviewed this chapter (thanks!)

Key Takeaways

- Ethical considerations in program evaluation are very similar to those in research.
- Culturally sensitive program evaluation requires evaluators to learn as much as they can about cultures different from their own and develop as much cultural awareness as possible.
- Stakeholder input is always important, but it's essential when planning evaluations for programs serving people from diverse backgrounds.

Exercises

- Consider the research project you've been working on throughout this book. Are there cultural considerations in your planning that you need to think about?
- If you adapted your research project into a program evaluation, what might some ethical considerations be? What ethical dilemmas could you encounter?

Media Attributions

- "School children" by Prato is licensed under CC BY-NC-ND 4.0 © Prato is licensed under a CC BY-NC-ND (Attribution NonCommercial NoDerivatives) license
- "IMG_6705" by swayinglights is licensed under CC BY-ND 4.0 © Michael R. Shaughnessy
- "Two colleagues, a transgender woman and a non-binary person, laughing in a meeting at work." by Zachary Drucker is licensed under CC BY-NC-ND 4.0 © Zackary Drucker is licensed under a CC BY-NC-ND (Attribution NonCommercial NoDerivatives) license
- "Winding Road" by dirk1812 is licensed under CC BY-NC-SA 4.0
- "Native american dancer" by Alan Berning is licensed under CC BY-NC-SA 4.0 © Alan Berning is licensed under a CC BY-NC-SA (Attribution NonCommercial ShareAlike) license

Notes

1. Pruett, R. (2000). Program evaluation 101. Retrieved from https://mainweb-v.musc.edu/vawprevention/research/programeval.shtml
2. Mathison, S. (2007). What is the difference between research and evaluation—and why do we care? In N. L. Smith & P. R. Brandon (Eds.), *Fundamental issues in evaluation* (pp. 183-196). New York: Guilford.
3. RAND Corporation. (2020). Step 07: Process evaluation. Retrieved from https://www.rand.org/pubs/tools/TL259/step-07.html.
4. RAND Corporation. (2020). Step 07: Process evaluation. Retrieved from https://www.rand.org/pubs/tools/TL259/step-07.html.
5. Bauer, M., Damschroder, L., Hagedorn, H., Smith, J. & Kilbourne, A. (2015). An introduction to implementation science for the non-specialist. *BMC Psychology*, 3(32).
6. Aarons, G., Hurlburt, M. & Horwitz, S. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*, 38(1), pp. 4-23.
7. Stake, R. & Mabry, L. (2007). Ethics in program evaluation. *Scandinavian Journal of Social Welfare*, 7(2).
8. Unrau, Y., Gabor, P. & Grinnell, R. (2007). *Evaluation in social work: The art and science of practice*. New York, New York: Oxford University Press.

9. Unrau, Y., Gabor, P. & Grinnell, R. (2007). *Evaluation in social work: The art and science of practice*. New York, New York: Oxford University Press.

24. Sharing and consuming research

Chapter Outline

1. Sharing your results (13 minute read)
2. Sharing with an academic audience (16 minute read)
3. Sharing with professional and lay audiences (8 minute read)
4. Consuming research as professional development (16 minute read)
5. The future of research is open (6 minute read)

Content warning: examples in this chapter contain references to drug use, overdose, and gun violence.

24.1 Sharing your results

Learning Objectives

Learners will be able to...

- Define dissemination, and apply the process of audience identification, location, and acquisition to your project
- Identify the limits of dissemination for your project, taking into account your ethical obligations and the input of your department and IRB

At this point, we expect that you have completed your project and are ready to share your results. This chapter will guide you through sharing your research with academic, professional, and lay audiences. Additionally, we will cover your future role as a consumer of research as part of evidence-based practice, and share techniques for integrating research into practice after you graduate. We'll also discuss some of the barriers students face in accessing information in the practice world.

Sharing it all: The good, the bad, and the ugly

Because conducting social work research is a scholarly pursuit and because social work researchers generally aim to reach a true understanding of social processes, it is crucial that we share all aspects

of our research—the good, the bad, and the ugly. Doing so helps ensure that others will understand, use, and effectively critique our work. It also honors our ethical commitment to our profession and our research participants who shared their data with us. We considered this aspect of the research process in Chapter 6, but it is worth reviewing here as well. In that chapter, we learned about the importance of sharing all aspects of our work for ethical reasons and for the purpose of replication and verification of scientific findings. In preparing to share your work with others, and in order to meet your ethical obligations as a social work researcher, challenge yourself to answer the following questions:

- Why did I conduct this research?
- How did I conduct this research?
- For whom did I conduct this research?
- What conclusions can I reasonably draw from this research?
- Knowing what I know now, what would I do differently?
- What are the limitations of this project?

Understanding why you conducted your research will help you be honest—with yourself and your audience—about your own personal interest, investments, or biases with respect to the work. In Chapter 2, we suggested that starting where you are is an effective way to begin a research project. While this is true, starting where you are requires that, as a researcher, you be honest with yourself and your readers about your thoughts and biases on the issue and why you have chosen to conduct this research. Being able to clearly communicate how you conducted your research is also important. This means being honest and transparent about your data collection methods, sample and sampling strategy, and data analysis.

The third question in the list is designed to help you articulate who the major stakeholders are in your research. Of course, the researcher is a stakeholder. Additional stakeholders might include funders, research participants, or others who share something in common with your research subjects (e.g., members of some community where you conducted research or members of the same social group, such as parents or athletes, upon whom you conducted your research). Stakeholders may want to briefed on the results of your study. Often, researchers will offer access to the results as a benefit of participating in a project. In addition to these more informal venues, think about what formal outlets there are for your research.

The fourth question should help you think about what you found, the often tedious steps you took to make sure you followed the scientific method, and the resulting strengths of your study. Finally, the last two questions are designed to make you think about potential weaknesses in your work and how future research might build from or improve upon your work. Presenting your research honestly requires admitting the limitations of your study but arguing why the results are important anyway. All scientific studies contain limitations and are open to questioning.



Dissemination

Dissemination refers to "a planned process that involves consideration of target audiences and the settings in which research findings are to be received and, where appropriate, communicating and interacting with wider policy and…service audiences in ways that will facilitate research uptake in decision-making processes and practice" (Wilson, Petticrew, Calnan, & Natareth, 2010, p. 91).[1] In other words, dissemination of research findings involves careful planning, thought, consideration of target audiences, and communication with those audiences. Writing up results from your research and having others take notice are two entirely different propositions. In fact, the general rule of thumb is that people will not take notice unless you encourage them to do so.

Disseminating your findings successfully requires determining *who* your audience is, *where* your audience is, and *how* to reach them. When considering who your audience is, think about who is likely to take interest in your work. Your audience might include those who do not express enthusiastic interest but might nevertheless benefit from an awareness of your research. Your research participants and those who share some characteristics in common with your participants are likely to have some interest in what you've discovered in the course of your research. Other scholars who study similar topics are

another obvious audience for your work. Perhaps there are policymakers who should take note of your work. Organizations that do work in an area related to the topic of your research are another possibility. Finally, any and all inquisitive and engaged members of the public represent a possible audience for your work.

Where your audience is should be fairly obvious once you think about it for a little while. You know where your research participants are because you've studied them. You can find interested scholars on your campus (e.g., perhaps you could offer to present your findings at a campus event); at professional conferences; and via publications, such as professional organizations' newsletters (an often-overlooked source for sharing findings in brief form) and scholarly journals. Policymakers include your state and federal representatives who, at least in theory, should be available to hear a constituent speak on matters of policy interest. Perhaps you're already aware of organizations that do work in an area related to your research topic, but if not, a simple web search should help you identify possible organizational audiences for your work. Disseminating your findings to the public more generally could take any number of forms: a letter to the editor of the local newspaper, a blog, or even a post or two on your social media channels.

Finally, determining how to reach your audiences will vary according to which audience you wish to reach. Your strategy should be determined by the norms or rules associated with each audience. For example, editors at scholarly journals provide author submission instructions that clearly define requirements for anyone wishing to disseminate their work via a particular journal. The same is true for newspaper editorials—check your newspaper's website for details about how to format and submit letters to the editor. If you wish to reach out to your political representatives, a call to their offices or a simple web search should tell you how to do so.

Whether you act on any or all of these suggestions is ultimately your decision. But if you've conducted high-quality research and you have findings that are likely to be of interest to people besides yourself, I would argue that it is your duty as a scholar and a social worker to share those findings. In sum, disseminating findings involves the following three steps:

- Determine *who* your audience is
- Identify *where* your audience is
- Discover *how* best to reach them

Tailoring your message to your audience

Once you are able to articulate what to share, you must decide with whom to share it. While you would never alter your actual findings for different audiences, understanding who your audience is will help you frame your research in a way that is most meaningful to that audience. Certainly, the most obvious candidates with whom you'll share your work are other social scientists. If you are conducting research

for a class project, your main "audience" will probably be your professor. Perhaps you'll also share your work with other students in the class or with family and friends.

What is more challenging, and possibly a little scary, is sharing your research with the wider world. Sharing with *professional audiences* is designed not only to bring your work to the attention of other social scientists and academics, but also other social workers or professionals who practice in areas related to your research. For example, scientists are probably the most interested in a study's methods, particularly statistical tests or qualitative data analysis frameworks. Sharing your work with this audience will require you to talk about your methods and data in a different way than you would with other audiences.

Many outlets for sharing your research will not let you do so until your results have undergone peer review, which as you'll remember from Chapter 3, is a formal process in which other esteemed researchers and experts ensure your work meets the standards and expectations of the professional field. Peer review is used for both conference presentations and journal publications, though not all presentations and articles are peer-reviewed. Scientists who evaluate your work will be looking to make sure that your conclusions follow logically from your data, your design minimized error and threats to validity, and your review and analysis of the literature is reasonable and thorough.

In my short career as a social work researcher, I've conducted two major projects. The first was on policies for individuals with intellectual and developmental disabilities (IDD) and the service delivery systems within Medicaid. After we completed the data analysis, we sought publication in academic journals related to our topic, like the *Journal of Disability Policy Studies* and *Journal of Intellectual and Developmental Disability*. In this way, our work would be shared more widely among other scholars and academics who study IDD and Medicaid policy.

Helpfully, these journals were also interdisciplinary. Why limit sharing our results to just social workers? Nurses, government administrators, client advocates, and countless others could make use of our data in their work. It is important for social workers to look outside the discipline when they share their results. Look back at your literature review and note the journal articles that commonly publish on your topic. Not only should you consider submitting your results to these journals, but you should consider subscribing to them (in print or electronically) to stay current on the literature in your topic area as part of evidence-based practice.

The second topic I've conducted research on is open educational resources (OER). This textbook is an example of OER, as it is a freely available resource that allows anyone to customize and redistribute the content. Along with some colleagues in the school of social work at Radford University, we set about measuring the impact of open textbooks like this one on student learning and also estimated textbook cost burden for students. Our target audience was social work educators, so we are targeting our dissemination to social work education conferences—covered in detail in the next section—and social work education journals like the *Journal of Social Work Education* and the *Journal of Teaching in Social Work*. Hopefully, our presentations and articles will bring closer scrutiny to the issue of textbook costs and OER as an alternative to costly, commercial textbooks, access codes, and other required resources.

Constraints for dissemination of student research products

Social work research accomplishes nothing if it does not affect the communities and populations being studied. This can pose a challenge for student projects, however, if they are not reviewed and approved by their institution's IRB. Without IRB approval, public dissemination of research findings cannot happen. Student projects are often granted certain exceptions from the normal IRB research review process, as the results are confined to the classroom. Just like you can talk about practice situations in a practice class, you can talk about your research in a research class. To disseminate publicly and truly impact the community, you should check with your professor and IRB to make sure that any dissemination you plan to conduct falls within the agreement between the IRB and the social work faculty teaching your class.

One of the key issues in dissemination of student research projects is confidentiality. While you are unlikely to purposefully give away information about who participated in your study, it is important to note the ways in which your audience may be able to identify participants in your research study. If your study examined experiences of men in social work graduate programs, it is likely your audience would assume your participants were from your university, and since social work is a heavily female profession, they could probably identify which handful of men in your program participated in the project. Even if you were to use more general language like, "this study was conducted with MSW students at a mid-sized public university in a rural area," your university affiliation and the characteristics of the community may make your data less confidential and more identifiable.

A similar problem exists with projects completed in collaboration with local agencies. Even if you were to present your study as conducted "at a local hospital" or something similarly vague, your peers and local audience may be able to decipher which hospital you conducted your study at. If your findings did not reflect well on the care or staff of that hospital, your study may unethically harm the community you studied. However, if these results were shared at a national conference, it may be more difficult to locate the exact hospital in which you collected your data. There are few hard-and-fast rules for balancing these issues.

Consult with your professor on the boundaries typical for student research projects at your school. They may also have specific venues at which you will disseminate your research, including student research conferences or symposia. Some schools also host university repositories which store theses. If your school requires you to write a formal thesis, you may be required or encouraged to share your work via the university repository. It's important to note that doing so will not impact your ability to publish your work in a journal, and it will assist with presenting your findings at a conference, as interested audience members can access your full work immediately.

In spite of these constraints, we encourage you to think of ways to bring public awareness to your findings. The next few sections will discuss presentations for academic, professional, and lay audiences. Without dissemination, your research project can seem like a futile and useless endeavor. Make your project count!

Key Takeaways

- Sharing your results starts with being honest with yourself about your project.
- Dissemination is as important as the rest of the project combined, as it is the public representation of each component of your project.
- There are a variety of potential audiences for your research projects, including other scholars, practitioners, clients, and community members. It's important to identify how to reach each of them to maximize the impact of your project.
- Student projects often have limitations that make them difficult to apply in the real world, as they must be conducted in a short time period with little money. Students must check with their department and the IRB before sharing their results with the public.

Exercises

- Identify your key audience(s): Where do they gather? How can you share your research with them? Sketch out a dissemination plan. If you don't share information about your project, how will anyone benefit from it?
- Discover what limitations on dissemination are placed on your project by the faculty and the IRB at your school.
- What limitations are there in your project that might impact how people could use your results in practice? How can you present your work honestly to others while still maximizing its impact?

24.2 Sharing with an academic audience

Learning Objectives

Learners will be able to...

- Identify potential academic outlets for sharing your research, including conferences and journals
- Differentiate between the types of presentations at academic conferences and which match best with student projects

The most immediate audience for your research project is your professor and your research methods class. We are not going to focus on this domain, as it is best handled by the professor at your individual institution. Check the syllabus and the prompt for this assignment, as well as any class notes the

professor provided about the project. At my institution, Radford University, we require students to present their research project as part of a poster session to be rated by faculty as well as at a community event. Students are guided through the process of poster creation as part of their integrative seminar, and they are required to contextualize their findings within relevant social work theory, practice models, and social welfare policies. If you haven't gotten clear instructions on what to do with your project once it's done, now is the time to check in with your professor and double-check the course syllabus.

This section will cover presenting your findings to academic audiences outside of your immediate classroom. As previously stated, you must ensure that your IRB and social work department support public dissemination of your research products. Assuming this requirement has been met, let's introduce you to the academic social work research ecosystem. Addressing an academic audience means you will be talking with people who may (a) research the same topic as you (b) teach that topic (c) plan or administer programs that teach that topic. If these aren't important audiences for your project, you should read the following section with the purpose of understanding academic conferences as a consumer of information.

Social work education conferences

One of the many pieces of advice I received in my social work PhD program was to start attending social work research conferences. When you are in a graduate or doctoral program, the social work world can seem quite small—one department, one faculty, one academic building. Academic conferences provide you with the opportunity to see the immense scale of social work research and the innovations that are happening across the country and the world. Your first academic conference will likely be an eye-opening experience as you see the depth of research undertaken by academic researchers and researcher-practitioners in the field of social work. You will likely find a community of scholars who are doing incredible work and are supportive of your work as a researcher.

If you feel like academic conferences are only for senior faculty members with much more experience and expertise than you, I encourage you to reconsider that idea. Impostor syndrome never goes away, even for experienced researchers, so you may as well start dealing with it now by ignoring the voice in your head that tells you that you don't belong in room full of big-wigs. Student posters make faculty members happy, as they demonstrate the hard work of our students and our program. Don't be afraid to share what you accomplished! You may develop connections with researchers and practitioners to collaborate with in the future.

Table 24.1 provides a short overview of each academic social work research conference relevant to the United States context, as that is the authors' context. Information in this chart was correct as of Summer 2020 (pre-pandemic). Due dates often shift from year to year, so be sure to consult the website for each conference for the most current information or join the organization's mailing list. Websites for the

international conferences listed below sometimes change from year to year and may be out of date past 2020. Social work faculty have collaboratively created a list of conferences from 2019-2021 that may also be of assistance.

Table 24.1: Academic conferences in social work

Association & Conference	Website	When is it?	Proposals are due	Who attends?
CSWE Council on Social Work Education's Annual Program Meeting (APM)	https://cswe.org/Events-Meetings	October or November	February	Professors, students, administrators, academic and other formal researchers. This is the largest conference in social work.
SSWR Society for Social Work and Research Annual Conference	https://secure.sswr.org/	January	April	Professors, students, and researchers. This conference focuses on heavily on research rigor.
BPD Association of Baccalaureate Program Directors Annual Conference	https://www.bpdonline.org/	March	July	Professors, students, administrators, mostly from BSW programs. This conference focuses on teaching and pedagogy.
International Federation of Social Work (IFSW) Social Work and Social Development Conference (SWSD)	https://swsd2020.com/ (held every two years)	July	November	Professors & researchers from international social work schools. This conference and SWESD used to be the same.
The International Association of Schools of Social Work (IASSW) Social Work Education and Social Development Conference (SWESD)	http://www.swesd2020.org/ (held every two years)	July	December	Professors & researchers from international social work schools. This conference and SWSD used to be the same.

Our Lady of the Lake University Worden School of Social Service Social Work Distance Education Conference (SWDE)	http://www.ollusa.edu/swde/	April	April	Professors & administrators from distance education (online) social work programs. This conference is one of many sponsored by specific schools of social work.
Influencing Social Policy (ISP) MACRO Conference (formerly Policy 2.0)	https://influencingsocialpolicy.org/	May	February	Professors & policy practitioners. This conference focuses on policy studies, research, and pedagogy.

Types of conference presentations

Academic conferences use a few different presentation types to direct the interaction of participants and speakers. Some are more formal, like oral presentations. Others are more interactive, like workshops and roundtable presentations. Generally, most MSW students will choose to present a poster, though I have seen engaging and impactful student presentations of all types.

An **oral presentation** is probably what you think of when you think of a conference presentation. A person at the front of a room with some slides, talking about the results of a study. It is very similar to the presentations you would give inside of a classroom. Your university or social work department likely has a PowerPoint template they would like you to use when presenting at a conference. Doing so allows others to see where your work is from and allows your department and university to brand the research presented at conferences.

When preparing an oral presentation, it is very important to get details well in advance about the expected length of your presentation, and whether any visual aids such as video or slideshows are expected by your audience. At conferences, the typical oral presentation is usually expected to last between 20 to 40 minutes, though it will vary by conference. While this may sound like a tortuously lengthy amount of time, you'll be amazed by how easily time can fly the first time you present formally. Researchers, myself included, can get so caught up explaining minute details that we don't have enough time to thoroughly address the key conclusions of the study. To avoid this all-too-common occurrence, it is crucial that you repeatedly practice your presentation in advance—and time yourself.

One stumbling block in oral presentations of research work is spending too much time on the literature review. Keep in mind that with limited time, audience members will be more interested in hearing

about your original work than a long list of previous studies to introduce your own research. While in scholarly written reports you must discuss the studies that have come before yours, in a presentation of your work, the key is to use what precious time you have to highlight your findings. Whatever you do in your oral presentation, do not read your paper verbatim. Nothing will bore an audience more quickly. Highlight only the key points of your study. These generally include your research question, your methodological approach, your major findings, and a few final takeaway messages.

This advice is also true for **workshops**. Workshops are interactive, hands-on presentations which teach the audience members new skills, so spending too much time in the literature and not on practical tools would be inappropriate. Often, workshops are structured to allow audience members to role-play with a new resource or to conduct group discussions or projects, modeling what would happen in a practice situation. Workshops are a good idea for student projects whose implications can be put into practice by educators or students. They also require careful planning insofar as selecting activities with which to engage your audience.



In less formal **roundtable presentations** of your work, the aim is usually to help stimulate a conversation about a topic. You'll be expected to structure the conversation by providing discussion questions, background information, or practice examples. Roundtables are unlikely to use slideshows, but

handouts are often used by presenters. Roundtables can be especially useful when your research is in an early stage of development. Perhaps you've conducted a pilot study and you'd like to talk through some of your findings and get some ideas about where to take the study next. A roundtable is an excellent place to get suggestions and to also get a preview of the objections reviewers may raise with respect to your conclusions or your approach. Roundtables are also suitable places to network and meet other scholars who share a common interest with you.

Panel presentations are also discussion-based but are more formal than roundtables. Panels are usually composed of experts on an issue. Each will give a brief statement of their expertise and opinion about a topic and participate in a conversation based on statements or prepared discussion questions. Panels often leave more time for audience engagement. Panelists often create an outline of key talking points to use and engage with the work of their fellow panelists, who often come from different perspectives or participate in projects related to the same topic.

Finally, in a **poster presentation,** you visually present your work. Just as you wouldn't read a paper verbatim in a formal presentation, avoid at all costs printing and pasting your paper onto a poster board. Instead, think about how to tell the "story" of your work in graphs, charts, tables, and other images. Bulleted points are also fine, as long as the poster isn't so wordy that it would be difficult for someone walking by very slowly to grasp your major argument and findings. Your university of social work department likely has a template they wish for you to use for poster presentations, so consult with your professor. Most poster presentations are e-posters, and you will stand in front of a television screen with up to three very large powerpoint slides you can cycle back and forth between. Poster presentations are often scheduled simultaneously, and people will spend time moving from poster to poster during each session. Some conferences still use paper posters. If this is the case at the conference you plan to attend, consult with your university's printing office or a local printing shop for assistance with printing large-format color posters. Posters are generally between three and five feet in width and height.

Posters, like roundtables, can be quite helpful at the early stages of a research project because they are designed to encourage the audience to engage you in conversation about your research. Don't feel that you must share every detail of your work in a poster; the point is to share highlights and then converse with your audience to get their feedback, hear their questions, and provide additional details about your research.

Submitting a proposal

Depending on the conference, there may be a specific call for proposals (CFP) for students or only one CFP for both students and non-student researchers . If your research project was completed in collaboration with other researchers, be sure to reach out to them before you submit. It is best to have as many research team members present for a presentation as possible, but it may not be practical for

all team members to join. Conference proposals and presentations should be included in the planned workflow of any project, and submissions should be approved by all relevant team members.

Conferences also vary in their requirements for submission, with some requiring only a few hundred words while others requiring a few pages of text. Usually, a research proposal can be easily adapted into a conference proposal with some minor tweaks. Be sure to follow the guidelines set out in the call for proposals, as reviewers will penalize you for straying outside of them. Proposal submissions are usually handled through an online submission system, and it is a good idea to write your proposal drafts in an external document and copy and paste them into the submission system. This way, you can use the spelling and grammar checking in your Word processor and the commenting and track changes feature in collaboration with any other research team members.

Submitting to a conference usually requires the author to indicate that they are planning to attend the conference. Presenters will have to pay a registration fee and often a membership fee to the association sponsoring the conference in order to present their work. Conferences often offer discounted student rates, and many further discount registration and membership fees for students who volunteer at the conference. Registration fees are cost barriers for students and faculty, though the money from conferences provides funding for important professional organizations.

To cover these expenses, ask your professor about grant opportunities within the university, community, or with professional organizations that support graduate student research dissemination. Unfortunately, with grant funds comes the complicated process of travel and reimbursement policies from universities. Many universities have contracts with travel agencies or restrictions on lodging, transportation, and other costs commonly incurred during conference travel. These requirements can be a pain and may require you to pay up front for various costs and get reimbursed by the institution, which is not possible for many students who are already economically strained from tuition and fees. These further perpetuate a cycle in which conferences privilege the knowledge of the well-off and well-positioned. I encourage you to pursue these supports for your research regardless, as there are ways to minimize the impact of these inequitable barriers. But it is important to be up front about them.

Writing a journal article

Presentations at academic conferences are a good outlet for student projects. Not only are you exposed to a wide range of other research from students, faculty, and researchers in the field, but presentations are relatively easy to get accepted in comparison to journal articles. Journals are more restrictive about what they will publish, as they have limited space for articles in the issues they publish each year. However, that should not stop you from submitting! One of the best experiences I had in my MSW program was submitting my thesis work as a journal article, which was a requirement to graduate. Even though my submission was ultimately given a “revise and resubmit” response from the reviewers,

preparing a journal article felt different than preparing a paper for class. Everything felt more "real," like the paper would be read by more than just my professors.

If writing a journal article sounds like a lot of work, you would be correct. I do have some good news, though. As part of your research methods course, you have completed about 40% of your article already! Empirical journal articles, as we discussed in Chapter 3, have five sections–Introduction, Methods, Results, Discussion, Conclusion. Your research proposal covers the first two sections, the introduction and methods. While you will need to change the tense of your methods section from what you *will do* in your study to what you *did do* in your study, the majority of the content in your proposal can stay the same. Using the advice in Chapter 16 and Chapter 21, you should be able to write a coherent results section, though you may need to consult additional sources to cover more advanced data analysis techniques. All that is left is to contextualize your findings in the literature for your discussion section and discuss the key conclusions and implications of your study.

It is beyond the scope of this textbook to provide you a detailed guide to writing an academic journal article. There are number of books and guides available for help, though I haven't found any that I would recommend over others. Wendy Belcher, author of *Writing Your Journal Article in Twelve Weeks: A Guide to Academic Publishing Success*, offers her worksheets for writing a journal article for free on her website.

Instead of reviewing the steps of writing a journal article, let's focus on identifying the right journal to submit to. The first decision you will need to make is whether to submit to a journal that is specifically dedicated to students, such as the Columbia Social Work Review, or for special calls in journals for student research. Submitting an article to one of these venues means you will be competing against other students, and unfortunately, some researchers may be reluctant to cite work found in a student-authored journal.

If, on the other hand, you want to submit your article as any other researcher would, look at journals that often publish on your topic. Perhaps you want to publish in a journal that is cited often in your references. Your article will be in competition with articles from seasoned researchers. We suggest working with a faculty mentor who can help you fine-tune your article for publication. You may also want to reach out to other scholars who publish in your topic area and ask for assistance. They may suggest additional literature you did not find or offer edits to your content to better meet the expectations of journal reviewers. Once you submit a journal article, you will either receive a rejection or a "revise and resubmit". With the latter, the journal may accept your article if you make the suggested revisions.

As with conference presentations, if you have research collaborators, writing a journal article should be a collaborative endeavor. While you will need to find a journal that publishes in your area, note as well that journals are reluctant to publish highly similar articles. Your study should add something new to the journal's output as well as the literature more broadly. Each journal will have specific instructions on format, citation style, length, and other considerations. Be sure to attend to each and every detail. Incorrectly constructed and submitted articles are easy to reject.

While writing a journal article may seem impractical or unnecessary, I would encourage you to reconsider that. A publication in an academic journal is an excellent highlight on your resume, particularly if you are planning to continue into doctoral study or work as a social work researcher or policy/program analyst after graduation. If you made your project something important to you, your community, and the literature on your topic, it should be worthy of publication.

Do not let impostor syndrome stand in the way of your growth as a scholar.

Key Takeaways

- Student projects make for strong poster presentations, roundtables, and other forms of conference presentations.
- Impostor syndrome can get in the way of preparing your work for public consumption at a conference or in a journal.
- Both journals and conferences have specific rules for authors who want to submit and long timelines between submission and an acceptance or rejection.

Exercises

- Create a short list of potential conferences in social work as well as your area of interest in which you could present your research. Find the date and time for their next meeting as well as this year's or last year's call for proposals. Identify for which type of presentation you would submit a proposal.
- Create a short list of potential journals you could publish your results in. Consult with a faculty member on what steps might be needed to turn your research report into a publishable manuscript in one of these journals.

24.3 Sharing with professional and lay audiences

Learning Objectives

Learners will be able to...

- Identify audiences for your project beyond academia
- Discover opportunities for engaging the public about your research findings

Researchers should not limit themselves to sharing with academic audiences alone. Social work research exists to inform practice, and so sharing the results of your project with practitioners, clients, and other stakeholders is a necessary part of the research workflow. At minimum, engaging non-academic audiences means eliminating barriers to accessing your research products. Sharing conference presentations and papers in open access repositories democratizes access to knowledge. Your average clients and agency workers do not have money to pay for a journal article or registration fee for a conference. More than likely, to reach a practitioner or client group, you will need to share your work in multiple ways.

Practice-focused conferences

If your project is relevant to direct social work practice, consider sharing it at the National Association of Social Workers (NASW) conference in your state or at their annual national conference. Additionally, societies for clinical social work within states may provide opportunities to share your research, if it has clinical applications. If your work is more relevant to social workers leading human service agencies, consider sharing it at the annual Social Work Management conference. Even emerging areas within social work will have conferences, such as the Alliance for Social Workers in Sports.

You may also want to identify conferences that are in other disciplines or are transdisciplinary in orientation. For example, I presented the results of my research project on Medicaid waiver programs for people with disabilities at the Association of University Centers on Disabilities conference, which is attended by a diverse audience including interdisciplinary disabilities scholars, people with disabilities, advocates, and public administrators. Seek out information on national, state-wide, or regional conferences on your topic area.

In addition to presentations, you may consider sharing your results in a trade publications such as the New Social Worker magazine or the NASW News newsletter. As less formal outlets, they are more approachable for your lay practitioner and can link to more thorough documentation of your project. Other outlets for reaching a professional audience include creating continuing education classes around your topic and submitting them for approval with local and national licensing boards, or creating in-service trainings to be administered at local agencies or government offices.



Presentations to stakeholders

While it is important to let professionals know about the results of your research, it is important to identify stakeholders who would also benefit from knowing the study results. Stakeholders, as you'll remember from previous chapters, are individuals or groups who have an interest in the outcome of the study you conduct. Instead of the formal presentations or journal articles you may use to engage academics or fellow researchers, stakeholders will expect a presentation that is engaging, understandable, and immediately relevant to their lives and practice. Informal presentations are no less rigorous than formal presentations, but they do not follow a strict format.

For example, in my project on policy for people with intellectual and developmental disabilities, our team partnered with the National Resource Center on Participant-Directed Services (NRCPDS) to deliver a webinar summarizing our project findings. NRCPDS gathered a diverse audience of administrators, advocates, and service providers, and our results reached those who needed to hear about our study. Because these individuals were practitioners, their foremost concern was how to apply the results of our study in practice. They were also immensely knowledgeable about our topic, so representing conclusions with the humility required of a social scientist is prudent.

Hypothetically, I could have also addressed people with disabilities through the National Disability Rights Network. In this research project, people with IDD are my target population—the people for whom I want my study to have an impact. Providing these individuals with access to information about the programs designed to support them will support their self-advocacy for better and more responsive programs. Individuals in a state with relatively few benefits can point to programs from other states that have more robust programs as models for policymakers.

I stated earlier that scientists and academics may be the most interested in your study's methods. That is only partially true. Advocates from your target population experience the issues you study every day. Because of that, they are immensely knowledgeable and will closely scrutinize your methods and results to make sure they accurately represent what happens in the real world. Indeed, this local and lived knowledge is why community-engaged research incorporates client and community perspectives in the creation of research projects. This stage of dissemination will look quite different for community-engaged projects, as stakeholders can better guide your dissemination to community members.

In addition to practitioners and clients, grant funders are an important stakeholder in research dissemination. Specifically, your grant funder will want you to discuss how your results fit with the goals of the grant program. They may also emphasize cost-benefit or cost-efficacy models, in which you demonstrate how money was spent and how the program creates a net positive effect from the funder's investment. It is important to use your program evaluation skills to properly meet the expectations for methodological rigor of a grant funder, though these should be distilled into a succinct executive summary or elevator pitch describing your project's impact.

In addition to funders, policymakers are often a key audience for social work research. Almost all social work research projects have policy implications, and outreach to policymakers should be integrated into the dissemination plan for research. Common policy practice skills apply, including targeting your efforts at different levels of government, key bureaus, or committee members and chairs to maximize impact. Messages to policymakers should be relevant and particularized to their jurisdiction and should make a concise and trustworthy case for policy change.

Presentations to the general public

While there are a seemingly infinite number of informal audiences, there is one more that is worth mentioning—the general public. I often say to my students that social work involves working in the areas of the social world that others do not want to see. Part of our job as social workers is to shine a light towards areas of social injustice and raise the consciousness of the public as a whole.

Researchers commonly share their results with popular media outlets to reach a broader audience with their study's conclusions. University relations offices can sometimes make these connections for researchers, while on smaller campuses, professors may reach out to local journalists directly to talk

about their work. Researchers may also consider publishing their results in a blog post or via social media. These require a public presence for authors, and it is a good idea for student and faculty researchers to build a personal website through which people can engage with your work.

Engaging with the public differs from engaging with academic or professional audiences. As noted elsewhere, knowing your audience is crucial when preparing a research report. What are they likely to want to hear about? What portions of the research do you feel are crucial to share, regardless of the audience? What level of knowledge do they have about your topic? Answering these questions will help you determine how to shape any written reports you plan to produce. In fact, some outlets answer these questions for you, as in the case of newspaper editorials where rules of style, presentation, and length will dictate the shape of your written report.

Whoever your audience, don't forget what it is that you are reporting: social scientific evidence. Take seriously your role as a social scientist and your place among peers in your discipline. Present your findings as clearly and as honestly as you possibly can; cite appropriately the scholars whose work your project builds on, even while you raise questions about their work; and aim to engage your readers in a discussion about your work and about avenues for further inquiry. Even if you won't ever meet your readers face-to-face, imagine what they might ask you upon reading your report, sketch out your response, and provide some of those details in your written report.

Public social work scholarship

In this chapter so far, we reviewed how you might share the results of your project outside of the classroom. A recent section in the *Journal of the Society for Social Work Research* was dedicated to "public interest scholarship," and reading through it might give you some innovative ideas for how to disseminate your work to the public. You'll also encounter the ethical arguments for why public engagement is a necessary part of being a social work scholar. We encourage students to pursue public scholarship, outside of the grades in a classroom, because social work is a necessarily public and applied research discipline. Social work research exists to inform action to address social issues, and disseminating findings is a key component of ensuring competent practice and fostering social change. As you think about dissemination for your project, consider the following questions:

- What academic and research conferences are relevant to your topic?
- Which journals publish in your topic area? Which journals appeared often in your literature review?
- What interdisciplinary conferences and meetings are relevant to your topic?
- What stakeholders would find your research conclusions relevant?
- Who is your target population? What media do they consume?
- What popular media would find your research relevant or interesting? Can you trust them to report your results responsibly?

- How can I make my scholarship openly accessible to all audiences, regardless of ability to pay or professional status?

Key Takeaways

- Social workers should make their research findings applicable to audiences beyond academia and tailor their message to what each audience would most want to know.
- Public interest scholarship involves moving beyond papers and presentations to find new ways of engaging audiences.

Exercises

- Identify three potential community sites that could make use of the findings in your research project. How might you get their attention and in what format might you disseminate your research findings to them? Remember, not everyone is going to take an hour out of their day to listen to an oral presentation.
- Create a dissemination plan that incorporates your classroom, program, community, as well as broader academic and client audiences.

24.4 Consuming research as professional development

Learning Objectives

Learners will be able to...

- Construct a model of professional development and lifelong learning that draws from both informal and formal learning opportunities
- Identify and engage with knowledge streams that are relevant to your area of practice

At the beginning of the semester, I usually ask my students to raise their hand if they plan to become a social work researcher or a social work practitioner. You can guess how that goes. Most of you will not become social work researchers. But you will use what you've learned in the class during your practice. Returning to the concepts from Chapter 1 on evidence-based practice, you will need research skills to

conduct research on the impact of policies and interventions on clients and communities. You'll also need to consume research in order to stay up to date on the latest innovations and developments in your area of practice, regardless of whether you are a clinician, a manager, or a policy practitioner.

Remember, research is a tool for social justice. It uses the scientific method to dismantle stereotypes and identify strengths and needs for groups. Interpretive and critical research has the added benefit of giving a voice to marginalized or oppressed groups. Consuming research may involve staying attuned to the local, state, and national news items on policies and events that may impact vulnerable communities, and engaging in public scholarship, agency-based services, community organizing, or political social work to address them. Evaluating your own programs, as well as the programs and policies that govern your communities and social welfare services, can give voice to the least powerful at those organizations. Indeed, social work research can establish that there is a need for services in a given area or demonstrate how services can be better targeted or funded.



Let's talk a little more personally about research and education post-graduation. Maybe you came into school with the expectation that you would learn everything you need to know in order to practice social work. Now that you're in your program, you've probably realized that while your graduate education will provide a foundation of social work knowledge, you will have to engage in a lifelong

process of learning about the communities and issues you address in practice. For clinicians, you are probably looking for more applied trainings in therapeutic interventions. For managers and policy practitioners, perhaps you are looking for training in administration, supervision, and program planning.

Ask your supervisors how they stay up to date on research evidence for their practice. Chances are, they have a number of networks and platforms they use to stay in touch with the scientific advancements in their specialty area . Research engagement for practitioners falls under the broader umbrella of **professional development**, or the "uptake of formal and informal learning opportunities that deepen and extend…professional competence, including knowledge, beliefs, motivation, and self-regulatory skills" (Richter, Kunter, Klusmann, Lüdtke, & Baumert, 2014).[2] This informal/formal distinction will structure the rest of this section.

Informal professional development

Evidence-based practice, in a deeper sense, is a commitment to lifelong education. That doesn't mean you will need to be in a classroom forever, or even that you will attend formal academic or professional conferences. It means you nurture your desire to grow intellectually and learn more about your practice and the issues that impact the communities you work with. For social workers, this means setting up *knowledge streams* through which you receive and consume information about the world. Think about how you currently receive information about your community, practice area, and the broader world. Perhaps you watch television news shows or follow a news organization on social media.

Informal professional development is built around two things: the drive for lifelong learning and knowledge streams that provide trustworthy information. Once you identify which sources you can trust and which provide consistently relevant information, you can spend an evening on the couch reading through what you find to be interesting. No one keeps track of informal development, and you certainly don't get paid for it. The reward is internal, feeding the part of you that wants to learn more and knowing that your clients and community will benefit by you committing to lifelong learning.

You are a part of a community of practitioners working in your practice domain, so dipping into the professional news stream allows you to benefit from what others create, collect, and share. Probably the easiest stream to dip into is email. Wait, keep reading! No one likes more junk mail, but dedicating part of your inbox to professional development can be helpful (especially if you assign it a special folder so it doesn't clog up your normal inbox). Once every few days, you can take a peek at your professional development email folder and scan news items to see areas of urgent concern or file away longer readings for a rainy day. For many, getting useful emails begins by subscribing to the email list for the local chapter of NASW. If you are in an area of specialization—clinical social work, political social work, domestic and sexual violence—there are likely advocacy or professional organizations on the national and state level that also send regular email newsletters. These may also list announcements for jobs,

grants, conferences, policy changes, or research articles of interest, so signing up can benefit you in other ways, as well.

We've already talked about conference travel. To the extent conference travel is not sponsored by your employer and does not count towards formal professional development requirements (e.g., clinical licensure), learning at conferences falls under informal professional development. We also spoke about journal articles. Based on the skills you learned back in Chapter 3, you should be adept at finding literature relevant to a given practice situation. Unfortunately, you will likely lose access to the academic databases like EBSCOhost, JSTOR, and others once you graduate. The reality is that over half of your university library's budget goes towards subscriptions to academic databases and journals (Enis, 2018).[3] You should consider subscribing to journals in the area of your specialty. However, it is not feasible to subscribe to all of the journals that cover your topic and the communities with whom you work.

Instead of subscribing to the print edition of a lot of journals, join email lists for each journal relevant to your area of practice so you can browse the titles and abstracts of new publications in your areas of interest. You can also use Google Scholar to set up alerts for topics of interest to you and get an email each week or each month with a collection of potentially relevant articles to browse. If you find an article that you would benefit from reading, there are a few options to get access to it for free. The first is to search for the full-text on Google Scholar. The best-case scenario is that the article is open access, so you can read it for free. Unfortunately, most articles cost at least $25 to access, sometimes much more. If the author has embraced open sharing practices but published in a traditional journal, they may have deposited their article in an institutional repository at their university, in a disciplinary database, or on their personal website. We will cover these practices in greater detail in section 24.5, and it is important to note that journal article paywalls replicate and exacerbate existing inequities in the social work practice world. Assuming the article is not open access, we reviewed strategies for getting around paywalls in Chapter 4. Once you graduate, you will want to augment those strategies by including:

1. Do a traditional web search and see if there is a PDF copy available via a university, professional, or for-profit repository (more information on for-profit platforms below).
2. Email the author using their contact information on the university website and ask for a free copy of the article. Or use one of the services we mentioned in Chapter 4 (like the OA button) to identify and ask for open access versions of the article.
3. Ask a student or professor affiliated with a university library to share a copy with you. If you are able, visit the university library in person. You should be able to use a public computer to browse their databases. You may also want to check with your local public library to see if they can get you what you need via inter-library loan

As you look around for articles on the internet for articles, you likely have come across services for-profit repositories like Academia.edu, ResearchGate, and the Social Science Research Network (SSRN). Authors often share their work via these platforms. When you do a normal Google search for articles on your topic, links to the full-text on these may appear. Often, these services require you to create an

account before accessing articles, though access is usually free after signing up. Much like social media platforms that are free to use, these platforms stay in business by monetizing information about their users. That may sound scary, but there is a tradeoff for using free services run by for-profit entities. If you are not paying with money, you are paying with information about yourself. Don't share anything with free platforms that you don't want included in an advertising and marketing profile about yourself, and consider using privacy extensions like uBlock and Privacy Badger to minimize how companies track your browsing and personal information.

If you find an author who publishes a lot on your topic and has shared their work on a given platform, considering following that author on Researchgate or Academia.edu (whichever platform they use) so you can receive updates when they publish new work. You can also browse older editions of their work and see who they follow, tapping you into their community of practice. Social media platforms provide a great opportunity to follow scholars that are important to you. I suggest using a separate professional account on each platform, creating a clear boundary between what you share with friends and family and what you share with professional networks. Aside from the ethical considerations, it is nice to have a compartmentalized social media feed that is dedicated to professional development. Specifically, Twitter has been a consistent source of outstanding professional development opportunities for me as a social work educator. Twitter's flat nature means you can interact directly with people interested in the same topics through commenting and retweeting. See this amazing social work pedagogy book which was written using networks developed on Twitter. You can also branch out from the few authors you know and build a feed of social media news by looking at people you follow and following similar people and organizations as they do. Many authors also have personal websites you can visit and may offer email updates when they have news to share.

Building a professional development social media stream goes beyond following individual authors. Odds are that organizations in your service area have social media accounts that provide news and updates. Additionally, national and state advocacy groups make excellent additions to your social media stream. They will direct you to new research. My favorite example is @myharmreduction, Dr. Sheila Vakharia, on Twitter. She is the Deputy Director of the Department of Research and Academic Engagement at the Drug Policy Alliance, so her job is to be a public intellectual–sharing new research, conversing with other scholars and the general public. I follow that organization on Twitter, as well, and followed practitioners and administrators at harm reduction agencies in the new city I moved to. Find the organizations that work on issues you care about, whether they are client advocacy groups, policy think-tanks, etc. Following your local newspaper and television news organizations on Twitter can also keep you up to date on community events that might impact your practice. Beyond this, you can set up Google News alerts for news topics relevant to your area of practice. My wife has recently started a job serving survivors of gun violence. She has a news alert for gun violence within her service area, so she can know which schools to engage in case they do not have existing relationships with the administration and would not have otherwise heard about the violent incident.

There are many ways to consume information while in practice. This section reviewed a few of them, and you should spend some time over the break between semesters exploring how to set up effective

streams of information for informal professional development. Think about what you feel like you want to spend your life learning more about or what you might want to learn more about for next year's field placement.

At its most basic, informal professional development involves engaging with the following streams:

- Email lists
- For-profit research article sharing platforms
- Social media platforms

And following these sources of information:

- Faculty and practitioners who publish research
- Public scholars and intellectuals
- Academic journals
- Social work organizations
- Advocacy organizations
- Community organizations
- Local news

Formal professional development

While informal professional development follows your interests wherever they take you, formal professional development is much more structured. For those of you who are planning to seek social work licensure, you will have to accrue a minimum amount of **continuing education units** (CEUs) to keep your license active. CEUs are available from a number of different sources. You can find them online from for-profit vendors, and you may be able to find ones that overlap with your area of interest. Your local university's social work program likely offers some CEUs for social workers in practice. CEUs are also usually available for professionals who attend academic or professional conferences. Mandatory CEUs are usually dedicated towards less interesting topics like policy compliance and liability, and may not encourage authentic engagement with lifelong learning, as in informal professional development. Some states offer licenses with specifications, for example, in substance abuse practice. If you plan to specialize your practice and seek additional licensure or certification, consult with your state board of licensing on the CEUs required for that level of practice.

Unfortunately, formal professional development is often structured by ability to pay. In-person trainings require practitioners to take off of work, pay an admissions fee, and find childcare in order to learn more about their practice area. Social work agencies, to some degree, build in the cost of training their employees into their operating budgets and will sponsor some of their employee's development costs. Of course, the variation in employer contributions reflects and reifies the existing inequities

between resource-poor organizations and those that are better funded. Social work students on the job market should consider whether the organizations they apply for will pay for things like clinical supervision towards licensure, specialized training in therapeutic modalities, conference attendance, and professional membership dues. While it is unlikely that all of these costs will be absorbed by your employer, covering some of them is a signal that your agency values the growth of their employees and are dedicated to the improvement of their programs.

Another source of formal training associated with employers are in-service trainings. Rather than seeking out external venues for research engagement, your agency or other agencies in the community may bring in trainers to educate you on new research or train you in a specific therapeutic technique. For example, my home state of Virginia regularly hosts naloxone trainings to reverse overdoses. Anyone who attends the training is given naloxone and educated on how to revive someone who has overdose on opiates. This is a relatively short training, like a CPR certification. Practitioners can become a naloxone trainer by attending a "train the trainer" training, allowing them to train community members.

Your agency may also require you to be trained or certified in a specific modality through a formal organization. For example, if your agency is planning to start a program related to counseling of child survivors of trauma, they may send you to a trauma-focused cognitive behavioral therapy training to be certified in that modality. Certification courses are often offered online or in hybrid format to allow practitioners to fit them in around their schedule. Certifications and trainings are also structured by what government and private funders require as part of their grants. In the best case, your grant may require that your agency invest in training in an evidence-based treatment modality and build those costs into the grant's budget. In the worst case, a government or private sponsor may declare that only specific evidence-based treatments will be allowed and not provide enough money for agencies to train employees, an unfunded mandate.

Your MSW education will provide you with the basic knowledge you need to engage in formal professional development. Using what you know about the basics of theory and practice, for example, you can engage in more specific training on clinical interventions and evidence-based practices relevant to your area of practice. While we have focused mostly on clinical social work in this section, the same ideas apply for formal professional development in macro and management social work positions. There are training organizations that can provide certifications in risk management or advocacy related to a specific topic, and your agency or funder may require you to undergo specific training courses as part of your agency's accreditation or the management of grant funds.

In summary, formal professional development is comprised of the things you would put on a resume. They are formal courses, certifications, and trainings approved by universities, licensing boards, or other organizations that indicate you have achieved a level of competence and mastery of a skill or domain of practice. Using the networks you cultivate in your informal professional development and those from your agency, you will be able to build your resume and acquire the training you need to excel in your current position and beyond.

Key Takeaways

- Professional development is the education that practitioners receive after graduation. It is an important part of evidence-based practice and the spread of innovation in social work.
- Informal professional development involves engaging with trustworthy and reliable sources of knowledge across platforms, usually email, article repositories, and social media.
- Formal professional development is required for clinical social workers and many other practice specialties. Consider the development opportunities and supports of any potential social work employer.

Exercises

- Think about what you still want to learn more about after you graduate. Research formal professional development opportunities and certifications that will teach you what you want.
- Create a professional social media account and start building a social media stream for professional development. Research email lists relevant to your area of practice by browsing the web and asking existing practitioners. Create a folder in your email account (or a separate professional email account) for these subscriptions.

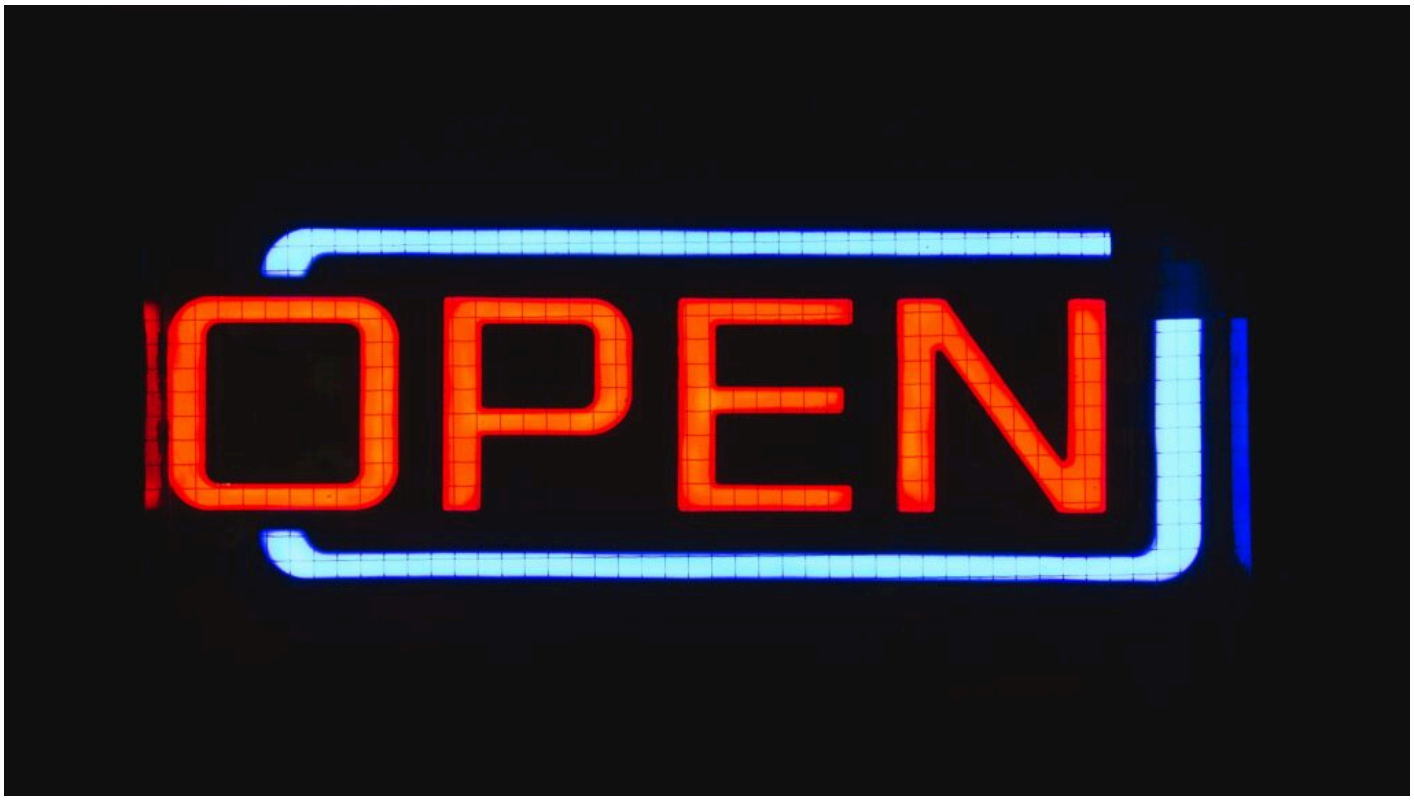
24.5 The future of research is open

Learning Objectives

Learners will be able to...

- Define open access and open science and describe how they impact social justice
- Reflect on the ways in which lack of access to scientific data and methods impacts social work practice and research

This textbook is free and openly licensed for a reason. As a writing team, our project models the vision for knowledge sharing and production we want to see in the world. The future of social work research should be as open as possible—enabling access and transformational engagement with knowledge needed to fulfill the mission of our profession. In this concluding section, we will discuss open access and open science as the building blocks of a more equitable and inclusive social work research arena.



Open access & open science

Embracing open practices can facilitate the creation of practitioner-researchers. **Open access** brings the promise of immediate, free access to research evidence contained in journal articles. Open access is about more than evidence and results but the advances in theory, methodology, and others that result from increasing access to knowledge. Practically speaking, all but the most recent research can be archived in a repository like Socarxiv or a university repository under publisher's open access policy (Pendell, 2019).[4] Self-archiving, as a practice, would provide immediate public access to print-ready copies of journal articles. Open access is an ethical mandate, and social work's near-total rejection of it renders most social work scholarship invisible to graduates, practitioners, and anyone unaffiliated with a well-funded university library. The ethical mandate to share research and resources free of cost can be almost entirely fulfilled with minimal effort by researchers today under existing open access policies of traditional journals as well as open access journals. All researchers would need to do is deposit a manuscript for each article they have published or plan to publish in the future.

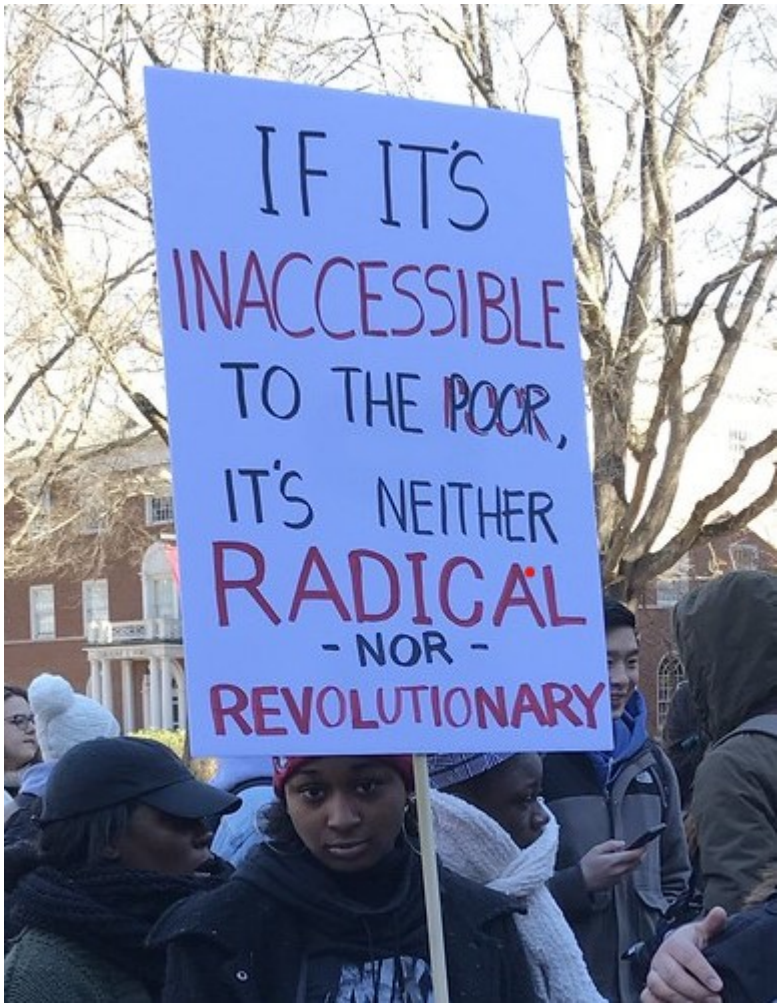
Under the Open Science Framework (OSF), papers in SocArXiv can point directly to a project site created by the researchers to house data, instruments, and methods. Ideally, this project page would house auditable research data, instruments, and procedures. This is the promise of **open science**—replication, verifiability, and collaboration. OSF projects are designed to house all but the most

sensitive class of data and resources in a cloud storage that can be privately shared among collaborators or publicly available. Researchers choose which components of their project, if any, should be publicly available as the project transitions towards dissemination.

Integrating openness into the practice of social work research requires a revision of the timeline for publication. The general rule is "as open as possible, as closed as necessary." Openness is certainly not of greater value than confidentiality, anonymity, and the protection of research participants and clients. However, working within existing ethical boundaries, there are many possibilities for open sharing.

Corker (2021)[5] provides a detailed open science workflow—from project planning through sharing your results—for graduate students and early career researchers. This may sound advanced, but the instructions and background she provides is exception in its depth and ease of understanding.

1. Pre-registering hypotheses and publishing registered reports of the study's methods and measures.
    1. This helps make sure researchers do not change their hypotheses or procedures to match their data or selectively report the results that support their hypotheses.
2. Creating project documents and using storage practices that protect confidential information and clearly differentiate between content that is appropriate for public view and that which must remain with the research team. This includes providing clear documentation of how data were collected, cleaned, and analyzed, including a **codebook** and the computer code for quantitative analyses.
    1. Researchers share their data so other researchers can ensure it was analyzed correctly, propose new questions and conduct new analyses, and incorporate the data with similar studies and conduct a meta-analysis.
3. Using open copyright licenses (e.g., Creative Commons licenses) in sharing the data, study information, and journal articles by publishing open access.
4. Facilitating a community discussion using social media, collaborative annotation, and other open platforms through public interest scholarship.
5. Archiving conference presentations, reports, and other products that translate research for different audiences.



It is worth considering how open science practices may be used to integrate science and social work in a more meaningful way. First and foremost, it would eliminate the paywalls that render most research relevant to social workers inaccessible. At the same time, agency-based data is also inaccessible to both researchers and other practitioners. It is shared with grant funders, board members, and administrators, but not in a way that invites secondary analysis. Given that most schools of social work continue to use expensive statistical software such as SPSS and SAS, rather than free, open source software like R, the production of social work research knowledge remains structured by ability to pay. Using open practices, social work agency-based practitioners can create and share information about outcomes and processes, engage in immediate dialogue with the research literature, and collaborate on joint implementation projects.

In this way, open practices also have the potential to further bridge the gap between academic and practice realms. As another example, the core team behind this textbook are social work researchers, both in academia and in non-profit or government research institutions. This authorship structure is intentional. It introduces the role of researcher to students as a visible arena of social work practice, and it helps our materials be relevant outside the classroom to real social work research practitioners. Sharing resources and data openly facilitates this collaboration across academia and practice realms. Open licenses are an invitation to collaborate, to build off the work of colleagues.

Collaboration and cooperation are not guaranteed, though. Open licenses are not a silver bullet and they require participation and stewardship by community members. Even if open practices were perfectly adopted overnight—granting access to the knowledge in textbooks, journal articles, trainings on evidence-based interventions, and research data to anyone, regardless of ability to pay—the culture that drives people to share their work emerges from the actions of practitioners. Social workers, as public intellectuals and scholars, must reach beyond traditional boundaries to make social work research more accessible and participatory.

We hope that our work in this textbook has laid a foundation for the integration of research roles into your current or future social work practice. We aimed to demystify research, alleviate research anxiety, and engage students in an authentic research project relevant to their lives and future practice. We hope that your project has provided you the opportunity to build research skills that you will integrate into your life. Finally, we hope you can accept the role of lifelong scholar, dedicated to creating and engaging with knowledge relevant to your practice and life. You have the power to create knowledge and use it to transform the world. Understanding social work research means you can help people understand the lives of your clients and communities and how best to help them, fighting the many stigmas and oppressions our clients face every day.

Key Takeaways

- Open research practices have the potential to ensure access to all scientific research for anyone, regardless of ability to pay.
- Researchers should build open practices into existing research workflows, allowing their work to be accessed, replicated, audited, and transformed by other scholars.

Exercises

- Look at your data and methods. Determine which elements can be ethically shared with the public and which have to remain confidential. Apply the maxim: "as open as possible, as closed as necessary." Familiarize yourself with the rules for sharing of research data created by your IRB as well as any applicable laws like FERPA and HIPAA.

Media Attributions

- kane-reinholdtsen-LETdkk7wHQk-unsplash © Kane Reinholdtsen is licensed under a CC0

(Creative Commons Zero) license

- christina-wocintechchat-com-Q80LYxv_Tbs-unsplash © Christina from WOC in tech is licensed under a CC0 (Creative Commons Zero) license
- damir-kopezhanov-VM1Voswbs0A-unsplash © Damir Kopezhanov is licensed under a CC0 (Creative Commons Zero) license
- tim-mossholder-WE_Kv_ZB1l0-unsplash © Tim Mossholder is licensed under a CC0 (Creative Commons Zero) license
- alex-holyoake-R-HXWCbCBGU-unsplash (1) © Alex Holyoake is licensed under a CC0 (Creative Commons Zero) license
- 39865485733_74c4020347_b © Anthony Crider is licensed under a CC BY (Attribution) license

Notes

1. Wilson, P. M., Petticrew, M., Calnan, M. W., & Natareth, I. (2010). Disseminating research findings: What should researchers do? A systematic scoping review of conceptual frameworks. *Implementation Science*, 5, 91.
2. Richter, D., Kunter, M., Klusmann, U., Lüdtke, O., & Baumert, J. (2014). Professional development across the teaching career: Teachers' uptake of formal and informal learning opportunities. In *Teachers' Professional Development* (pp. 97-121). Brill Sense.
3. Enis, M. (2018, March 3). *LJ Study: Electronic Resources Continue Steady Gains in Academic Libraries*. Retrieved from: https://www.libraryjournal.com/?detailStory=lj-study-electronic-resources-continue-steady-gains
4. Pendell, K. (2018). Behind the Wall. *Advances in Social Work*, 18(4), 1041-1052.
5. Corker, K. S. (2021, March 19). An Open Science Workflow for More Credible, Rigorous Research. https://doi.org/10.31234/osf.io/wu6sn

Appendix A: Student-to-student resources

Students learn best from other students! This appendix features resources created by students for students to help them learn and apply research methods. If you are a student who has created an openly licensed resource that you would like to submit for consideration in this appendix, please email profmattdecarlo@gmail.com.

Table of contents

1. Gyourko et al. (2020) *Graduate research methods in social work workbook*.
2. Ovale, C. (2020). *Mendeley guide*.

Graduate research methods in social work workbook (Gyourko, et al., 2020)

- License: CC-BY-NC-SA 4.0
- Authors: Gyourko, J., DeCarlo, M., Cummings, C., & Agnelli, K.
- Publication date: 07/10/2020
- Permanent link: https://drive.google.com/drive/folders/1OI3l25mR5ZjBQ6txmB4t0Nn5Dr6XPUcj?usp=sharing
- Description: This is a workbook adapted from the version 0.9 (pre-release) edition of the textbook. Much like the exercises in each chapter, the workbook is designed to break down and scaffold the creation of a student research project. This workbook provides a *condensed* version of the exercises in the book in editable Google Docs, since completing every exercise may be too much work for students. Content from chapters 7, 11, and 12 have changed significantly since this workbook was adapted (from version 0.9 of our textbook) and may need to be revised to more closely align with the version 1.0 text.
- Reviews:

Mendeley Guide (Ovalle, 2020)

- License: CC-BY-SA 4.0
- Authors: Ovalle, C.
- Publication date: 05/18/2020
- Permanent link: https://docs.google.com/document/d/1ppM1RhsMhYO-VghgjaFtgsY32UoDmuCbqI9sRQQXkZ0/edit
- Description: This is a resource intended for to help students use the citation management software Mendeley. It includes screenshots and examples.
- Reviews:

Appendix B: Faculty-to-faculty resources

If you are a faculty member who adopted this resources in your class and created openly licensed resources that might be helpful to other faculty members, please email profmattdecarlo@gmail.com if you would like us to consider hosting them here. We hope that over time we will create a set of resources informed by the diversity of our community of readers and teachers.

Table of contents

1. Day, M. R., DeCarlo, M., Cummings, C., & Agnelli, K. (2020) *Graduate research methods in social work quiz bank*.
2. DeCarlo, M. (2020). *Scaffolded assignments for a research proposal*.
3. DeCarlo, M. (2018). *Scientific inquiry in social work presentations and quiz bank*.

Graduate research methods in social work quiz bank (Day et al., 2020)

- License: CC-BY-NC-SA 4.0
- Authors: Day, M. R., DeCarlo, M., Cummings, C., & Agnelli, K.
- Publication date: 07/10/2020
- Permanent link: email profmattdecarlo@gmail.com with proof you are a professor
- Description: This quiz bank was created using an early draft of the textbook and needs to be updated quite a bit to include new content.
- Reviews:

Scaffolded assignments for a research proposal (DeCarlo, 2020)

- License: CC-BY-NC-SA 4.0
- Authors: DeCarlo, M.

- Publication date: 07/10/2020
- Permanent link: https://drive.google.com/drive/folders/1VVGL_-z00cMA9sF8IaxaxEP0c91XvoKp?usp=sharing
- Description: A set of ten worksheets and three paper prompts that break down a research proposal into smaller chunks.
- Reviews:

Presentations and quiz bank for Scientific inquiry in social work (BSW open text) (DeCarlo, 2018)

- License: CC-BY-NC-SA 4.0
- Authors: DeCarlo, M.
- Publication date: 08/15/2018
- Permanent link: https://drive.google.com/open?id=1MJk_o3V9hpkuxnHQopsCCY39iTs5Ccv4 (email profmattdecarlo@gmail.com for quizzes)
- Description: A set of worksheets for the BSW research open textbook, Scientific inquiry in social work, from which many chapters in this textbook are adapted.
- Reviews:

Glossary

a priori categories

Categories that we use that are determined ahead of time, based on existing literature/knowledge.

abstract

a summary of the main points of an article

access

whether you can actually reach people or documents needed to complete your project

accountability

The idea that researchers are responsible for conducting research that is ethical, honest, and following accepted research practices.

acquiescence bias

In a measure, when people say yes to whatever the researcher asks, even when doing so contradicts previous answers.

action research

research that is conducted for the purpose of creating social change

Afrocentric methodologies

Research methodologies that center and affirm African cultures, knowledge, beliefs, and values.

aggregate matching

In nonequivalent comparison group designs, the process in which researchers match the population profile of the comparison and experimental groups.

aim

what a researcher hopes to accomplish with their study

alternate/multiple forms reliability

A type of reliability in which multiple forms of a tool yield the same results from the same participants.

annotation

the process of writing notes on an article

anonymity

The identity of the person providing data cannot be connected to the data provided at any time in the research process, by anyone.

ANOVA

A statistical method to examine how a dependent variable changes as the value of a categorical independent variable changes

applicability

The potential for qualitative research findings to be applicable to other situations or with other people outside of the research study itself.

argument

a statement about what you think is true backed up by evidence and critical thinking

artifacts

Artifacts are a source of data for qualitative researcher that exist in some form already, without the research having to create it. They represent a very broad category that can range from print media, to clothing, to tools, to art, to live performances.

assent form

Comparable to the informed consent for BUT this is for children who are old enough to understand and make a decision about a research project.

assumptions

The characteristics we assume about our data, like that it is normally distributed, that makes it suitable for certain types of statistical tests

attributes

The characteristics that make up a variable

audit trail

An audit trail is a system of documenting in qualitative research analysis that allows you to link your final results with your original raw data. Using an audit trail, an independent researcher should be

able to start with your results and trace the research process backwards to the raw data. This helps to strengthen the trustworthiness of the research.

authenticity

For the purposes of research, authenticity means that we do not misrepresent ourselves, our interests or our research; we are genuine in our interactions with participants and other colleagues.

availability sampling

researcher gathers data from whatever cases happen to be convenient or available

axial coding

Axial coding is phase of qualitative analysis in which the research will revisit the open codes and identify connections between codes, thereby beginning to group codes that share a relationship.

axiology

assumptions about the role of values in research

beneficence

One of the three values indicated in the Belmont report. An obligation to protect people from harm by maximizing benefits and minimizing risks.

Bias

Biases are conscious or subconscious preferences that lead us to favor some things over others.

bimodal distribution

A distribution with two distinct peaks when represented on a histogram.

bivariate analysis

a group of statistical techniques that examines the relationship between two variables

bracketing

A qualitative research technique where the researcher attempts to capture and track their subjective assumptions during the research process. * note, there are other definitions of bracketing, but this is the most widely used.

BRUSO model

An acronym, BRUSO for writing questions in survey research. The letters stand for: “brief,” “relevant,” “unambiguous,” “specific,” and “objective.”

case studies

Case studies are a type of qualitative research design that focus on a defined case and gathers data to provide a very rich, full understanding of that case. It usually involves gathering data from multiple different sources to get a well-rounded case description.

categorical variables

variables whose values are organized into mutually exclusive groups but whose numerical values cannot be used in mathematical operations.

causality

the idea that one event, behavior, or belief will result in the occurrence of another, subsequent event, behavior, or belief

chi-square test for independence

a statistical test to determine whether there is a significant relationship between two categorical variables

chronbach's alpha

Statistical tool used to asses the internal consistency of an instrument. See also split-half approach.

closed-ended questions

questions in which the researcher provides all of the response options

cluster sampling

a sampling approach that begins by sampling groups (or clusters) of population elements and then selects elements from within those groups

code

A code is a label that we place on segment of data that seems to represent the main idea of that segment.

codebook

A document that we use to keep track of and define the codes that we have identified (or are using) in our qualitative data analysis.

coding

Part of the qualitative data analysis process where we begin to interpret and assign meaning to the data.

coercion

When a participant faces undue or excess pressure to participate by either favorable or unfavorable means, this is known as coercion and must be avoided by researchers

cognitive biases

predictable flaws in thinking

cohort survey

A type of longitudinal design where participants are selected because of a defining characteristic that the researcher is interested in studying. The same people don't necessarily participate from year to year, but all participants must meet whatever categorical criteria fulfill the researcher's primary interest.

Common method bias

Common method bias refers to the amount of spurious covariance shared between independent and dependent variables that are measured at the same point in time.

community gatekeeper

Someone who has the formal or informal authority to grant permission or access to a particular community.

comparison group

the group of participants in our study who do not receive the intervention we are researching in experiments without random assignment

composite measures

measurements of variables based on more than one one indicator

Computer Assisted Qualitative Data Analysis Software (CAQDAS)

These are software tools that can aid qualitative researchers in managing, organizing and manipulating/analyzing their data.

concept

A mental image that summarizes a set of similar observations, feelings, or ideas

conceptual framework

a network of linked concepts that together provide a comprehensive understanding of a phenomenon

conceptualization

developing clear, concise definitions for the key concepts in a research question

concurrent validity

A type of criterion validity. Examines how well a tool provides the same scores as an already existing tool administered at the same point in time.

conditions

The different levels of the independent variable in an experimental design.

confidence interval

a range of values in which the true value is likely to be, to provide a more accurate description of their data

confidentiality

For research purposes, confidentiality means that only members of the research team have access potentially identifiable information that could be associated with participant data. According to confidentiality, it is the research team's responsibility to restrict access to this information by other parties, including the public.

confirmation bias

observing and analyzing information in a way that agrees with what you already think is true and excludes other alternatives

conflicts of interest

Conflicting allegiances.

confound

a variable whose influence makes it difficult to understand the relationship between an independent and dependent variable

consistency

Consistency is the idea that we use a systematic (and potentially repeatable) process when conducting our research.

constant

a characteristic that does not change in a study

constant comparison

Constant comparison reflects the motion that takes place in some qualitative analysis approaches whereby the researcher moves back and forth between the data and the emerging categories and evolving understanding they have in their results. They are continually checking what they believed to be the results against the raw data they are working with.

construct bias

"when the construct measured is not identical across cultures or when behaviors that characterize the construct are not identical across cultures" (Meiring et al., 2005, p. 2)

constructivist

Constructivist research is a qualitative design that seeks to develop a deep understanding of the meaning that people attach to events, experiences, or phenomena.

constructs

Conditions that are not directly observable and represent states of being, experiences, and ideas.

content

Content is the substance of the artifact (e.g. the words, picture, scene). It is what can actually be observed.

content analysis

An approach to data analysis that seeks to identify patterns, trends, or ideas across qualitative data through processes of coding and categorization.

content validity

The extent to which a measure “covers” the construct of interest, i.e., it's comprehensiveness to measure the construct.

context

Context is the circumstances surrounding an artifact, event, or experience.

context effects

unintended influences on respondents’ answers because they are not related to the content of the item but to the context in which the item appears.

context-dependent

Research findings are applicable to the group of people who contributed to the knowledge building and the situation in which it took place.

contingency table

a visual representation of across-tabulation of categorical variables to demonstrate all the possible occurrences of categories

continuing education units

required courses clinical practitioners must take in order to remain current with licensure

continuous variables

variables whose values are mutually exclusive and can be used in mathematical operations

control

In research design and statistics, a series of methods that allow researchers to minimize the effect of an extraneous variable on the dependent variable in their project.

control group

the group of participants in our study who do not receive the intervention we are researching in experiments with random assignment

control variable

a confounding variable whose effects are accounted for mathematically in quantitative analysis to isolate the relationship between an independent and dependent variable

convenience or availability

A convenience sample is formed by collecting data from those people or other relevant elements to which we have the most convenient access. Essentially, we take who we can get.

correlation

a relationship between two variables in which their values change together.

correlation coefficient

a statistically derived value between -1 and 1 that tells us the magnitude and direction of the relationship between two variables

covariation

when the values of two variables change at the same time

coverage

In qualitative data, coverage refers to the amount of data that can be categorized or sorted using the code structure that we are using (or have developed) in our study. With qualitative research, our aim is to have good coverage with our code structure.

criterion validity

The extent to which people's scores on a measure are correlated with other variables (known as criteria) that one would expect them to be correlated with.

critical information literacy

engaging with "the social, political, economic, and corporate systems that have power and influence over information production, dissemination, access, and consumption" (Gregory & Higgins, 2013, p.ix)

critical paradigm

a paradigm in social science research focused on power, inequality, and social change

cross-sectional survey

When a researcher collects data only once from participants using a questionnaire

cultural bias

spurious covariance between your independent and dependent variables that is in fact caused by systematic error introduced by culturally insensitive or incompetent research practices

cultural equivalence

the concept that scores obtained from a measure are similar when employed in different cultural populations

damaged-centered research

Research that portrays groups of people or communities as flawed, surrounded by problems, or incapable of producing change.

data analysis plan

An ordered outline that includes your research question, a description of the data you are going to use to answer it, and the exact analyses, step-by-step, that you plan to run to answer your research question.

data collection protocol

A plan that is developed by a researcher, prior to commencing a research project, that details how data will be collected, stored and managed during the research project.

data dictionary

This is the document where you list your variable names, what the variables actually measure or represent, what each of the values of the variable mean if the meaning isn't obvious.

data matrix

A data matrix is a tool used by researchers to track and organize data and findings during qualitative analysis.

data triangulation

Including data from multiple sources to help enhance your understanding of a topic

database

a searchable collection of information

debriefing statement

A statement at the end of data collection (e.g. at the end of a survey or interview) that generally thanks participants and reminds them what the research was about, what it's purpose is, resources available to them if they need them, and contact information for the researcher if they have questions or concerns.

decision-rule

A decision-rule provides information on how the researcher determines what code should be placed on an item, especially when codes may be similar in nature.

Decolonizing methodologies

Research methods that reclaim control over indigenous ways of knowing and being.

deconstructing data

The act of breaking piece of qualitative data apart during the analysis process to discern meaning and ultimately, the results of the study.

deductive

The type of research in which a specific expectation is deduced from a general premise and then tested

deductive analysis

An approach to data analysis in which the researchers begins their analysis using a theory to see if their data fits within this theoretical framework (tests the theory).

deductive reasoning

starts by reading existing theories, then testing hypotheses and revising or confirming the theory

dependent variable

a variable that depends on changes in the independent variable

descriptive research

research that describes or defines a particular phenomenon

descriptive statistics

A technique for summarizing and presenting data.

dichotomous

Participants are asked to select one of two possible choices, such as true/false, yes/no, or agree/disagree.

Dichotomous response question

Participants are asked to select one of two possible choices, such as true/false, yes/no, or agree/disagree.

diminished autonomy

Having the ability to make decisions for yourself limited

direct relationship

Occurs when two variables move together in the same direction - as one increases, so does the other, or, as one decreases, so does the other

discipline

an academic field, like social work

discrete variables

Variables with finite value choices.

discriminant validity

The extent to which scores on a measure are not correlated with measures of variables that are conceptually distinct.

dissemination

“a planned process that involves consideration of target audiences and the settings in which research findings are to be received and, where appropriate, communicating and interacting with wider policy and…service audiences in ways that will facilitate research uptake in decision-making processes and practice” (Wilson, Petticrew, Calnan, & Natareth, 2010, p. 91)

dissemination plan

how you plan to share your research findings

dissemination strategy

How you plan to share your research findings

distribution

the way the scores are distributed across the levels of that variable.

document analysis

The analysis of documents (or other existing artifacts) as a source of data.

double-barreled question

a question that asks more than one thing at a time, making it difficult to respond accurately

dyads

A combination of two people or objects

element

the units in your sampling frame, usually people or documents

emergent design

Emergent design is the idea that some decision in our research design will be dynamic and change as our understanding of the research question evolves as we go through the research process. This is (often) evident in qualitative research, but rare in quantitative research.

emphasis

in mixed methods research, this refers to the order in which each method is used, either concurrently or sequentially

empirical articles

report the results of a quantitative or qualitative data analysis conducted by the author

empirical data

information about the social world gathered and analyzed through scientific observation or experimentation

empirical questions

research questions that can be answered by systematically observing the real world

epistemic injustice

when someone is treated unfairly in their capacity to know something or describe their experience of the world

epistemology

assumptions about how we come to know what is real and true

equity-informed research agenda

A general approach to research that is conscientious of the dynamics of power and control created by the act of research and attempts to actively address these dynamics through the process and outcomes of research.

essence

Often the end result of a phenomological study, this is a description of the lived experience of the phenomenon being studied.

ethical questions

unsuitable research questions which are not answerable by systematic observation of the real world but instead rely on moral or philosophical opinions

ethnography

Ethnography is a qualitative research design that is used when we are attempting to learn about a culture by observing people in their natural environment.

evaluation research

research that evaluates the outcomes of a policy or program

evidence-based practice

a process composed of "four equally weighted parts: 1) current client needs and situation, (2) the best relevant research evidence, (3) client values and preferences, and (4) the clinician's expertise" (Drisko & Grady, 2015, p. 275)

ex post facto

After the fact

exclusion criteria

characteristics that disqualify a person from being included in a sample

exempt review

Exempt review is the lowest level of review. Studies that are considered exempt expose participants to the least potential for harm and often involve little participation by human subjects.

exhaustive categories

Exhaustive categories are options for closed ended questions that allow for every possible response (no one should feel like they can't find the answer for them).

expanded field notes

Expanded field notes represents the field notes that we have taken during data collection after we have had time to sit down and add details to them that we were not able to capture immediately at the point of collection.

expedited review

Expedited review is the middle level of review. Studies considered under expedited review do not have to go before the full IRB board because they expose participants to minimal risk. However, the studies must be thoroughly reviewed by a member of the IRB committee.

experiment

an operation or procedure carried out under controlled conditions in order to discover an unknown effect or law, to test or establish a hypothesis, or to illustrate a known law.

experimental design

Refers to research that is designed specifically to answer the question of whether there is a causal relationship between two variables.

experimental group

in experimental design, the group of participants in our study who do receive the intervention we are researching

explanatory research

explains why particular phenomena work in the way that they do; answers “why” questions

exploratory research

conducted during the early stages of a project, usually when a researcher wants to test the feasibility of conducting a more extensive study or if the topic has not been studied in the past

external audit

Having an objective person, someone not connected to your study, try to start with your findings and trace them back to your raw data using your audit trail. A tool to help demonstrate rigor in qualitative research.

external validity

This is a synonymous term for generalizability - the ability to apply the findings of a study beyond the sample to a broader population.

extraneous variables

variables and characteristics that have an effect on your outcome, but aren't the primary variable whose influence you're interested in testing.

extreme (or deviant) case sampling

A purposive sampling strategy that selects a case(s) that represent extreme or underrepresented perspectives. It is a way of intentionally focusing on or representing voices that may not often be heard or given emphasis.

face validity

The extent to which a measurement method appears “on its face” to measure the construct of interest

false negative

when a measure does not indicate the presence of a phenomenon, when in reality it is present

false positive

when a measure indicates the presence of a phenomenon, when in reality it is not present

feasibility

whether you can practically and ethically complete the research project you propose

Feminist methodologies:

Research methods in this tradition seek to, "remove the power imbalance between research and subject; (are) politically motivated in that (they) seeks to change social inequality; and (they) begin with the standpoints and experiences of women".[1]

fence-sitters

respondents to a survey who choose neutral response options, even if they have an opinion

field notes

Notes that are taken by the researcher while we are in the field, gathering data.

Filter or Screening Questions

Questions that screen out/identify a certain type of respondent, usually to direct them to a certain part of the survey.

filter question

items on a questionnaire designed to identify some subset of survey respondents who are asked additional questions that are not relevant to the entire sample

floaters

respondents to a survey who choose a substantive answer to a question when really, they don't understand the question or don't have an opinion

focus group

Type of interview where participants answer questions in a group.

focus group guide

A document that will outline the instructions for conducting your focus group, including the questions you will ask participants. It often concludes with a debriefing statement for the group, as well.

focus groups

A form of data gathering where researchers ask a group of participants to respond to a series of (mostly open-ended) questions.

fraud

Deliberate actions taken to impact a research project. For example deliberately falsifying data, plagiarism, not being truthful about the methodology, etc.

frequency table

A table that lays out how many cases fall into each level of a varible.

full board review

A full board review will involve multiple members of the IRB evaluating your proposal. When researchers submit a proposal under full board review, the full IRB board will meet, discuss any questions or concerns with the study, invite the researcher to answer questions and defend their proposal, and vote to approve the study or send it back for revision. Full board proposals pose

greater than minimal risk to participants. They may also involve the participation of vulnerable populations, or people who need additional protection from the IRB.

gatekeeper

the people or organizations who control access to the population you want to study

generalizability

The ability to apply research findings beyond the study sample to some broader population,

generalizable findings

Findings form a research study that apply to larger group of people (beyond the sample). Producing generalizable findings requires starting with a representative sample.

generalize

(as in generalization) to make claims about a large population based on a smaller sample of people or items

gray literature

research reports released by non-commercial publishers, such as government agencies, policy organizations, and think-tanks

grounded theory

A type of research design that is often used to study a process or identify a theory about how something works.

grounded theory analysis

A form of qualitative analysis that aims to develop a theory or understanding of how some event or series of events occurs by closely examining
participant knowledge and experience of that event(s).

Guttman scale

A composite scale using a series of items arranged in increasing order of intensity of the construct of interest, from least intense to most intense.

heterogeneity

The quality of or the amount of difference or variation in data or research participants.

histogram

a graphical display of a distribution.

homogeneity

The quality of or the amount of similarity or consistency in data or research participants.

human instrument

As researchers in the social science, we ourselves are the main tool for conducting our studies.

human subject

The US Department of Health and Human Services (USDHHS) defines a human subject as "a living individual about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information" (USDHHS, 1993, para. 1). [2]

hypothesis

a statement describing a researcher's expectation regarding what they anticipate finding

hypothetico-deductive method

A cyclical process of theory development, starting with an observed phenomenon, then developing or using a theory to make a specific prediction of what should happen if that theory is correct, testing that prediction, refining the theory in light of the findings, and using that refined theory to develop new hypotheses, and so on.

idiographic causal relationship

attempts to explain or describe your phenomenon exhaustively, based on the subjective understandings of your participants

idiographic understanding

A rich, deep, detailed understanding of a unique person, small group, and/or set of circumstances.

impact

Tthe long-term condition that occurs at the end of a defined time period after an intervention.

implementation science

The scientific study of methods to promote the systematic uptake of research findings and other

evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services.

importance

the impact your study will have on participants, communities, scientific knowledge, and social justice

inclusion criteria

Inclusion criteria are general requirements a person must possess to be a part of your sample.

independent variable

causes a change in the dependent variable

index

a composite score derived from aggregating measures of multiple concepts (called components) using a set of rules and formulas

indicators

Clues that demonstrate the presence, intensity, or other aspects of a concept in the real world

indirect observables

In measurement, conditions that are subtle and complex that we must use existing knowledge and intuition to define.

individual matching

In nonequivalent comparison group designs, the process by which researchers match individual cases in the experimental group to similar cases in the comparison group.

inductive

inductive reasoning draws conclusions from individual observations

inductive analysis

An approach to data analysis in which we gather our data first and then generate a theory about its meaning through our analysis.

inductive reasoning

when a researcher starts with a set of observations and then moves from particular experiences to a more general set of propositions about those experiences

information literacy

"a set of abilities requiring individuals to 'recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association, 2020)

information privilege

the accumulation of special rights and advantages not available to others in the area of information access

informed consent

A process through which the researcher explains the research process, procedures, risks and benefits to a potential participant, usually through a written document, which the participant than signs, as evidence of their agreement to participate.

Institutional Review Board

an administrative body established to protect the rights and welfare of human research subjects recruited to participate in research activities conducted under the auspices of the institution with which it is affiliated

internal consistency

The consistency of people's responses across the items on a multiple-item measure. Responses about the same underlying construct should be correlated, though not perfectly.

internal validity

Ability to say that one variable "causes" something to happen to another variable. Very important to assess when thinking about studies that examine causation such as experimental or quasi-experimental designs.

Interpretivism

a paradigm based on the idea that social context and interaction frame our realities

interrater reliability

The extent to which different observers are consistent in their assessment or rating of a particular characteristic or item.

intersectional identities

the various aspects or dimensions that come together in forming our identity

interval

A level of measurement that is continuous, can be rank ordered, is exhaustive and mutually exclusive, and for which the distance between attributes is known to be equal. But for which there is no zero point.

interview guide

An interview guide is a document that outlines the flow of information during your interview, including a greeting and introduction to orient your participant to the topic, your questions and any probes, and any debriefing statement you might include. If you are part of a research team, your interview guide may also include instructions for the interviewer if certain things are brought up in the interview or as general guidance.

interview schedule

A questionnaire that is read to respondents

interviewer effect

any possible changes in interviewee responses based on how or when the researcher presents question-and-answer options

interviews

A form of data gathering where researchers ask individual participants to respond to a series of (mostly open-ended) questions.

intra-rater reliability

Type of reliability in which a rater rates something the same way on two different occasions.

intuition

a “gut feeling” about what to do based on previous experience

intuitions

yer gut feelin'

inverse relationship

occurs when two variables change in opposite directions - one goes up, the other goes down and vice versa

item-order effect

when the order in which the items are presented affects people's responses

iterative

An iterative approach means that after planning and once we begin collecting data, we begin analyzing as data as it is coming in. This early analysis of our (incomplete) data, then impacts our planning, ongoing data gathering and future analysis as it progresses.

iterative process

a nonlinear process in which the original product is revised over and over again to improve it

justice

One of the three ethical principles in the Belmont Report. States that benefits and burdens of research should be distributed fairly.

key informant

Someone who is especially knowledgeable about a topic being studied.

keywords

the words or phrases in your search query

leading question

When a participant's answer to a question is altered due to the way in which a question is written. In essence, the question leads the participant to answer in a specific way.

level of measurement

The level that describes the type of operations can be conducted with your data. There are four nominal, ordinal, interval, and ratio.

levels of measurement

Likert scale

measuring people's attitude toward something by assessing their level of agreement with several statements about it

linear

A research process where you create a plan, you gather your data, you analyze your data and each step is completed before you proceed to the next.

linear regression

a statistical technique that can be used to predict how an independent variable affects a dependent variable in the context of other variables.

logic

A science that deals with the principles and criteria of validity of inference and demonstration: the science of the formal principles of reasoning.

logic model

A graphic depiction (road map) that presents the shared relationships among the resources, activities, outputs, outcomes, and impact for your program

longitudinal survey

Researcher collects data from participants at multiple points over an extended period of time using a questionnaire.

macro-level

examining social structures and institutions

magnitude

The strength of a correlation, determined by the absolute value of a correlation coefficient

matrix question

a type of survey question that lists a set of questions for which the response options are all the same in a grid layout

maximum variation sampling

A purposive sampling strategy where you choose cases because they represent a range of very different perspectives on a topic

mean

Also called the average, the mean is calculated by adding all your cases and dividing the total by the number of cases.

measure of central tendency

One number that can give you an idea about the distribution of your data.

measurement

The process by which we describe and ascribe meaning to the key facts, concepts, or other phenomena under investigation in a research study.

measurement error

The differerence between that value that we get when we measure something and the true value

measurement instrument

Instrument or tool that operationalizes (measures) the concept that you are studying.

median

The value in the middle when all our values are placed in numerical order. Also called the 50th percentile.

member-checking

Member checking involves taking your results back to participants to see if we "got it right" in our analysis. While our findings bring together many different peoples' data into one set of findings, participants should still be able to recognize their input and feel like their ideas and experiences have been captured adequately.

membership-based approach

approach to recruitment where participants are members of an organization or social group with identified membership

memoing

Memoing is the act of recording your thoughts, reactions, quandaries as you are reviewing the data you are gathering.

Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA)

A written agreement between parties that want to participate in a collaborative project.

meso-level

examining interaction between groups and within communities

meta-analysis

a study that combines raw data from multiple quantitative studies and analyzes the pooled data using statistics

meta-synthesis

a study that combines primary data from multiple qualitative sources and analyzes the pooled data

methodological justification

an explanation of why you chose the specific design of your study; why do your chosen methods fit with the aim of your research

methodology

A description of how research is conducted.

micro-level

examining the smallest levels of interaction, usually individuals

misconduct

Usually unintentional. Very broad category that covers things such as not using the proper statistics for analysis, injecting bias into your study and in interpreting results, being careless with your research methodology

mixed methods research

when researchers use both quantitative and qualitative methods in a project

mode

The most commonly occurring value of a variable.

multi-dimensional concepts

concepts that are comprised of multiple elements

multidimensional scales

An empirical structure for measuring items or indicators of the multiple dimensions of a concept.

multivariate analysis

A group of statistical techniques that examines the relationship between at least three variables

mutually exclusive categories

Mutually exclusive categories are options for closed ended questions that do not overlap, so people only fit into one category or another, not both.

narratives

Those stories that we compose as human beings that allow us to make meaning of our experiences and the world around us

National Research Act

US legislation passed In 1974, which created the National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research, which went on to produce The Belmont Report.

natural setting

collecting data in the field where it naturally/normally occurs

naturalistic.observation

Making qualitative observations that attempt to capture the subjects of the observation as unobtrusively as possible and with limited structure to the observation.

negative case analysis

Including data that contrasts, contradicts, or challenges the majority of evidence that we have found or expect to find

negative correlation

occurs when two variables change in opposite directions - one goes up, the other goes down and vice versa

negotiated outcomes

ensuring that we have correctly captured and reflected an accurate understanding in our findings by clarifying and verifying our findings with our participants

neutrality

The idea that qualitative researchers attempt to limit or at the very least account for their own biases, motivations, interests and opinions during the research process.

nominal

The lowest level of measurement; categories cannot be mathematically ranked, though they are exhaustive and mutually exclusive

nomothetic causal explanations

provides a more general, sweeping explanation that is universally true for all people

non-probability sampling

sampling approaches for which a person's likelihood of being selected for membership in the sample is unknown

non-relational

Referring to data analysis that doesn't examine how variables relate to each other.

non-response bias

If the majority of the targeted respondents fail to respond to a survey, then a legitimate concern is whether non-respondents are not responding due to a systematic reason, which may raise questions about the validity of the study's results, especially as this relates to the representativeness of the sample.

nonresponse Bias

The bias that occurs when those who respond to your request to participate in a study are different from those who do not respond to you request to participate in a study.

null hypothesis

the assumption that no relationship exists between the variables in question

Nuremberg Code

The Nuremberg Code is a 10-point set of research principles designed to guide doctors and scientists who conduct research on human subjects, crafted in response to the atrocities committed during the Holocaust.

objective truth

a single truth, observed without bias, that is universally applicable

observation

Observation is a tool for data gathering where researchers rely on their own senses (e.g. sight, sound) to gather information on a topic.

observational terms

In measurement, conditions that are easy to identify and verify through direct observation.

observations/cases

The rows in your data set. In social work, these are often your study participants (people), but can be anything from census tracts to black bears to trains.

observer triangulation

including more than one member of your research team to aid in analyzing the data

Office of Human Research Protections

The federal government agency that oversees IRBs.

one-way ANOVA

a statistical procedure to compare the means of a variable across three or more groups

ontology

assumptions about what is real and true

open access

journal articles that are made freely available by the publisher

open coding

An initial phase of coding that involves reviewing the data to determine the preliminary ideas that seem important and potential labels that reflect their significance.

open science

sharing one's data and methods for the purposes of replication, verifiability, and collaboration of findings

open-ended question

Questions for which the researcher does not include response options, allowing for respondents to answer the question in their own words

operational definitions

The concrete and specific defintion of something in terms of the operations by which observations can be categorized.

operationalization

process by which researchers spell out precisely how a concept will be measured in their study

oral histories

Oral histories are a type of qualitative research design that offers a detailed accounting of a person's life, some event, or experience. This story(ies) is aimed at answering a specific research question.

oral presentation

verbal presentation of research findings to a conference audience

ordinal

Level of measurement that follows nominal level. Has mutually exclusive categories and a hierarchy (rank order), but we cannot calculate a mathematical distance between attributes.

outcome

The final condition that occurs at the end of an intervention or program.

outliers

Extreme values in your data.

p-value

summarizes the incompatibility between a particular set of data and a proposed model for the data, usually the null hypothesis. The lower the p-value, the more inconsistent the data are with the null hypothesis, indicating that the relationship is statistically significant.

panel presentations

group presentations that feature experts on a given issue, with time for audience question-and-answer

panel survey

A type of longitudinal design where the researchers gather data at multiple points in time and the same people participate in the survey each time it is administered.

paradigm

a set of common philosophical (ontological, epistemological, and axiological) assumptions that inform research

participant

Those who are asked to contribute data in a research study; sometimes called respondents or subjects.

participatory research

An approach to research that more intentionally attempts to involve community members throughout the research process compared to more traditional research methods. In addition, participatory approaches often seek some concrete, tangible change for the benefit of the community (often defined by the community).

paywall

when a publisher prevents access to reading content unless the user pays money

peer debriefing

A qualitative research tool for enhancing rigor by partnering with a peer researcher who is not connected with your project (therefore more objective), to discuss project details, your decision, perhaps your reflexive journal, as a means of helping to reduce researcher bias and maintain consistency and transparency in the research process.

peer review

a formal process in which other esteemed researchers and experts ensure your work meets the standards and expectations of the professional field

periodicals

trade publications, magazines, and newspapers

periodicity

the tendency for a pattern to occur at regular intervals

phenomenology

A qualitative research design that aims to capture and describe the lived experience of some event or "phenomenon" for a group of people.

Photovoice

Photovoice is a technique that merges pictures with narrative (word or voice data that helps that interpret the meaning or significance of the visual artifact. It is often used as a tool in CBPR.

pilot testing

Testing out your research materials in advance on people who are not included as participants in your study.

plausibility

as a criteria for causal relationship, the relationship must make logical sense and seem possible

political case

A purposive sampling strategy that focuses on selecting cases that are important in representing a contemporary politicized issue.

population

the larger group of people you want to be able to make conclusions about based on the conclusions you draw from the people in your sample

positionality statement

A statement about the researchers worldview and life experiences, specifically in respect to the research topic they are studying. It helps to demonstrate the subjective connection(s) the researcher has to the topic and is a way to encourage transparency in research.

positive correlation

Occurs when two variables move together in the same direction - as one increases, so does the other, or, as one decreases, so does the other

Positivism

a paradigm guided by the principles of objectivity, knowability, and deductive logic

post-test

A measure of a participant's condition after an intervention or, if they are part of the control/ comparison group, at the end of an experiment.

Post-test only control group design

an experimental design in which participants are randomly assigned to control and treatment groups, one group receives an intervention, and both groups receive only a post-test assessment

poster presentation

presentations that use a poster to visually represent the elements of the study

power

the odds you will detect a significant relationship between variables when one is truly present in your sample

practical articles

describe “how things are done” or comment on pressing issues in practice (Wallace & Wray, 2016, p. 20)

practical implications

How well your findings can be translated and used in the "real world." For example, you may have a statistically significant correlation; however, the relationship may be very weak. This limits your abiltiy to use these data for real world change.

practice wisdom

“learning by doing” that guides social work intervention and increases over time

pragmatism

a research paradigm that suspends questions of philosophical ‘truth’ and focuses more on how different philosophies, theories, and methods can be used strategically to resolve a problem or question within the researcher's unique context

predictive validity

A type of criterion validity that examines how well your tool predicts a future criterion.

pretest

A measure of a participant's condition before they receive an intervention or treatment.

pretest and post-test control group design

a type of experimental design in which participants are randomly assigned to control and experimental groups, one group receives an intervention, and both groups receive pre- and post-test assessments

primary data

Data you have collected yourself.

primary source

in a literature review, a source that describes primary data collected and analyzed by the author, rather than only reviewing what other researchers have found

principle of replication

This means that one scientist could repeat another's study with relative ease. By replicating a study, we may become more (or less) confident in the original study's findings.

probability proportionate to size

in cluster sampling, giving clusters different chances of being selected based on their size so that each element within those clusters has an equal chance of being selected

probability sampling

sampling approaches for which a person's likelihood of being selected from the sampling frame is known

probes

Probes a brief prompts or follow up questions that are used in qualitative interviewing to help draw out additional information on a particular question or idea.

process evaluation

An analysis of how well your program ended up running, and sometimes how well it's going in real time.

professional development

the "uptake of formal and informal learning opportunities that deepen and extend...professional competence, including knowledge, beliefs, motivation, and self-regulatory skills" (Richter, Kunter, Klusmann, Lüdtke, & Baumert, 2014)

program evaluation

The systematic process by which we determine if social programs are meeting their goals, how well the program runs, whether the program had the desired effect, and whether the program has merit according to stakeholders (including in terms of the monetary costs and benefits)

prolonged engagement

As researchers, this means we are extensively spending time with participants or are in the community we are studying.

proxy

a person who completes a survey on behalf of another person

pseudonyms

Fake names assigned in research to protect the identity of participants.

pseudoscience

claims about the world that appear scientific but are incompatible with the values and practices of science

psychometrics

The science of measurement. Involves using theory to assess measurement procedures and tools.

public approach

approach to recruitment where participants are sought in public spaces

purposive

In a purposive sample, participants are intentionally or hand-selected because of their specific expertise or experience.

qualitative data

data derived from analysis of texts. Usually, this is word data (like a conversation or journal entry) but can also include performances, pictures, and other means of expressing ideas.

qualitative methods

qualitative methods interpret language and behavior to understand the world from the perspectives of other people

qualitative research

Research that involves the use of data that represents human expression through words, pictures, movies, performance and other artifacts.

quantitative data

numerical data

quantitative interview

when a researcher administers a questionnaire verbally to participants

quantitative methods

quantitative methods examine numerical data to precisely describe and predict elements of the social world

Quasi-experimental designs

a subtype of experimental design that is similar to a true experiment, but does not have randomly assigned control and treatment groups

Queer(ing) methodologies

Research methods using this approach aim to question, challenge and/or reject knowledge that is commonly accepted and privileged in society and elevate and empower knowledge and perspectives that are often perceived as non-normative.

query

search terms used in a database to find sources of information, like articles or webpages

questionnaire

A research instrument consisting of a set of questions (items) intended to capture responses from participants in a standardized manner

quota

A quota sample involves the researcher identifying a subgroups within a population that they want to make sure to include in their sample, and then identifies a quota or target number to recruit that represent each of these subgroups.

random assignment

using a random process to decide which participants are tested in which conditions

random error

Unpredictable error that does not result in scores that are consistently higher or lower on a given measure but are nevertheless inaccurate.

random errors

Errors lack any perceptable pattern.

randomized controlled trial

an experiment that involves random assignment to a control and experimental group to evaluate the impact of an intervention or stimulus

randomly selection

An approach to sampling where all elements or people in a sampling frame have an equal chance of being selected for inclusion in a study's sample.

range

The difference between the highest and lowest scores in the distribution.

rating scale

An ordered set of responses that participants must choose from.

ratio

The highest level of measurement. Denoted by mutually exclusive categories, a hierarchy (order), values can be added, subtracted, multiplied, and divided, and the presence of an absolute zero.

raw data

unprocessed data that researchers can analyze using quantitative and qualitative methods (e.g., responses to a survey or interview transcripts)

recall bias

When respondents have difficult providing accurate answers to questions due to the passage of time.

reciprocal determinism

Concept advanced by Albert Bandura that human behavior both shapes and is shaped by their environment.

reconstruction

The act of putting the deconstructed qualitative back together during the analysis process in the search for meaning and ultimately the results of the study.

recruitment

the process by which the researcher informs potential participants about the study and attempts to get them to participate

reflexive journal

A research journal that helps the researcher to reflect on and consider their thoughts and reactions to the research process and how it may be shaping the study

reflexivity

How we understand and account for our influence, as researchers, on the research process.

reification

assuming that abstract concepts exist in some concrete, tangible way

reliability

The ability of a measurement tool to measure a phenomenon the same way, time after time. Note: Reliability does not imply validity.

representative sample

a sample that looks like the population from which it was selected in all respects that are potentially relevant to the study

representativeness

How closely your sample resembles the population from which it was drawn.

research data repository

These are sites where contributing researchers can house data that other researchers can view and request permission to use

research methods

the methods researchers use to examine empirical data

research proposal

a document produced by researchers that reviews the literature relevant to their topic and describes the methods they will use to conduct their study

research protocol

The details/steps outlining how a study will be carried out.

researcher bias

The unintended influence that the researcher may have on the research process.

respect for persons

One of the three ethical principles espoused in the Belmont Report. Treating people as autonomous beings who have the right to make their own decisions. Acknowledging participants' personal dignity.

response option

the answers researchers provide to participants to choose from when completing a questionnaire

retrospective survey

Similar to other longitudinal studies, these surveys deal with changes over time, but like a cross-sectional study, they are administered only once. In a retrospective survey, participants are asked to report events from the past.

review articles

journal articles that summarize the findings other researchers and establish the state of the literature in a given topic area

rigor

Rigor is the process through which we demonstrate, to the best of our ability, that our research is empirically sound and reflects a scientific approach to knowledge building.

roundtable presentations

facilitated discussions on a topic, often to generate new ideas

sample

the group of people you successfully recruit from your sampling frame to participate in your study

sample size

The number of cases found in your final sample.

sampling bias

Sampling bias is present when our sampling process results in a sample that does not represent our population in some way.

sampling distribution

the set of all possible samples you could possibly draw for your study

sampling error

The difference between what you find in a sample and what actually exists in the population from which the sample was drawn.

sampling frame

the list of people from which a researcher will draw her sample

saturation

The point where gathering more data doesn't offer any new ideas or perspectives on the issue you are studying. Reaching saturation is an indication that we can stop qualitative data collection.

scatter plot

A graphical representation of data where the y-axis (the vertical one along the side) is your variable's value and the x-axis (the horizontal one along the bottom) represents the individual instance in your data.

scatterplots

Visual representations of the relationship between two interval/ratio variables that usually use dots to represent data points

science

a way of knowing that attempts to systematically collect and categorize facts or truths

secondary data

Data someone else has collected that you have permission to use in your research.

secondary data analysis

study publicly available information or data that has been collected by another person

secondary sources

interpret, discuss, and summarize primary sources

selection bias

the degree to which people in my sample differs from the overall population

selection interval

the distance between the elements you select for inclusion in your study

selective or theoretical coding

Selective or theoretical coding is part of a qualitative analysis process that seeks to determine how important concepts and their relationships to each other come together, providing a theory that describes the focus of the study. It often results in an overarching or unifying idea tying these concepts together.

self-administered questionnaire

A questionnaire that is distributed to participants (in person, by mail, virtually) to complete independently.

self-report

a participant answers questions about themselves

semantic differential scale

Composite (multi-item) scales in which respondents are asked to indicate their opinions or feelings toward a single statement using different pairs of adjectives framed as polar opposites.

semi-structured interviews

An interview that has a general framework for the questions that will be asked, but there is more flexibility to pursue related topics that are brought up by participants than is found in a structured interview approach.

seminal article

a classic work of research literature that is more than 5 years old and is marked by its uniqueness and contribution to professional knowledge" (Houser, 2018, p. 112)

sequence

in mixed methods research, this refers to the order each method is used

signposting

the words used to identify the organization and structure of your literature review to your reader

simple random sampling

selecting elements from a list using randomly generated numbers

skewed distribution

A distribution where cases are clustered on one or the other side of the median.

snowball

For a snowball sample, a few initial participants are recruited and then we rely on those initial (and successive) participants to help identify additional people to recruit. We thus rely on participants connects and knowledge of the population to aid our recruitment.

social desirability

When a participant answers in a way that they believe is socially the most acceptable answer.

social desirability bias

Social desirability bias occurs when we create questions that lead respondents to answer in ways that don't reflect their genuine thoughts or feelings to avoid being perceived negatively.

social science

the science of humanity, social interactions, and social structures

split-half reliability

A reliability evaluation that examines the internal consistency of a a measurement tool. This process involves comparing one half of a tool to the other half of the same tool and evaluating the results.

spurious relationship

when a relationship between two variables appears to be causal but can in fact be explained by influence of a third variable

stakeholders

individuals or groups who have an interest in the outcome of the study you conduct

statistical power

The ability to fail to accept the null hypotheses (i.e., actually find what you are seeking)

statistical significance

"Assuming that the null hypothesis is true and the study is repeated an infinite number times by drawing random samples from the same populations(s), less than 5% of these results will be more extreme than the current result" (Cassidy et al., 2019, p. 233).

strata

the characteristic by which the sample is divided in stratified random sampling

stratified random sampling

dividing the study population into subgroups based on a characteristic (or strata) and then drawing a sample from each subgroup

structured interview

Interview that uses a very prescribed or structured approach, with a rigid set of questions that are asked very consistently each time, with little to no deviation

study identification codes

Numbers or a series of numbers, symbols and letters assigned in research to both organize data as it is collected, as well as protecting the identity of participants.

subjective truths

one truth among many, bound within a social and cultural context

survey design

The use of questionnaires to gather data from multiple participants.

symmetrical distribution

A distribution with a roughly equal number of cases on either side of the median.

systematic error

(also known as bias) refers to when a measure consistently outputs incorrect data, usually in one direction and due to an identifiable process

systematic errors

Errors that are generally predictable.

systematic review

journal articles that identify, appraise, and synthesize all relevant studies on a particular topic (Uman, 2011, p.57)

systematic sampling

selecting every kth element from your sampling frame

table

a quick, condensed summary of the report's key findings arranged by row and column

tacit knowledge

knowledge that is difficult to express in words and may be conveyed more through intuition or feelings

target population

the group of people whose needs your study addresses

targeted approach

approach to recruitment where participants are based on some personal characteristic or group association

temporality

as a criteria for causal relationship, the cause must come before the effect

tentative application of findings

any findings that follow from constructivist studies are not inherently applicable to other people or situations, as their realities may be quite different

tertiary sources

review primary and secondary sources

test-retest reliability

The extent to which scores obtained on a scale or other measure are consistent across time

testing effect

The measurement error related to how a test is given; the conditions of the testing, including environmental conditions; and acclimation to the test itself

The Belmont Report

The Belmont Report is a document outlining basic ethical principles for research on human subjects in the United States and is the foundation of work conducted by IRBs in carrying out their task of overseeing protection of human subjects in research (National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research, 1979).

the literature

published works that document a scholarly conversation on a specific topic within and between disciplines

thematic analysis

Thematic analysis is an approach to qualitative analysis, in which the researcher attempts to identify themes or patterns across their data to better understand the topic being studied.

thematic map or thematic array

A visual representation of how each individual category fits with the others when using thematic analysis to analyze your qualitative data.

theoretical articles

discuss a theory, conceptual model, or framework for understanding a problem

theory

a set of concepts and relationships scientists use to explain the social world

thick description

A thick description is a very complete, detailed, and illustrative of the subject that is being described.

time order

A demonstration that a change occurred after an intervention. An important criterion for establishing causality.

time series

a set of measurements taken at intervals over a period of time

trade publications

periodicals directed to members of a specific profession which often include information about industry trends and practical information for people working in the field

transcribe

To type out the text of recorded interview or focus group.

transparency

The process of research is record and described in such a way that the steps the researcher took throughout the research process are clear.

treatment fidelity

ensuring that everyone receives the same, or close to the same, treatment as possible

trend survey

A type of longitudinal survey where the researchers gather data at multiple times, but each time they ask different people from the group they are studying because their concern is capturing the sentiment of the group, not the individual people they survey.

triangulation

Triangulation of data refers to the use of multiple types, measures or sources of data in a research project to increase the confidence that we have in our findings.

true experimental design

An experimental design in which one or more independent variables are manipulated by the researcher (as treatments), subjects are randomly assigned to different treatment levels (random assignment), and the results of the treatments on outcomes (dependent variables) are observed

trustworthiness

Trustworthiness is a quality reflected by qualitative research that is conducted in a credible way; a way that should produce confidence in its findings.

trustworthy data

Data that accurately portrays information that was shared in or by the original source.

truth value

The level of confidence that research is obtained through a systematic and scientific process and that findings can be clearly connected to the data they are based on (and not some fabrication or falsification of that data).

two-way ANOVA

a statistical procedure to compare the means of a variable across groups using multiple independent variables to distinguish among groups

typical case sampling

A purposive sampling strategy where you select cases that represent the most common/ a commonly held perspective.

unidimensional concepts

concepts that are expected to have a single underlying dimension

unimodal distribution

A distribution with one distinct peak when represented on a histogram.

unit of analysis

entity that a researcher wants to say something about at the end of her study (individual, group, or organization)

unit of observation

the entities that a researcher actually observes, measures, or collects in the course of trying to learn something about her unit of analysis (individuals, groups, or organizations)

units

discrete segments of data

univariate data analysis

Univariate data analysis is a quantitative method in which a variable is examined individually to determine its distribution.

unstructured interviews

Interviews that contain very open-ended talking prompt that we want participants to respond to, with much flexibility to follow the conversation where it leads.

validity

The extent to which the scores from a measure represent the variable they are intended to.

variability

The extent to which the levels of a variable vary around their central tendency (the mean, median, or mode).

variable

"a logical grouping of attributes that can be observed and measured and is expected to vary from person to person in a population" (Gillespie & Wagner, 2018, p. 9)

variable name

The name of your variable.

vulnerable populations

People who are at risk of undue influence or coercion. Examples are children, prisoners, parolees, and persons with impaired mental capabilities. Additional groups may be vulnerable if they are deemed to be unable to give consent.

workshops

interactive presentations which go hands-on with audience members to teach them new skills

Notes

1. PAR-L. (2010). Introduction to feminist research. [Webpage]. https://www2.unb.ca/parl/research.htm#:~:text=Methodologically%2C%20feminist%20research%20differs%20from,standpoints%20and%20experiences%20of%20women.

CSWE EPAS index

These alignments refer to the 2015 Council on Social Work Education's Educational Policy and Accreditation Standards.

- Competency 1: Demonstrate Ethical and Professional Behavior **(Chapters 1, 2, 3, 4, 6, 16, 21)**
  - 1.1 Student will make ethical decisions by applying the standards of the NASW Code of Ethics, relevant laws and regulations, models for ethical decision-making, ethical conduct of research, and additional codes of ethics as appropriate to context;
  - 1.2 Student will use reflection and self-regulation to manage personal values and maintain professionalism in practice situations;
  - 1.3 Student will demonstrate professional demeanor in behavior; appearance; and oral, written, and electronic communication;
  - 1.4 Student will use technology ethically and appropriately to facilitate practice outcomes; and
  - 1.5 Student will use supervision and consultation to guide professional judgment and behavior.
- Competency 2: Engage Diversity and Difference in Practice **(Chapters 1, 4, 6, 7, 17)**
  - 2.1 Student will apply and communicate understanding of the importance of diversity and difference in shaping life experiences in practice at the micro, mezzo, and macro levels;
  - 2.2 Student will present themselves as learners and engage clients and constituencies as experts of their own experiences; and
  - 2.3 Student will apply self-awareness and self- regulation to manage the influence of personal biases and values in working with diverse clients and constituencies
- Competency 3: Advance Human Rights and Social, Economic, and Environmental Justice **(Chapters 1, 2, 4, 6, 11, 13, 23)**
  - 3.1 Student will apply their understanding of social, economic, and environmental justice to advocate for human rights at the individual and system levels; and
  - 3.2 Student will engage in practices that advance social, economic, and environmental justice.
- Competency 4: Engage In Practice-informed Research and Research-informed Practice **(Chapters 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24)**
  - 4.1 Student will use practice experience and theory to inform scientific inquiry and research;
  - 4.2 Student will apply critical thinking to engage in analysis of quantitative and qualitative research methods and research findings; and
  - 4.3 Student will use and translate research evidence to inform and improve practice, policy, and service delivery.
- Competency 5: Engage in Policy Practice **(Chapters 1, 6, 23)**
  - 5.1 Student will identify social policy at the local, state, and federal level that impacts well-being, service delivery, and access to social services;

- 5.2 Student will assess how social welfare and economic policies impact the delivery of and access to social services;
- 5.3 Student will apply critical thinking to analyze, formulate, and advocate for policies that advance human rights and social, economic, and environmental justice.

- Competency 6: Engage with Individuals, Families, Groups, Organizations, and Communities. **(Chapters 1, 7)**
  - 6.1 Students will apply knowledge of human behavior and the social environment, person-in-environment, and other multidisciplinary theoretical frameworks to engage with clients and constituencies; and
  - 6.2 Students will use empathy, reflection, and interpersonal skills to effectively engage diverse clients and constituencies.
- Competency 7: Assess Individuals, Families, Groups, Organizations, and Communities **(Chapters 1, 3, 4, 9, 10, 11, 12, 13, 17, 18, 23)**
  - 7.1 Students will collect and organize data, and apply critical thinking to interpret information from clients and constituencies;
  - 7.2 Students will apply knowledge of human behavior and the social environment, person-in-environment, and other multidisciplinary theoretical frameworks in the analysis of assessment data from clients and constituencies;
  - 7.3 Students will develop mutually agreed-on intervention goals and objectives based on the critical assessment of strengths, needs, and challenges within clients and constituencies; and
  - 7.4 Students will select appropriate intervention strategies based on the assessment, research knowledge, and values and preferences of clients and constituencies.
- Competency 8: Intervene with Individuals, Families, Groups, Organizations, and Communities **(Chapters 1, 7)**
  - 8.1 Students critically choose and implement interventions to achieve practice goals and enhance capacities of clients and constituencies;
  - 8.2 Students will apply knowledge of human behavior and the social environment, person-in-environment, and other multidisciplinary theoretical frameworks in interventions with clients and constituencies;
  - 8.3 Students will use inter-professional collaboration as appropriate to achieve beneficial practice outcomes;
  - 8.4 Students will negotiate, mediate, and advocate with and on behalf of diverse clients and constituencies; and
  - 8.5 Students will facilitate effective transitions and endings that advance mutually agreed-on goals.
- Competency 9: Evaluate Practice with Individuals, Families, Groups, Organizations, and Communities **(Chapters 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 22, 23)**
  - 9.1 Students will select and use appropriate methods for evaluation of outcomes;
  - 9.2 Students will apply knowledge of human behavior and the social environment, person-in-

environment, and other multidisciplinary theoretical frameworks in the evaluation of outcomes;
- 9.3 Students will critically analyze, monitor, and evaluate intervention and program processes and outcomes; and
- 9.4 Students will apply evaluation findings to improve practice effectiveness at the micro, mezzo, and macro levels

Peer review statement

This resource was created over a year and a half by the team of core authors, content creators, and other contributors. At the outset of the project, faculty and student advisers (listed in the front matter) provided formative feedback at the following stages of production: forming the original mission statement and grant proposal, drafting the table of contents, and outlining individual chapters. Advisors are credited as contributors in the front matter of the textbook. Their contributions to the early stages of production are not noted in the table below, which depicts the changes made during summative peer review completed after chapters were written and in beta testing.

After authors completed writing each chapter, they submitted their a beta edition of their work for peer review by these faculty and student advisers as well as external peer reviewers recruited through the BPD listserv for social work educators. We are incredibly grateful for the outpouring of support from the community of social work educators, and hope that the review provided by the 22 external reviewers and six internal reviewers (faculty and student advisers) demonstrates the rigor with which the authors created this resource. Peer reviewers are credited as contributors in the front matter of the textbook. Authors incorporated peer review comments and completed an internal review between authors and editors to address any remaining issues.

An important caveat to our peer review is that the vast majority of content in five chapters (6, 8, 9, 11, and 12) has not been peer reviewed in its final presentation. Although peer reviewers provided insightful feedback on those chapters, there were significant issues identified during the team's internal review that caused authors to cut old material and revise sections with a mostly blank slate. For this reason, these chapters should not be considered peer reviewed.

We welcome post-publication peer review from **students and faculty** in our Hypothes.is annotation group for peer reviewers, which is regularly checked by the project manager. You can leave an open peer review for our resources on OER Commons or Merlot, or if you have attended an Open Education Network training, on the Open Textbook Library. If you prefer to share your thoughts via email or memo, contact profmattdecarlo@gmail.com to provide feedback and inform future revisions and editions of this textbook. We'd love to hear from you!

Peer review summary table

Chapter	Names of reviewers	Summary of peer review comments accepted	Summary of peer review comme accepted
Chapter 1	Courtney Crenshaw, Debra Olson-Morrison, Marcia Runnberg-Valadez, Sarah Price	Fixed broken SAMHSA links, Added video case study for EBP and cultural humility, many helpful grammar and language suggestions, updated example on social stratification and education to more modern citation, added roadmap of the book at the end, reframing myths to student beliefs, adding CSWE/EPAS on research	Shortening case studies (will cove Shortening research myths, movi myths to front of book, integratin practice" framing from CSWE (no it), objectivity and PTSD suggeste elaborating further on informal re suggested changes in language, g writing style
Chapter 2	Matthias Naleppa, Courtney Crenshaw, Andrea Reynolds, Michel Coconis, and Marcia Runnberg-Valadez	Revised how research proposals are structured in grad programs to be more broadly applicable across programs, expanded on purpose of research and types of research with more introductory material, included raw data as "resource" in student project, included suggested language on keeping topics simple, and included ethics in the title of section 2.3 to note its more prominent role in feasibility concerns	Did not agree with some suggeste language and writing style. Stude and application is used in exercis in other sections is not needed. Id co-creation of content with stude to adopters and adapters of this r language focusing research topics career goals, as it is not unreason some students come with those. I example of interviewing middle s and trust as part of a gatekeeper the critique of being too involved sense to me.
Chapters 3, 4	Michel Coconis, Melody Loya, Kimberly Pendell	Provided more information on peer review process but less than the reviewer wanted. Provided links to think tanks. Added "write notes to yourself" as a step in literature searching. Clarified language around what is a secondary source. Noted the limitations of peer review. Provided open access social work journal articles as examples of types of articles. Clearly identified in section 3.4 that the PDFs come from completing the exercises. Added language about filter bubbles. Changed Beall's list to COPE for predatory journals and added language about journal webpages being difficult to understand if they are peer reviewed or not. Clarified language on using citation counts to evaluate articles as seminal, softened and clarified language around edited volumes and why they are less reputable, clarified language on queries, broke databases down by public vs. university-access, added language on copyright issues with ResearchGate, added information on hierarchy of evidence while contextualizing it with the multi-paradigmatic framework rather than just positivism	Linking to Questia (unknown reso includes paywalls), explaining mo advertisements, editorial boards, review process in commercial jou Integrating the CRAAP model of e literature. Integrating Google Ale suited to policy research), and did generalizability in this chapter. Fr empirical journal articles around structure makes sense, but I kept about raw data as this is the key t need to know, as most graduate a literature reviews, not an analysis Inserting screenshots is a good id unable to do this in the review tim not reorganize the steps as indica reviewer, but I did add language a in section 3.2 about revising quer multiple databases.

Chapter 5	Courtney Crenshaw, Chipacti Ovalle, Michel Coconis, Melody Loya	All in-line grammar and language suggestions were adopted. Argument was added to the glossary and bolded as a key term. Copied in qualitative results to provide example. Added language avoiding use of "prove" and using "weasel words" instead.	Creating YouTube videos to illust and outlining (not feasible in revi linking to additional information (internal links to stats chapters us using more humor (I have no mor different style for tables (keeping uniformity). One reviewer noted t and sourcing was lax in many cha chapter 5, and should be more th research textbook. References we though additional sourcing and re would benefit this chapter and lik
Chapter 6	Lorri McMeel, Matthias Naleppa	As written, this chapter should not be considered peer reviewed. Peer reviewers provided excellent feedback, and to the extent possible, authors included it. However, this chapter was extensively revised as a result of an internal audit and has not been subsequently peer reviewed.	
Chapter 7	John Gyourko, Matthias Naleppa, Mike Massey	All suggestions for clearing up any confusing phrasing were taken and much appreciated. Linked back to chapters 1, 3, and 4 to ground discussion in 5.1. Added references for philosophical and theoretical concepts and more clearly addressed the multi-paradigmatic framework that informed our presentation in section 5.2. Also added links to HBSE open textbooks and sociology open dictionary to help students who were unfamiliar with HBSE theories and information.	Reviewer highlighted the importa and engaging language in this sec student engagement. This critiqu and I did the best I could to addre language is still dense in many se Reviewer suggested a visual repre each paradigm. While this is a goo visual learners, visual representat multi-paradigmatic frameworks w two of the assumptions (objective and radical change/regulation). It idea to have a diagram, but I'm un best to represent them.
Chapter 8	Matthias Naleppa, Emily Massengill, Ted Alter, Larry Morton	As written, this chapter should not be considered peer reviewed. Peer reviewers provided excellent feedback, and to the extent possible, authors included it. However, this chapter was extensively revised as a result of an internal audit and has not been subsequently peer reviewed.	
Chapter 9	Emily Massengill, Matthias Naleppa, Andrea Reynolds, Lorri McMeel	As written, this chapter should not be considered peer reviewed. Peer reviewers provided excellent feedback, and to the extent possible, authors included it. However, this chapter was extensively revised as a result of an internal audit and has not been subsequently peer reviewed.	

Chapter 10	Emily Massengill, Mary Sheridan, Natalie Moore-Bembry, Sarah Kye Price	Added discussion on the limitations of agency-based samples and the utility of non-generalizable analysis of subpopulations from agency-based samples, reordered discussion of sampling frame and inclusion/exclusion criteria for clarity and in all diagrams and text, removed references to "hypothetical" lists of people, included information on feasibility in sampling frame section, moved section 9.3 into section 9.1 as the questions are more general and introductory (not exactly what the peer reviewer said to do, but similar).	Spacing issues noted by one peer not replicable by author or in oth comments, did not address sampl representativeness in 9.1 but disc critique of potential samples, did some language suggestions, left i about departmental supervision c research projects with human sub varies form school to school but c schools I've taught) with very low Revise figure 9.1 to reflect new or additional information.
Chapter 11	Larry Morton, Mary Sheridan	As written, this chapter should not be considered peer reviewed. Peer reviewers provided excellent feedback, and to the extent possible, authors included it. However, this chapter was extensively revised as a result of an internal audit and has not been subsequently peer reviewed.	
Chapter 12	Mary Sheridan	As written, this chapter should not be considered peer reviewed. Peer reviewers provided excellent feedback, and to the extent possible, authors included it. However, this chapter was extensively revised as a result of an internal audit and has not been subsequently peer reviewed.	
Chapter 13	Rachel Kirzner, Matthias Naleppa, Peggy Rapp	Most of the feedback for this chapter was text edits which were accepted. I also integrated some of the comments and articles from Dr. Kirzner for the critical perspectives section.	Dr. Rapp had some questions abo including the use of "pure" vs. "tr experimental design. I left the ter was in the text to keep it internal
Chapter 14	Lorri McMeel and Emily Massengil	Lorri suggested adding a short discussion of comprehensiveness and detail in variables. I did add this, discussing how important it is to be comprehensive while also considering the onerousness of your data collection and ethics of collecting information you know you don't need.	n/a
Chapter 15	Madeline Pérez De Jesús, Carol Hostetter, Matthias Naleppa	There were only minor suggestions for some language changes, including using BIPOC instead of non-White. I made these changes.	n/a
Chapter 16	Lorri McMeel and Andrea Reynolds	Lorri suggested a number of specific additions, all of which I incorporated into the chapter. Andrea noted a few minor errors that I also corrected.	

Chapter 17	Peggy Rapp, John Gyourko, Sarah Kye Price, Sherece Shavel	Retitled chapter to focus both on sampling and selecting type of data. All in-line grammar and language suggestions were adopted. Numerous glossary terms were added and bolded for consistency. Added more introductory information in beginning of chapter to facilitate transition from quantitative section to qualitative section. Student and research examples were added to help demonstrate concepts. Provided additional information regarding sampling strategies, different sources of data, bias, and subjectivity to help clarify concepts.Added exercise and textual focus tailored to specific considerations for developing student proposal. Re-worded a couple passages that were not clear. Added conclusion/ summarizing paragraph at end.	n/a
Chapter 18	Rachel Kirzner, John Gyourko, Sarah Kye Price, Mary Sheridan	All in-line grammar and language suggestions were adopted. Numerous glossary terms were added and bolded for consistency. Added summative chart of different types of data to frame discussion for the chapter and direct the reader.Converted dense table to text to make it more approachable (section 18.4). Expanded discussion about research engagement in communities and impact at both micro and mezzo/macro levels. Added some additional examples to clarify concepts. Expanded information on secondary data analysis. Added a brief concluding paragraph. Tailored cultural humility discussion more closely to qualitative process. Incorporated more detail on elements of data collection plan in exercise. Expanded discussion on pilot testing and its importance. Expanded discussion of power imbalances in interviews. Added example interview guide and focus group guide. Added information about making decisions about numbers of participants in focus groups and member characteristics. Added example of capturing observational data. Expanded discussion of researcher role as observer. Added example artifact analysis data gathering tool.	Added brief discussion about stru observation, but this seems more quantitative data collection. Ther comment about qualitative data s discussion at the end feeling buri brief information was added, it w little. It is unlikely that students w these for their projects and if the do so, it really requires them expl additional resources (links provid

Chapter 19	Mike Massey, Sherece Shavel, John Gyourko, Sarah Kye Price	Reworded areas to emphasize that qualitative research often has a wide variety of smaller sample sizes (even single participants, as in a case study). Expanded discussion of "what/why" in numerous sections to help provided additional context for the various approaches discussed. Provided discussion to better frame social work research as a tool for social justice and the implications of this for social work researchers. Provided additional examples and definitions of concepts. Added information regarding "damage-centered research" and its relation to power and control. Added additional exercises earlier in the chapter. Added information regarding feminist, indigenous and decolonizing approaches to contrast with more traditional research model(s).	While I did not add additional ana approaches, I did identify additio and provided resources to learn m context in the beginning that qua is a much broader topic than the information presented in the cha introduction). There is still a limit of "how" for each of the approach within the chapter is to offer a ve understanding, with additional re further study. I did expand some informed consent, however other comments on ethics are more co addressed in other chapters (8,17, leave resources throughout chap are discussed), rather than at the encourage increased use and con
Chapter 20	John Gyourko, Wanja Ogongi	Reframed discussion of interpretivist paradigm to emphasize that this is just one vein of qualitative research. Deconstructed text heavy tables and added visual elements to break-up text and improve visual presentation of materials. Attempted to break-up the presentation of new concepts and contextualize them better (so as not to be too overwhelming with new vocabulary). Added additional exercises and references to student proposal preparation.	n/a
Chapter 21	John Gyourko, Wanja Ogongi	Provided additional graphics and figure. Included more examples to more thoroughly demonstrate concepts. Integrated discussion on participatory research more explicitly. Linked glossary terms throughout chapter.	n/a
Chapter 22	John Gyourko, Tuwana Wingfield	Provided additional student exercises. Offered examples of constructivist research specific to social work. Modified visual to reflect the iterative or cyclical nature of the work. Added content to help connect and differentiate various designs, more thoroughly explore cultural humility and research connection to social work practice (and our development as practitioners). Added additional information about including community stakeholders. Linked glossary terms.	n/a

Chapter 23	Elspeth Slayter, Tammy Faux, Pat Dattalo, John Gyourko	Elspeth pointed out an error related to when one might need IRB approval. I made the correction she suggested. Elspeth also expressed concerns about how technical the idea of implementation science is and that students might find it jargon-y. I tried to clarify the language in the implementation science section and do a better job of linking it to process evaluation. I opted not to completely change the implementation science section because I think it's important for students to know about it as an emerging part of program evaluation. I better integrated some of my examples, including the example about the Australian government. I did check on Elspeth's concerns about the use of the term Aboriginal and confirm that it is a proper terminology. I made sure to capitalize it throughout the chapter. Elspeth also provided me with a textbook chapter to help with the ethics and culture section of the chapter, which was very useful and provided great ideas for content. I accepted many of John's text edits, or they were addressed through our internal processes. In places where he felt my wording was confusing, I did my best to make adjustments to address that issue.	Elspeth suggested including infor the Goal Attainment Scale. After research about this concept, whil valuable, I think it would be overl students at this level. I did not fu cultural humility since that occur the text. Pat suggested I consider a discus versus outcome versus impact an monetary elements of an evaluati is worthwhile content, but makes this chapter too complex to be di level. The issue of outputs is addr video about logic models, and I th sufficient at this level. In future v like to reconsider this idea. Although Dr. Faux's comments we they reflected a fundamental disa the author about the purpose of t the entire basis of separating pro from research in this way. This co resolved without entirely re-writi re-conceptualizing the chapter in counter to the author's own expe knowledge. As a result, her comm integrated.
Chapter 24	Matthias Neleppa, Kimberly Pendell	Accepted all language changes suggested by reviewers, though few other suggestions were provided. This chapter would benefit from additional peer review	One reviewer noted that this cha repetitive with chapter 1, but that if the purpose was to link it with t introduction

Attributions index

This resource draws from the existing body of open educational resources on social science research methods. This index provides information about which sources were adapted in each chapter. This index does not include attributions for images, which are provided in the Media Attributions section at the end of each chapter before the footnotes.

I should note that this textbook draws heavily from Scientific inquiry in social work by Matt DeCarlo and published by Open Social Work under a CC-BY-NC-SA 4.0 license which adapted a large chunk of content from Principles of sociological inquiry: Quantitative and qualitative methods by Amy Blackstone and published by the Saylor Foundation under a CC-BY-NC-SA license. In many ways, this project is indebted to Dr. Blackstone's seminal scholarly gift.

Chapter 1 adapted content from:

- Chapter 1 of Scientific inquiry in social work by Matt DeCarlo and published by Open Social Work under a CC-BY-NC-SA 4.0 license.
- Cultural Humility: People, Principles and Practices—Part 1 of 4 published by Vivian Chavez under a CC BY-NC-ND 3.0 license.

Chapter 2 adapted content from:

- Sections 2.1 and 15.1 of Scientific inquiry in social work by Matt DeCarlo and published by Open Social Work under a CC-BY-NC-SA 4.0 license.
- How to create a concept map published by the University of Guelph Library under a CC-BY 4.0 license.

Chapters 3, 4, and 5 adapted content from:

- Sections 2.2, 2.3, 3.1, and 3.2 of Scientific inquiry in social work by Matt DeCarlo and published by Open Social Work under a CC-BY-NC-SA 4.0 license.
- Bonanno & Veselak's article A matter of trust: Parents attitudes towards child mental health information sources and published in Advances in Social Work under a CC-BY 4.0 license.
- The section on SIFT from Introduction to College Research by Walter D. Butler, Aloha Sargent, and Kelsey Smith and published under a CC-BY 4.0 license.
- Information privilege by Steely Library NKU and published under a CC-BY 4.0 license.

Chapter 6 adapted content from:

- Chapter 5 of Scientific inquiry in social work by Matt DeCarlo and published by Open Social Work

under a CC-BY-NC-SA 4.0 license.

Chapter 7 adapted content from:

- Section 6.2 of Scientific inquiry in social work by Matt DeCarlo CC-BY-NC-SA 4.0 published by Open Social Work under a CC-BY-NC-SA 4.0 license.
- The GO-GN research methods handbook by Farrow, R., Iniesto, F., Weller, M. & Pitt., R. published by the Global OER Graduate Network (GO-GN) under a CC-BY 4.0 license.
- A small amount of content from the Wikipedia entry for postpositivism published under a CC-BY-SA 3.0 license as well as Yosef Jabarin's article on conceptual frameworks published by the International Journal of Qualitative Methods under a CC-BY 4.0 license.

Chapter 8 adapted content from:

- Sections 6.3, 7.2, and 7.3 of Scientific inquiry in social work by Matt DeCarlo CC-BY-NC-SA 4.0 published by Open Social Work which is adapted from Principles of sociological inquiry: Quantitative and qualitative methods by Amy Blackstone CC-BY-NC-SA published by the Saylor Foundation.
- Chapter 10 of Research methods in psychology (4th edition) by Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, and Dana C. Leighton CC-BY-NC-SA 4.0 from Kwantlen Polytechnic University Library.

Chapter 9 adapted content from:

- Chapter 8 of Scientific inquiry in social work by Matt DeCarlo CC-BY-NC-SA 4.0 published by Open Social Work under a CC-BY-NC-SA 4.0 license.
- Many figures and ideas from Principles of sociological inquiry: Quantitative and qualitative methods by Amy Blackstone CC-BY-NC-SA published by the Saylor Foundation.

Chapter 10 adapted content from:

- Chapter 10 of Scientific inquiry in social work by Matt DeCarlo and published by Open Social Work under a CC-BY-NC-SA 4.0 license.

Chapter 11 adapted content from:

- Chapter 9 of Scientific inquiry in social work by Matt DeCarlo CC-BY-NC-SA 4.0 published by Open Social Work under a CC-BY-NC-SA 4.0 license.
- Chapter 6 of Social Science Research: Principles, Methods, and Practices published by Anol Bhattacherjee under a CC-BY-NC-SA 3.0 Unported license.
- Chapter 35 of Research methods in psychology (4th edition) by Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, and Dana C. Leighton CC-BY-NC-SA 4.0 from Kwantlen Polytechnic

University Library.

Chapter 12 adapted content from:

- Chapter 35 of Research methods in psychology (4th edition) by Rajiv S. Jhangiani, I-Chant A. Chiang, Carrie Cuttler, and Dana C. Leighton CC-BY-NC-SA 4.0 from Kwantlen Polytechnic University Library.
- Chapter 9 of Social Science Research: Principles, Methods, and Practices published by Anol Bhattacherjee under a CC-BY-NC-SA 3.0 Unported license.
- The final section on cultural bias adapts a large amount of content from Navigating cross-cultural research: methodological and ethical considerations, an open access article by Tanya Broesch, Alyssa N. Crittenden, Bret A. Beheim, Aaron D. Blackwell, John A. Bunce, Heidi Colleran, Kristin Hagel, Michelle Kline, Richard McElreath, Robin G. Nelson, Anne C. Pisor, Sean Prall, Ilaria Pretelli, Benjamin Purzycki, Elizabeth A. Quinn, Cody Ross, Brooke Scelza, Kathrine Starkweather, Jonathan Stieglitz and Monique Borgerhoff Mulder published by Proceedings of the Royal Academy of Biological Sciences under a CC-BY 4.0 license.

Chapter 13 adapted content from:

- Chapter 7 of Research methods in psychology (3rd American edition) by Paul C. Price, Rajiv S. Jhangiani, I-Chant A. Chiang, Dana C. Leighton, and Carrie Cuttler published by Washington State University Press under a CC-BY-NC-SA 4.0 license.

Chapter 15 adapted content from:

- Chapter 12 of Research methods in psychology (3rd American edition) by Paul C. Price, Rajiv S. Jhangiani, I-Chant A. Chiang, Dana C. Leighton, and Carrie Cuttler CC-BY-NC-SA 4.0 published by Washington State University Press under a CC-BY-NC-SA 4.0 license.

Chapter 19 adapted content from:

- Figures 19.4 and 19.5 are from Growing up in New York City: A Generational Memoir (1941–1960). by Howard R. Wolf and published in *American Studies Journal* under a CC-BY-SA 4.0 license.

Chapter 21 adapted content from:

- Figure 21.1 is from Street youth labor as an expression of survival and self-worth by Karabanow, J & Gurman, E. and published in *Critical Social Work* under a CC-BY-NC-ND 4.0 license.

Chapter 24 adapted content from:

- Chapter 16 of Scientific inquiry in social work by Matt DeCarlo CC-BY-NC-SA 4.0 published by

Open Social Work under a CC-BY-NC-SA 4.0 license.

Version information

Version 1.0 (08/23/2021)

Version 1.0 is our first edition of the textbook. Between 0.9 and 1.0, the authors did a lot of work! After the final internal review completed by authors and editor for version 0.9 revealed some difficulties in a few chapters, the authors rewrote three chapters. Early revisions were completed right after 0.9, with the project manager making a final round of changes in Summer 2021. The project manager also made changes on a few chapters based on notes accrued during the pandemic, but these changes are minimal, mostly changing examples and providing additional resources.

The major changes from 0.9 include:

- Rewrote sections of Chapter 7 to include
  - More content on paradigms
  - Removing a complicated framework for assessing paradigmatic assumptions
  - Developing a theoretical framework & paradigmatic framework
  - Introducing pragmatism and connecting it with multiparadigmatic methods
- Rewrites in Chapters 11 and 12 are too numerous to list. They are basically new chapters.
- Visual and copy edits

We anticipate releasing version 1.1 in August 2022. If you have feedback that you would like us to consider, you can contact the project manager Matt DeCarlo at profmattdecarlo@gmail.com with any suggestions or use the hypothes.is annotation group for Community Feedback.

Version 0.9 (08/15/2020)

Version 0.9 is the pre-release public beta. This version was peer reviewed by our peer reviewers, edited by our editor, and authors reviewed materials one last time prior to submitting their final work. This version was intended for review by faculty who are considering adopting the textbook for academic year 2020-2021, but authors were unable to complete final touches before the beginning of the academic year. This pushed back final production and publication to Summer 2021.

Archived copies are available in our Open Science Framework Project.