Research Methods for the Social Sciences: An Introduction

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VALERIE SHEPPARD

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This statement was last updated on February 13, 2020.

Preface

The primary purpose of this text is to provide an open source textbook that covers research methods. The material in the textbook was obtained from a variety of sources. All the sources are found in the reference section at the end of each chapter. We expect, with time, the book will grow with more information and more examples.

We welcome any feedback that would improve the book. If you would like to add a section to the book, please let us know.

About This Book

Welcome to *Research Methods for the Social Sciences,* a BCcampus funded resource created with several goals in mind: accessibility, affordability, customization, and student engagement—all while encouraging learners toward high levels of learning. Instructors and students alike will find that this textbook offers a strong foundation in sociology. It is available for free online and in low-cost print and e-book editions.

To broaden access and encourage community curation, Research Methods for the Social Sciences is "open source" licensed under a Creative Commons Attribution (CC-BY) license. Everyone is invited to submit examples, emerging research, and other feedback to enhance and strengthen the material and keep it current and relevant for today's students.

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I.

- Research Paradigms in Social Science
- Inductive Approaches to Research
- Deductive Approaches to Research

II.

- Research on Human Participants: An Historical Look
- Institutional Research Review Boards (IRBs)
- A Final Word about the Protection of Research Participants
- Summary

III.

- Exploration, Description, Explanation

To the Student

This book is written for you and is based on the teaching and research experience of numerous researchers in sociology. In today's global socially networked world, the topic of Sociology is more relevant than ever before. We hope that through this book, you will learn how simple, everyday human actions and interactions can change the world. In this book, you will find applications of Sociology concepts that are relevant, current, and balanced and underpins the work of public safety officers.

To the Instructor

This text is intended for a one-semester introductory course. Since current events influence our social perspectives and the field of Sociology in general, we encourage instructors to keep this book fresh by sending in your up-to-date examples to BCcampus so that students and instructors around the country can relate and engage in fruitful discussions.

General Approach

Research Methods for the Social Sciences adheres to the scope and sequence of a typical introductory research methods course. In addition to comprehensive coverage of core concepts, foundational scholars, and emerging theories, we have incorporated section reviews with engaging questions, discussions that help students apply their imagination, and features that draw learners into the discipline in meaningful ways. Although this text can be modified and reorganized to suit your needs, the standard version is organized so that topics are introduced conceptually, with relevant, everyday experiences.

Features of Research Methods for the Social Sciences

The following briefly describes the special features of this text.

Chapters

This textbook is organized as a collection of chapters that can be rearranged and modified to suit the needs of a particular faculty or class. That being said, chapters often contain references to content in other chapters, as most topics in sociology and social science cannot be discussed in isolation.

Learning Objectives

Every chapter begins with a set of clear and concise learning objectives. These objectives are designed to help the instructor decide what content to include or assign, and to guide the student with respect to what he or she can expect to learn. After completing the chapter students should be able to demonstrate mastery of the learning objectives.

Key Takeaways

The following features show students the dynamic nature of research:

- Highlights specific current and relevant research studies;
- Ties chapter content to student life and discusses every day and real issues;
- Features present sociological and public safety concepts at a local, national or international level, including:
    - Describes real-life people whose experiences relate to chapter content.

- Discusses political and social issues that relate to chapter content and the impact of research on social policy

Summary

Section summaries distill the information in each section for both students and instructors down to key, concise points addressed in the section.

Key Terms

Key terms are bold and are followed by a definition in context. Definitions of key terms are also listed in the Key Terms, which appears at the end of the chapter online and at the end of the chapter in print.

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Ron Bowles, Interim Dean, Office of Applied Research & Graduate Studies

Florence Daddey, Program Manager, Program and Curriculum Development

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We would also like to thank those who have contributed their time and energy in reviewing and providing feedback on the Research Methods for the Social Sciences textbook. Their input has been critical in maintaining the pedagogical integrity and accuracy of the text.

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CHAPTER 1: INTRODUCTION TO RESEARCH METHODS

Learning Objectives

At the end of this chapter, you will be able to:

- Define the term "research methods".
- List the nine steps in undertaking a research project.
- Differentiate between applied and basic research.
- Explain where research ideas come from.
- Define ontology and epistemology and explain the difference between the two.
- Identify and describe five key research paradigms in social sciences.
- Differentiate between inductive and deductive approaches to research.

Welcome to Introduction to Research Methods. In this textbook, you will learn why research is done and, more importantly, about the methods researchers use to conduct research. Research comes in many forms and, although you

may feel that it has no relevance to you and/ or that you know nothing about it, you are exposed to research multiple times a day. You also undertake research yourself, perhaps without even realizing it. This course will help you to understand the research you are exposed to on a daily basis, and how to be more critical of the research you read and use in your own life and career.

This text is intended as an introduction. A plethora of resources exists related to more detailed aspects of conducting research; it is not our intention to replace any of these more comprehensive resources. Feedback helps to improve this open-source textbook, and is appreciated in the development of the resource.

1.1 What are Research Methods?

In this chapter we begin our journey into research methods. We start by describing and differentiating basic approaches from applied approaches to research. Chapter one clarifies key concepts and terms that will be used in this textbook, and begins to answer the fundamental question of "what is research?" We conclude this chapter by examining where research ideas come from.

Research methods defined

Research methods comprise a systematic process of inquiry applied in such a manner as to learn something about our social world (Saylor Academy, 2012). The key message in the preceding statement is that undertaking research is a systematic process, i.e. there is a system, or a right way, to do research. How to do research correctly is one of the most important things you can and should learn if you plan to undertake a research project. However, beyond your need or desire to undertake a research project, doing research correctly also relates to every profession you may choose or have chosen to enter. In fact, you already do research in your everyday life. Just think about how many times on a weekly basis you undertake a Google search. Our collective use of Google to search for answers is one of the reasons why Google is such a successful company. Asking questions, trying to figure out what is going on, and/or why things happen in the way they do, is a part of being human (Palys and Atchison, 2014).

So if you already do research, why are you taking a course on research methods? Well, as much as we intuitively research things all the time, there are some more formal ways of collecting and sharing knowledge. Ultimately, research, in the formal sense, is really about engagement and thinking critically about the world around us. For example 'what psychological characteristics and factors that have been attributed to an increased probability of survival during an active crisis (Photo 1.1)? Applied research can make a contribution by shaping social life; e.g., a researcher may undertake a study that helps policy makers change an existing policy or create a new one. The research is applied to help shape social life.

Basic research can also make a contribution to sociological theories or knowledge without having a specific application as a goal, e.g., a researcher may undertake a study that modifies an existing theory related to post-traumatic stress disorder. It is important to note, however, that even basic research may ultimately be used for some applied purpose. Similarly, while applied research might not turn out to be applicable to the particular real-world social problem the researcher was trying to solve, it might better theoretical understanding of some phenomenon.

1.2 The Process of Undertaking Research

It is important to understand that research itself is a process that is defined by the approach taken to it in the first place. While research uncovers some aspect of how the world is, it also reflects in large part how, where, and when we have asked the questions.

Generally speaking, research is a nine-step process:

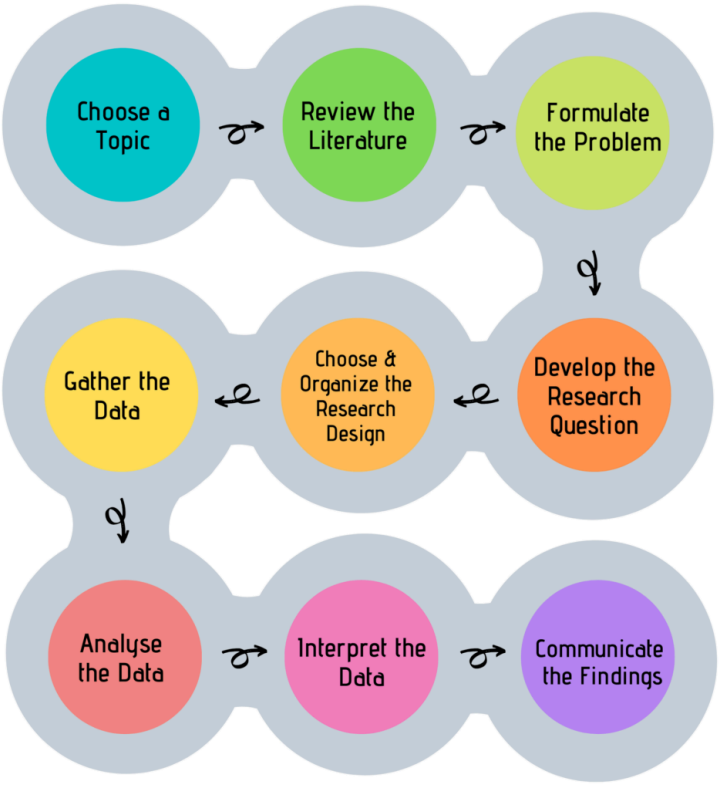

Figure 1.1 : Nine–Step research Process ©JIBC 2019

1. Choose a topic.
2. Review the literature (past research).
3. Formulate the problem (find the gap in past research).
4. Develop a research question.
5. Choose and organize the research design.
6. Gather the data.
7. Analyze the data.
8. Interpret the data.
9. Communicate the findings.

Implications of Past and Future Research on Research Process

Figure 1.2 shows the importance of literature review – surveys books, scholarly articles, and any other sources relevant to a particular issue and area of **research** and provides a critical evaluation of these works in relation to the current **research** problem being investigated. At the end of the research any gaps identified forms the basis for future research.

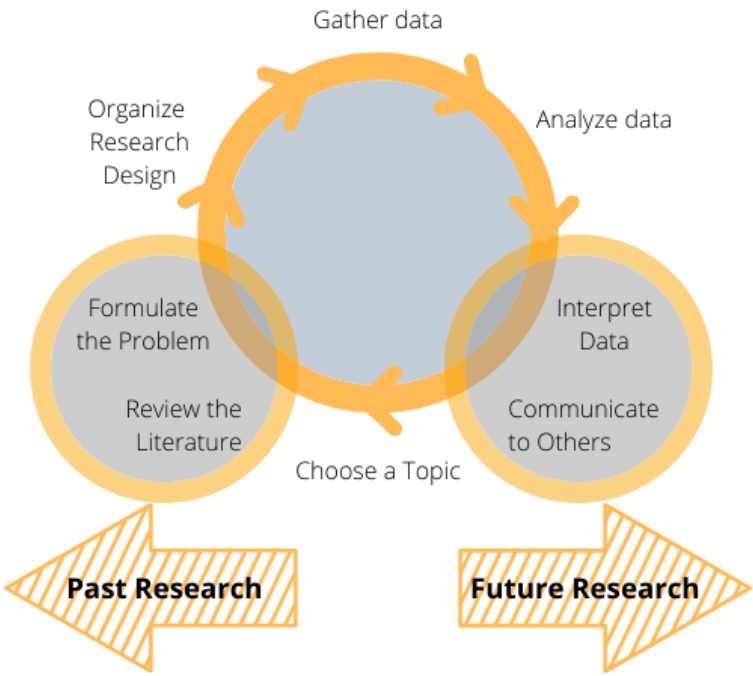

Figure 1.2 Shows the different steps in the research process and the implications of past and future research on research processes © JIBC 2019

Before moving on, it is important to understand a few key terms, particularly as they relate to understanding research. Click on the following link to download a PDF that describes the difference between research methods, research techniques, and research methodology. These definitions will also help you with the final assignment. You may want to print this document up and pin it to your computer for easy reference as you move through the course.

Research-Methods-Techniques-Methodology

1.3 Where Do Research Ideas Come From?

Where do ideas come from? Researchers find inspiration for their work in a variety of places; e.g., replicating, clarifying or challenging previous research, as well as resolving conflicting results, are common reasons for doing research. Sometimes research ideas come out of new technology (think of the impact of Facebook or Twitter on our society), serendipity (i.e., surprise findings the researcher wants to explore further), anomalies (i.e., unexpected situations that should not technically exist), or even because someone wants to explore further something we all believe we know. Some people refer to this as common sense research – history, tradition or basic common sense says this is how things are, until someone challenges it. For those in an applied field like public safety, research often comes out of a problem supplied to the researcher.

Whether an agency has a goal they are trying to achieve or a concern about a policy change, or you, as an individual, make an observation or have a question about the world around you, research is everywhere. Generally, it starts with the questions of why or how. However, even if the research starts with these basic, and often broad, questions, it is an iterative process, meaning that it requires refinement.

As the reasons for beginning a research project vary, so do the types of research questions. Research can be exploratory, descriptive, relational, explanatory, or transformative. Each has different methods and end objectives. Thus, it is important to identify the objectives of the research project to determine the

most appropriate type of research method to use. The next step is to develop a research question. We will be devoting more time to this in Chapter 2.

Here is an interesting video you can check out that discuss how ideas, including research ideas, are generated:

- WHERE GOOD IDEAS COME FROM by Steven Johnson
- Introduction to research

1.4 Understanding Key Research Concepts and Terms

In this textbook you will be exposed to many terms and concepts associated with research methods, particularly as they relate to the research planning decisions you must make along the way. Figure 1.1 will help you contextualize many of these terms and understand the research process. This general chart begins with two key concepts: ontology and epistemology, advances through other concepts, and concludes with three research methodological approaches: qualitative, quantitative and mixed methods.

Research does not end with making decisions about the type of methods you will use; we could argue that the work is just beginning at this point. Figure 1.3 does not represent an all-encompassing list of concepts and terms related to research methods. Keep in mind that each strategy has its own data collection and analysis approaches associated with the various methodological approaches you choose. Figure 1.1 is intentioned to provide a general overview of the research concept. You may want to keep this figure handy as you read through the various chapters.

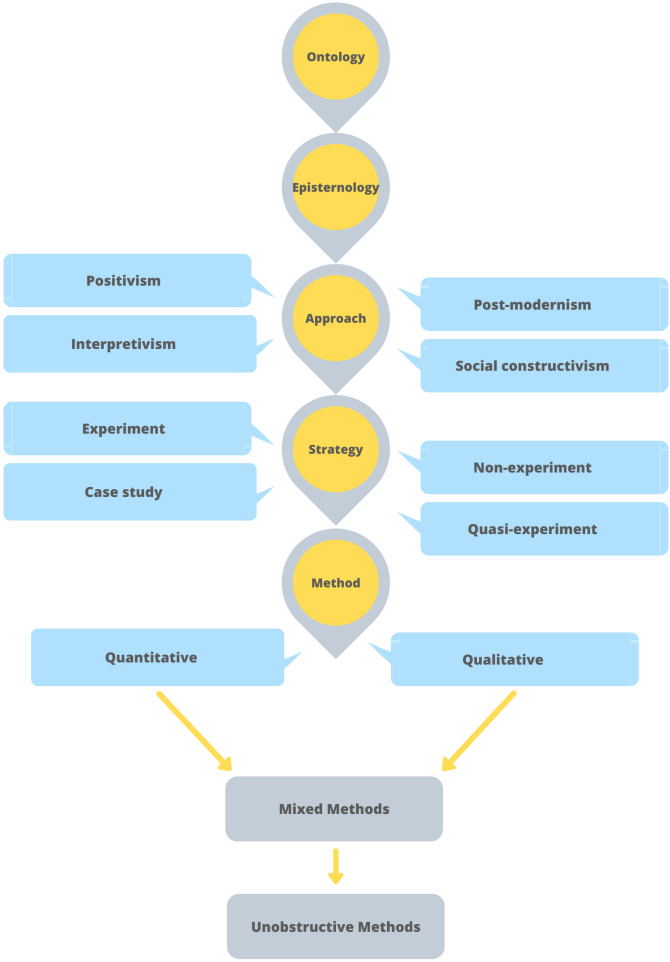

Figure 1.3: Shows the research paradigms and research process © JIBC 2019

Ontology & Epistemology

Thinking about what you know and how you know what you know involves questions of ontology and epistemology.

Perhaps you have heard these concepts before in a philosophy class? These concepts are relevant to the work of sociologists as well. As sociologists (those who undertake socially-focused research), we want to understand some aspect of our social world. Usually, we are not starting with zero knowledge. In fact, we usually start with some understanding of three concepts: 1) what is; 2) what can be known about what is; and, 3) what the best mechanism happens to be for learning about what is (Saylor Academy, 2012). In the following sections, we will define these concepts and provide an example of the terms, ontology and epistemology.

Ontology

Ontology is a Greek word that means the study, theory, or science of being. Ontology is concerned with the what is or the nature of reality (Saunders, Lewis, & Thornhill, 2009). It can involve some very large and difficult to answer questions, such as:

- What is the purpose of life?
- What, if anything, exists beyond our universe?
- What categories does it belong to?
- Is there such a thing as objective reality?
- What does the verb "to be" mean?

Ontology is comprised of two aspects: objectivism and subjectivism. Objectivism means that social entities exist externally to the social actors who are concerned with their existence. Subjectivism means that social phenomena are created from the perceptions and actions of the social actors who are concerned with their existence (Saunders, et al., 2009). Figure 1.2 provides an example of a similar research project to be undertaken by two different students. While the projects being proposed by the students are similar, they each have different research questions. Read the scenario and then answer the questions that follow.

Subjectivist and objectivist approaches (adapted from Saunders et al., 2009)

Ana is an Emergency & Security Management Studies (ESMS) student at a local college. She is just beginning her capstone research project and she plans to do research at the City of Vancouver. Her research question is: What is the role of City of Vancouver managers in the Emergency Management Department (EMD) in enabling positive community relationships? She will be collecting data related to the roles and duties of managers in enabling positive community relationships.

Robert is also an ESMS student at the same college. He, too, will be undertaking his research at the City of Vancouver. His research question is: What is the effect of the City of Vancouver's corporate culture in enabling EMD managers to develop a positive relationship with the local community? He will be collecting data related to perceptions of corporate culture and its effect on enabling positive community-emergency management department relationships.

Before the students begin collecting data, they learn that six months ago, the long-time emergency department manager and assistance manager both

retired. They have been replaced by two senior staff managers who have Bachelor's degrees in Emergency Services Management. These new managers are considered more up-to-date and knowledgeable on emergency services management, given their specialized academic training and practical on-the-job work experience in this department. The new managers have essentially the same job duties and operate under the same procedures as the managers they replaced. When Ana and Robert approach the managers to ask them to participate in their separate studies, the new managers state that they are just new on the job and probably cannot answer the research questions; they decline to participate. Ana and Robert are worried that they will need to start all over again with a new research project. They return to their supervisors to get their opinions on what they should do.

Exercise:

Before reading about their supervisors' responses, answer the following questions:

1. Is Ana's research question indicative of an objectivist or a subjectivist approach?
2. Is Robert's research question indicative of an objectivist or a subjectivist approach?
3. Given your answer in question 1, which managers could Ana interview (new, old, or both) for her research study? Why?
4. Given your answer in question 2, which managers could Robert interview (new, old, or both) for his research study? Why?

Answers:

Ana's supervisor tells her that her research question is set up for an objectivist approach. Her supervisor tells her that in her study the social entity (the City) exists in reality external to the social actors (the managers), i.e., there is a formal management structure at the City that has largely remained unchanged since the old managers left and the new ones started. The procedures remain the same regardless of whoever occupies those positions. As such, Ana, using an objectivist approach, could state that the new managers have job descriptions which describe their duties and that they are a part of a formal structure with a hierarchy of people reporting to them and to

whom they report. She could further state that this hierarchy, which is unique to this organization, also resembles hierarchies found in other similar organizations. As such, she can argue that the new managers will be able to speak about the role they play in enabling positive community relationships. Their answers would likely be no different than those of the old managers, because the management structure and the procedures remain the same. Therefore, she could go back to the new managers and ask them to participate in her research study.

Robert's supervisor tells him that his research is set up for a subjectivist approach. In his study, the social phenomena (the effect of corporate culture on the relationship with the community) is created from the perceptions and consequent actions of the social actors (the managers); i.e., the corporate culture at the City continually influences the process of social interaction, and these interactions influence perceptions of the relationship with the community. The relationship is in a constant state of revision. As such, Robert, using a subjectivist approach, could state that the new managers may have had few interactions with the community members to date and therefore may not be fully cognizant of how the corporate culture affects the department's relationship with the community. While it would be important to get the new managers' perceptions, he would also need to speak with the previous managers to get their perceptions from the time they were employed in their positions. This is because the community-department

relationship is in a state of constant revision, which is influenced by the various managers' perceptions of the corporate culture and its effect on their ability to form positive community relationships. Therefore, he could go back to the current managers and ask them to participate in his study, and also ask that the department please contact the previous managers to see if they would be willing to participate in his study.

As you can see the research question of each study guides the decision as to whether the researcher should take a subjective or an objective ontological approach. This decision, in turn, guides their approach to the research study, including whom they should interview.

Epistemology

Epistemology has to do with knowledge. Rather than dealing with questions about what is, epistemology deals with questions of how we know what is. In sociology, there are many ways to uncover knowledge. We might interview people to understand public opinion about a topic, or perhaps observe them in their natural environment. We could avoid face-to-face interaction altogether by mailing people surveys to complete on their own or by reading people's opinions in newspaper editorials. Each method of data collection comes with its own set of epistemological assumptions about how to find things out (Saylor Academy, 2012). There are two main subsections

of epistemology: positivist and interpretivist philosophies. We will examine these philosophies or paradigms in the following sections.

1.5 Research Paradigms in Social Science

A paradigm is a way of viewing the world, a set of ideas that is used to understand or explain something, often related to a specific subject ("Paradigm," 2018). It is a way of framing what we know, what we can know, and how we can know it. To help you understand what a paradigm is, let us think about the various views on abortion. To some, abortion is a medical procedure that should be undertaken at the discretion of each individual woman who might experience an unwanted pregnancy. To others, abortion is murder, and members of society should collectively have the right to decide when, if at all, abortion should be undertaken. Chances are, if you have an opinion about this topic, you are pretty certain about the veracity of your perspective. Then again, the person who sits next to you on the bus may have a very different opinion and yet be equally confident about the truth of his or her perspective. Which of you is correct? You are each operating under a set of assumptions about the way the world does—or at least should—work. Perhaps your assumptions come from your particular political perspective, which helps shape your view on a variety of social issues, or perhaps your assumptions are based on what you learned from your parents or from a religion. Paradigms shape our stances on issues such as this one.

In social science, there are several predominant paradigms, each with its own unique ontological and epistemological perspective. We will look at some of the most common social scientific paradigms that might guide you in starting to think about conducting your research.

The first paradigm we will consider, positivism, is probably

the framework that comes to mind for many of you when you think of science. Positivism is guided by the principles of objectivity, knowability, and deductive logic. Deductive logic is discussed in more detail in the section that follows. The positivist framework operates from the assumption that society can and should be studied empirically and scientifically. Positivism also calls for a value-free sociology, one in which researchers aim to abandon their biases and values in a quest for objective, empirical, and knowable truth.

An Interpretivist paradigm suggests that it is necessary for researchers to understand the differences amongst humans as social actors (Saunders, Lewis, & Thornhill, 2009). The emphasis is on conducting research among people, as opposed to objects. As Saunders et al. (2009, p. 116) observe, the reference to social actors bears noting. They use the analogy of the theatre, where actors interpret, in a specific way, the parts they play. They relate this to the same way in which people interpret their social roles in relationship and how they then give meaning to those roles. Similarly, people interpret the social roles of others in accordance with their own meanings of those roles. Figure 1.3 provides an example of two students, each from a difference academic field of study, and how they might approach their research in their respective fields.

A positivist and an interpretivist approach to research: Focus on student research (adapted from Saunders et al., 2009)

Leah is a PhD student in the natural sciences department (psychology) at her university. She prefers to take a positivist approach to research. Leah is interested in collecting and analyzing the

"facts" related to the success of women in private sector businesses. For her, reality is represented by tangible things such as job position, promotions, compensation, etc. These objects have a separate existence from her and for that reason some research argue that the collection of such data is less open to bias and is therefore more objective.

Krista is a student in the social sciences department (public health). She prefers to take an interpretivist approach to research. Krista also studies business organizations; however, she is more interested in collecting and analyzing data about "feelings" and "attitudes" of the male public health workers toward their female managers. While some researchers might argue that feelings and attitudes are subjective and not measurable, human feelings can and are frequently measured. In fact, we might question how the data that Leah collects in statistical form are more deserving of authority that the data collected by Krista.

Another predominant paradigm in sociology is social constructionism. While positivists seek "the truth," the social constructionist framework posits that "truth" is a varying, socially constructed, and ever-changing notion. This is because we, according to this paradigm, create reality ourselves (as opposed to working to discover reality that simply exists) through our interactions and our interpretations of those interactions. Key to the social constructionist 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. We can look at the different meanings that can be associated with different hand gestures as an example. Hand gestures vary across different regions of the world, demonstrating that meaning is constructed socially and collectively.

It would be a mistake to think of the social constructionist perspective as only individualistic. 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." The meanings that we construct have power beyond the individual people who create them; therefore, the ways that people work to change such meanings is of as much interest to social constructionists as how they were created in the first place.

A fourth paradigm is known as the critical paradigm. At its core, the critical paradigm is focused on power, inequality, and social change. Unlike the positivist paradigm, the critical paradigm posits that social science can never be truly objective or value-free. This paradigm operates from the perspective that scientific investigation should be conducted with the express goal of seeking social change.

The fifth and final paradigm we will look at is known as postmodernism. Postmodernism is difficult to define, because to do so would actually violate the postmodernist´s perspective that there are no definite terms, boundaries, or absolute truth (Aylesworth, 2015). In other words, a postmodernist would claim there is no objective, knowable truth. A postmodernist would also claim that we can never really know such truth because, in the studying and reporting of others' truths, researchers put their own truth on the investigation. A postmodernist asks whose power, whose inequality, whose change, whose reality, and whose truth? As you might imagine, the postmodernist paradigm poses quite a challenge for social scientific researchers. How does one study

something that may or may not be real or that is only real in your current and unique experience of it? This fascinating question is worth pondering as you begin to think about conducting your own sociological research.

Table 1.1 "Social Scientific Paradigms" summarizes each of the paradigms discussed here.

Paradigm	Emphasis	Assumption
Positivism	Objectivity, knowability, Deductive logic	Society can and should be studied empirically and scientifically.
Interpretivism	Research on humans	People interpret their social roles in relationship, which influences how they then give meaning to those roles and the roles of others.
Social constructionism	Truth as varying, socially constructed, and ever-changing	Reality is created collectively; social context and interaction frame our realities
Critical paradigm	Power, inequality, and social change	Social science can never be truly value-free and should be conducted with the express goal of social change in mind.
Postmodernism		Truth in any form may or may not be knowable

1.6 Inductive Approaches to Research

In addition to considering paradigms, researchers must also think about whether or not they plan to employ an inductive or a deductive approach. While each approach is quite different, they can also be complementary. In the following sections we will examine how these approaches are similar and dissimilar.

An inductive approach to research begins by collecting data that is relevant to the topic of interest. Once a substantial amount of data has been collected, the researcher will then take a breather from data collection, stepping back to get a bird's eye view of the 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 set of observations and move from those particular experiences to a more general set of propositions about those experiences; i.e., they move from data to theory, or from the specific to the general (see Figure 1.4).

Figure 1.4: Steps involved with an inductive approach to research. DeductiveResearch © CCBY-NC-SA(AttributionNonCommercialShareAlike)

1.7 Deductive Approaches to Research

Researchers taking a **deductive approach** take the steps described for inductive research and reverse their order. They start with a social theory that they find compelling and then test its implications with data; i.e., they move from a more general level to a more specific one. A deductive approach to research is the one that people typically associate with scientific investigation. The researcher studies what others have done, reads existing theories of whatever phenomenon he or she is studying, and then tests hypotheses that emerge from those theories (see Figure 1.5).

Figure 1.5: Steps involved with a deductive approach to research. DeductiveResearch © CCBY-NC-SA(AttributionNonCommercialShareAlike)

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Summary

Summary

While it is true that we are always doing research, whether it is formal or informal, undertaking a research project is complex, time consuming, and a lot of work. As you will see in the following chapters, there are many research decisions to be made and steps to be undertaken before one can even begin to collect data. The purpose of this chapter has been to slowly introduce you to some of the key umbrella terms and concepts necessary to understand research methods, and to discuss where research ideas originate.

The final matter that should be addressed in this introductory chapter is to acknowledge that knowledge and power are highly related;. those who have the power usually also have the knowledge, and vice versa. Those who have the power can influence what research is undertaken, how it is undertaken, how the findings are reported, if at all, and to whom they are reported.

Michel Foucault, an influential and controversial scholar from the 20th century, is recognized for articulating this perspective on power and knowledge. When considering research, it is important to recognize that research often goes where the money goes. Thus,

those with the power often control what knowledge we gain.

Key Takeaways

Takeaways

Research methods are a systematic process of inquiry applied in such a manner as to learn something about our social world.

Applied research makes a contribution by shaping social life.

Basic research makes a contribution to sociological theories for knowledge, without having a specific application as a goal.

Research ideas come from a variety of sources, and usually start with a general question of how or why.

Ontology is concerned with the *what is* or the nature of reality. There are two main classifications of ontology: objectivism and subjectivism.

Objectivism means that social entities exist externally to the social actors who are concerned with their existence.

Subjectivism means that social phenomena are created from the perceptions and actions of the social actors who are concerned with their existence.

Epistemology has to do with knowledge. Rather than dealing with questions about *what is*, epistemology deals with questions of *how* we know what is. In

sociology, there are many ways to uncover knowledge.

A **paradigm** is a way of framing what we know, what we can know, and how we can know it.

Positivism assumes that society can and should be studied empirically and scientifically. It calls for a value-free sociology in which researchers aim to abandon their biases and values in a quest for objective, empirical, and knowable truth.

Interpretivism assumes that what is necessary for researchers to understand the differences amongst humans as social actors. The emphasis is on conducting research among people, as opposed to objects.

Social constructionism posits that "truth" is a varying, socially constructed, and ever-changing notion. Key to the social constructionist perspective is the idea that social context and interaction frame our realities.

Critical paradigm is focused on power, inequality, and social change, and posits that social science can never be truly objective or value-free. This paradigm operates from the perspective that scientific investigation should be conducted with the express goal of seeking social change.

Postmodernism is difficult to define, because to do so would actually violate the postmodernist´s perspective that there is no definite terms, boundaries, or absolute truth. A postmodernist would also claim that we can never really know such truth because, in the studying and reporting of others' truths, researchers put their own truth on the investigation.

Inductive approaches to research begin with observation to look for patterns, from which a tentative hypothesis is developed, to create a theory.

Deductive approaches begin with a theory to develop hypotheses. Observations then lead to confirmation or refutation of the hypotheses.

Michel Foucault is a French philosopher and historian. He is considered one of the most influential and controversial scholars from the Post-World War II era. See https://www.britannica.com/biography/Michel-Foucault and http://routledgesoc.com/category/profile-tags/

References

Aylesworth, G. (2015). Postmodernism. In *Stanford encyclopedia of philosophy.* Retrieved from https://plato.stanford.edu/entries/postmodernism/

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Paradigm. (2018). In *Macmillan dictionary*. Retrieved from http://www.macmillandictionaryblog.com/paradigm

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Essex, England: Pearson Education.

Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Retrieved from https://resources.saylor.org/wwwresources/archived/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

CHAPTER 2: ETHICS IN RESEARCH

Learning Objectives

- Define the term human participants, in terms of research.
- Explain how history has now defined a moral imperative for ethics in research.
- List ethical principles that must underpin all research.
- Describe why ethics review boards came into existence and explain their role in the research process.
- Discuss the importance and implications of researcher integrity.

This module focuses on the ethical issues that can, and often do, arise when doing research with human participants. All researchers in all fields are expected and required to uphold certain ethical standards while undertaking their research. This module gives you a foundation in these standards and key concepts in order for you to consider these issues alongside other research decisions you must make. In some cases, the decisions that must be made for research design are heavily impacted by the ethics of such decisions. It is important that you understand the context in which your research decisions

are being made and how those not only impact your research specifically, but also the mental and physical health of your participants.

NCEHR is a national, non-governmental agency established in 1989 in Canada. Its mandate is to advance the protection and well-being of human research participants. It also seeks to encourage and enable "high ethical standards related to the conduct of research involving humans."

2.1 A Humanistic Approach to Research

As the previous section demonstrates, the concept of ethics in research is more complicated than simply considering whether the research is right or wrong. Indeed, all researchers are expected to adhere to minimum standards. Even these minimum standards can be less than straightforward; however, and as a result, research is typically regulated by codes or standards that are outlined by associations, societies and universities, to minimize the risk that research participants are harmed.

Researchers have not only a humanistic obligation to care for those who participate in their research, but also a scientific obligation to uncover information that benefits society. Ultimately, researchers are asked to minimize harm (and the risk of harm) to their participants (human and animal). As it relates specifically to humans, this harm could be mental, physical, or emotional, and could occur at the time of the research or in the future, after the research is finished. Researchers then must give substantial thought to the impact their research (e.g., the experiences the participants have, the

questions that are asked) might have on a participant, and do all they can to minimize negative impacts. Likewise, researchers must give similar attention to the impact of their research as it relates to the pain and suffering of animals, which must be weighed against the overall benefits of the research.

2.2 Research on Human Participants: An Historical Look

Before we move on to examine some of the resources and guidelines that have been put in place to guide ethical approaches to research, it is important to look back in time to understand what has led us to this focus on ethical research.

Indeed, research on humans has not always been regulated in the way that it is today. History is rife with disturbing human experiments that continued without much law or policy intervention until after the end of World War II. It was at this time, in 1946, that the first trial involving twenty-three war criminals from Germany's Third Reich, was held. These individuals, 20 of whom were doctors, faced trial for crimes against humanity, which included medical experiments on concentration camp inmates who were tortured and murdered during these experiments. Sixteen of the 23 defendants were eventually found guilty, and received sentences ranging from execution to 10 years' imprisonment. The trials, conducted in Nuremberg, Germany, led to the creation of the Nuremberg Code in 1949 (see Shuster, 1997). The code, a 10-point set of research principles, was designed to guide doctors and scientists who conduct research on human participants. Today, the Nuremberg Code guides medical and other research conducted on human participants, including social scientific research. Here is a PDF of the Nuremberg Code.

Medical scientists are not the only researchers who have undertaken unethical research on humans. In the 1960s, psychologist Stanley Milgram (1974) conducted a series of experiments designed to understand obedience to authority,

in which he tricked participants into believing they were administering an electric shock to other participants. In fact, the shocks were not real at all, but some, though not many, of Milgram's research participants experienced extreme emotional distress after the experiment (Palys & Atchison, 2014). 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 were not real. Here is a link to an interesting video on Milgram's Obedience Experiment.

Around the same time that Milgram conducted his experiments, sociology graduate student Laud Humphreys (1970) was collecting data for his dissertation research related to the practice of men engaging in anonymous sexual encounters in public restrooms (known as the tearoom trade). 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," the person who keeps an eye out for police and was then able to watch the sexual encounters in local park washrooms in major metropolitan areas in the United States. What Humphreys did not do was identify himself as a researcher to his research participants. Instead, he watched his participants for several months, getting to know several of them, learning more about the tearoom trade practice and, without the knowledge of his research participants, jotting down their license plate numbers as they pulled into or out of the parking lot near the restroom. 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 participants. Then, disguised as a public health researcher,

Humphreys visited his participants 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 participants were married to women and many of them did not identify as gay or bisexual. However, once Humphreys' work became public, it created a quite a controversy … at his home university (e.g., the chancellor tried to have his degree revoked), among sociologists in general, and among members of the public, as it raised public concerns about the purpose and conduct of sociological research.

In the original version of his report, Humphreys defended the ethics of his actions. In 2008, years after Humphreys' death, his book was reprinted with the addition of a retrospective on the ethical implications of his work (see Humphreys, 2008). 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 that "there is no reason to believe that any research participants have suffered because of my efforts, or that the resultant demystification of impersonal sex has harmed society" (p. 231).

Other landmark ethics in research examples include the Stanford Prison Experiment, also in the 1970s, and the 1990s case of Russell Ogden and Simon Fraser University, British

Columbia, Canada. Here are some links you may wish to explore:

- StanfordPrisonExperiment. You can watch the documentary here: StanfordPrison Experiment (Documentary).
- Russel Ogden v. SFU

The case of Scott DeMuth, graduate student (Jaschik, 2009)

Scott DeMuth was a graduate student at the University of Minnesota in the United States of America. Mr. DeMuth was undertaking research about radical animal rights and environmental groups. In 2004, the University of Iowa's animal research laboratory was vandalized and rodents under study were removed from the lab. The Animal Liberation Front claimed responsibility for the attack. Many of the professors and graduate students working in the lab lost years of their work in the vandalism.

When it became know that Mr. DeMuth had been undertaking research with groups who were sympathetic to radical animal rights and environmental groups, he was ordered to appear before the grand jury hearing on the vandalism and theft of animals. It was believed that he had knowledge of who might have been involved in the attacks. When he refused to reveal what he knew about the University of Iowa incident, he was briefly jailed. DeMuth maintained that his knowledge of animal rights groups was based upon his pledges of confidentiality to

participants who spoke with him. After he was released from prison, he was charged with conspiracy to commit “animal enterprise terrorism” and for “damage to the animal enterprise.”

Academic freedom is at issue here.. When researchers undertake research, they promise confidentiality to their participants. If DeMuth had agreed to reveal what he knew, he would have breached his promise and lost the trust of his participants. Researchers have an obligation to ensure that they protect confidential information, including the identity of their participants (unless the participants agree otherwise). In fact, the American Sociological Association’s Code of Ethics (2009) reads as follows:

Sociologists have an obligation to ensure that confidential information is protected. They do so to ensure the integrity of research and the open communication with research participants and to protect sensitive information obtained in research, teaching, practice, and service. When gathering confidential information, sociologies should take into account the long-term uses of the information, including its potential placement in public archives or the examination of the information by other researchers or practitioners (p. 11).Beyond these ethical issues outlined above, there can also be legal implications to undertaking research.

What do you think? Do you agree or disagree with Mr. DeMuth´s position? Do you think a promise of confidentiality takes precedence when the law has been broken? What are the implications for researchers

who promise confidentiality to their research participants and then reveal their sources either willingly, accidentally, or because believe they have no choice not to?

As should be evident by now, these studies and others led to increasing public awareness of and concern for research undertaken on human participants. In 1974, the US Congress enacted the National Research Act, which created the National Commission for the Protection of Human Participants in Biomedical and Behavioral Research. The commission produced The Belmont Report [PDF], a document outlining basic ethical principles for research on human participants (National Commission for the Protection of Human Participants in Biomedical and Behavioral Research, 1979). The National Research Act also required that all institutions receiving federal support establish institutional review boards (IRBs) to protect the rights of human research participants (1974) (see NationalResearchService AwardActof1974 [PDF]). Since that time, many organizations beyond those receiving federal support have also established review boards to evaluate the ethics of the research that they conduct. Do you think a promise of confidentiality takes precedence when the law has been broken? What are the implications for researchers who promise confidentiality to their research participants and then reveal their sources either willingly, accidentally, or because believe they have no choice not to?

As should be evident by now, these studies and others led to increasing public awareness of and concern for research undertaken on human participants. In 1974, the US Congress enacted the National Research Act, which created the National Commission for the Protection of Human Participants in Biomedical and Behavioral Research. The commission

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2.3 Institutional Research Review Boards (IRBs)

IRBs are tasked with ensuring that the rights and welfare of human and non-human animal research participants 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 centres 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 and non-human animal participants research will be considered fully and by a knowledgeable and experienced panel. Investigators conducting research on human participants 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 participants must have their proposed work reviewed and approved by the IRB before beginning any research (though, on some campuses, some exceptions are made for classroom projects that will not be shared outside of the classroom).

Given the previous examples of ethical issues in past research, it may surprise you to learn that IRBs are not always popular or appreciated by researchers. Who would not want to conduct ethical research, you ask? In some cases, the concern

is that IRBs are most knowledgeable in reviewing biomedical and experimental research, neither of which discipline is particularly common within sociology. Much sociological 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 her or his 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 do away with 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 sociologists and other social scientists.

2.4 Guiding Ethical Principles

In addition to IRBs, a variety of institutions have developed guiding ethical principles for research undertaken with human participants. While the ethical principles set out below come from the Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada (2005), the principles have been used by many researchers from a variety of disciplines around the world. In fact, these principles represent a common set of ethical standards, values and aspirations of the global research community.

Ethical principles for research undertaken with human participants

Respect for human dignity: This is the foremost principle of modern research ethics. This principle aspires to protect people's bodily and psychological integrity, including cultural integrity.

Respect for free and informed consent: Individuals are presumed to have the right to make their own free & informed decisions. In this sense, researchers have an obligation to insure that their research participants have decided freely to participate in the research, and

that they have been fully informed of the research and give their informed consent to participate.

Respect for vulnerable people: Researchers must maintain high ethical obligations toward vulnerable people, such as those with diminished competence and/or decision-making capacity, e.g.: children, institutionalized people, or others who are vulnerable and entitled. These obligations extend to human dignity, caring, solidarity and fairness, and special protection against abuse, exploitation, or discrimination. The researcher must develop a special set of procedures to protect vulnerable people.

Respect for privacy and confidentiality: Standards of privacy and confidentiality are considered fundamental to human dignity. Such standards protect access to, and control and dissemination of personal information. Researchers must value the rights of privacy, confidentiality, and anonymity for their participants.

Respect for justice and inclusiveness: Justice is associated with fairness and equity. Justice is also concerned with the fair distribution of benefits and burdens of research. On the one hand, no segment of a population should be unfairly burdened by harms of research. On the other hand, no segment of the population should be neglected or discriminated against when it comes to the benefits from the outcomes of research.

Balance harms and benefits: Modern research requires that the harms of research should not outweigh the anticipated benefits.

Minimizing harm: Researchers have a duty to avoid,

prevent, or minimize harm to others. Research participants must not be subjected to unnecessary risk of harm, and their participation must be essential to achieving scientific and societally important objectives that cannot be achieved without their participation.

Maximizing benefit: Researchers have a duty to maximize net benefits for the research participants, individuals and society. In most research, this means that the results benefit society and the advancement of knowledge.

2.5 A Final Word about the Protection of Research Participants

As mentioned earlier, the informed consent process includes the requirement that researchers outline how they will protect the identities of human participants. This aspect of the process, however, is one of the most commonly misunderstood aspects of research. In protecting human participants' identities, researchers typically promise to maintain either the anonymity or the confidentiality of their research participants. Anonymity is the more stringent of the two. 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 sociological researchers to promise because several of the modes of data collection that sociologists employ, such as participant observation and face-to-face interviewing, require that researchers 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 on one's participants is known and may be kept, but only the researcher can link participants with their data, and he or she promises not to do so publicly. Protecting research participants' identities is not always a simple prospect, especially for those conducting research on stigmatized groups or illegal behaviors.

Summary

Summary

Research is serious business. Not only must the conduct of research be undertaken in a manner such that it abides by society's ethical standards, researchers must personally have a strong set of moral standards. Researchers must ensure that their participants (human and animal) are treated ethically, and that, in the case of human participants, their confidentiality is maintained. They must also apply ethical principles in the design of their studies, as well as the collection, analysis and presentation of the data. Overall, an ethic of research involving both human and animal participants should include two essential components: 1) the selection and achievement of morally acceptable ends, and; 2) morally acceptable means to the ends. The first component is directed at defining acceptable ends in terms of the benefits of the research for a given set of participants, for associate groups, and for the purposes of advancing knowledge. The second component is directed at ethically appropriate means of conducting research.

Key Takeaways

Key Takeaways

- A ***human subject*** is defined 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)." Non-human research participants, on the other hand, are objects or entities that investigators manipulate or analyze in the process of conducting research.
- ***Research on human participants*** is underpinned by moral and ethical principles. Increasingly, there is an expectation that research on non-human animals will also be underpinned by such moral and ethical principles.
- A researcher must focus on ***five key ethical components*** as they relate to the research participants: confidentiality, conflict of interest, informed consent, protection of identities, and respect for human dignity.
- The Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada (2005), put forward eight ethical principles for

researchers: **respecting human dignity, respecting free and informed consent, respecting vulnerable peoples, respecting privacy and confidentiality, respecting justice and inclusiveness, balancing harms and benefits, minimizing harm, and maximizing benefits.**

References

American Sociological Association. (1999) *Code of ethics and policies and procedures of the ASA Committee*. Retrieved from https://www.asanet.org/sites/default/files/savvy/images/asa/docs/pdf/CodeofEthics.pdf

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada. (2005). *Tri-Council policy statement: Ethical conduct for research involving humans, 1998* (with 2000, 2002, 2005 amendments). Retrieved from http://publications.gc.ca/site/eng/273685/publication.html

Humphreys, L. (1970). *Tearoom trade: Impersonal sex in public places.* New Brunswick, NJ: Aldine Transaction.

Humphreys, L. (2008). *Tearoom trade: Impersonal sex in public places, enlarged edition with a retrospect on ethical issues.* New Brunswick, NJ: Aldine Transaction.

Jaschik, S. (2009, December 4). Protecting his sources. *Inside Higher Education*. Retrieved from https://www.insidehighered.com/news/2009/12/04/protecting-his-sources

Milgram, S. (1974). *Obedience to authority: An experimental view.* New York, NY: Harper & Row.

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 http://humansubjects.stanford.edu/education/2009_05_Belmont.pdf

National Research Act of 1974, Pub. L. no. 93-348 Stat 88. (1974). Retrieved from http://history.nih.gov/research/downloads/PL93-348.pdf

National Council on Ethics in Human Research. (n.d.). *The importance of research involving humans*. Retrieved from http://www.ncehr- cnerh.org/

Ogden, R. (2008). Harm. In L. M. Given (Ed.), *The sage encyclopedia of qualitative research methods* (pp. 379–380). Los Angeles, CA: SAGE.

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Retrieved from https://resources.saylor.org/wwwresources/archived/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

Shuster, E. (1997). Fifty years later: The significance of the Nuremberg Code. *New England Journal of Medicine*, *337*(20), 1436-1440. doi:10.1056/NEJM199711133372006

University of California, Irvine. Office of Research. (2015). Definition of human subjects' research. Retrieved from https://www.research.uci.edu/compliance/human-research-protections/researchers/activities-irb-review.html#definition

CHAPTER 3: DEVELOPING A RESEARCH QUESTION

Learning Objectives

- Differentiate between normative and empirical knowledge.
- Explain the differences between exploratory, descriptive, and explanatory research.
- Describe the characteristics of a researchable question.
- Describe a hypothesis.
- Identify the difference between qualitative, quantitative and mixed methods.
- Explain the concept of triangulation.

It is important to ensure that you choose a research topic that interests you, because this will make it much easier for you to develop an effective and researchable research question. In the first part of this chapter we will consider aspects you must consider as you think about the research topic you would like to explore. We will also examine the characteristics and components of an effective research question. The chapter concludes by introducing you to the three main

methodological approaches to conducting research: quantitative, qualitative and mixed methods.

3.1 Normative Versus Empirical Statements

When it comes to research questions, there are two concepts that are very important to sociologists: normative and empirical statements. Normative statements are judgmental, whereas empirical statements are informative and facts-based. Let us look at two statements. Can you pick out which one is normative and which one is empirical?

1. Canada has one of the best science programs in the world.
2. In 2015, Canada ranked 4th overall in science education performance of 15-year-old high school students in a study conducted by the Organization for Education Cooperation and Development (OECD, 2015).

If you concluded that the first statement is normative and the second is empirical, you are exactly right. While normative statements can underlie an empirical statement, as demonstrated above, sociologists focus on answering empirical questions—those that can be answered by real experience in the real world.

3.2 Exploration, Description, Explanation

As you can see, there is much to think about and many decisions to be made as you begin to define your research question and your research project. Something else you will need to consider in the early stages is whether your research will be exploratory, descriptive, or explanatory. Each of these types of research has a different aim or purpose, consequently, how you design your research project will be determined in part by this decision. In the following paragraphs we will look at these three types of research.

Exploratory research

Researchers conducting exploratory research are typically at the early stages of examining their topics. These sorts of projects are usually conducted when a researcher wants to test the feasibility of conducting a more extensive study; he or she wants to figure out the lay of the land with respect to the particular topic. Perhaps very little prior research has been conducted on this subject. If this is the case, a researcher may wish to do some exploratory work to learn what method to use in collecting data, how best to approach research participants, or even what sorts of questions are reasonable to ask. A researcher wanting to simply satisfy his or her own curiosity about a topic could also conduct exploratory research. Conducting exploratory research on a topic is often a necessary

first step, both to satisfy researcher curiosity about the subject and to better understand the phenomenon and the research participants in order to design a larger, subsequent study. See Table 2.1 for examples.

Descriptive research

Sometimes the goal of research is to describe or define a particular phenomenon. In this case, descriptive research would be an appropriate strategy. A descriptive may, for example, aim to describe a pattern. For example, researchers often collect information to describe something for the benefit of the general public. Market researchers rely on descriptive research to tell them what consumers think of their products. In fact, descriptive research has many useful applications, and you probably rely on findings from descriptive research without even being aware that that is what you are doing. See Table 3.1 for examples.

Explanatory research

The third type of research, explanatory research, seeks to answer "why" questions. In this case, the researcher is trying to identify the causes and effects of whatever phenomenon is being studied. An explanatory study of college students' addictions to their electronic gadgets, for example, might aim to understand why students become addicted. Does it have anything to do with their family histories? Does it have anything to do with their other extracurricular hobbies and activities? Does it have anything to do with the people with whom they spend their time? An explanatory study could answer these kinds of questions. See Table 3.1 for examples.

Table 3.1 Exploratory, descriptive and explanatory research differences (Adapted from Adjei, n.d.).

	Exploratory Research	**Descriptive Research**	**Explanatory Research**
Degree of Problem Definition	Key variables not define	Key variables not define	Key variables not define
Researchable issue example	"The quality of service is declining and we don't know why."	"What have been the trends in organizational downsizing over the past ten years?"	"Which of two training programs is more effective for reducing labour turnover?
Researchable issue example	"Would people be interested in our new product idea?	"Did last year's product recall have an impact on our company's share price?"	"Can I predict the value of energy stocks if I know the current dividends and growth rates of dividends?"
Researchable issue example	"How important is business process reengineering as a strategy?	"Has the average merger rate for financial institutions increased in the past decade?"	"Do buyers prefer our product in a new package?"

3.3 Developing a Researchable Research Question

After thinking about what topics interest you, identifying a topic that is both empirical and sociological, and deciding whether your research will be exploratory, descriptive, or explanatory, the next step is to form a research question about your topic. For many researchers, forming hypotheses comes after developing one's research question. However, for now, we will just think about research questions.

So then, what makes a good research question? Let us first consider some practical aspects. A good research question is one that:

1. you are interested in;
2. you have resources (money, technology, assistance, etc.) to answer;
3. offers you access to the data you need (human, animal or numerical/ file data);
4. is operationalized appropriately; and
5. has a specific objective (anything from explaining something to describing something).

A good research question also has some specific characteristics:

1. It is generally written in the form of a question.
2. It is well-focused.
3. It cannot be answered with a simple yes or no.
4. It should have more than one plausible answer.

5. It considers relationships amongst multiple concepts.

Generally speaking, your research question will guide whether your research project is best approached with quantitative, qualitative, or mixed methods, or other1 approaches. Table 3.2 provides some examples of problematic research questions and suggestions for how to improve each research question.

Table 3.2. Problematic and improved research question

Problematic Research Questions	Improved Research Question
Too narrow: How many paramedics were registered in the province of British Columbia in 2017?	**Less narrow:** What factors lead individuals to choose paramedics as professions in British Columbia?
This topic is too narrow because it can be answered with a simple statistic.	This question demonstrates that the correct amount of specificity and the results would provide the opportunity for an argument to be formed.
Unfocused and too broad: What are the effects of Post-Traumatic Stress Disorder (PTSD) on firefighters in Ontario?	**More focused:** What are the social effects of PTSD on families of firefighters in Ontario?
This question is so broad that the research methodology would be very difficult. It is also too broad to be discussed in a typical research paper.	The question has a very clear focus for which data can be collected, analyzed, and discussed
Too objective: How much money does the average downtown Vancouver store spend on security guards?	**More subjective:** What is the relationship between security spending and product loss through theft at downtown Vancouver stores?
This question may allow the researcher to collect data but does not lend itself to collecting data that can be used to create a valid argument because the data is just factual information.	This is a more subjective question that may lead to the formation of an argument based on the results and analysis of the data.
Too simple: What are municipal governments doing to address the problem of sexism in policing?	**More complex:** What is the relationship between the 2017-2018 publicized incidents of sexism in the RCMP and the number of females applying for entry to police departments in St. John´s, Newfoundland?

This information can be obtained without the need to collect unique data. The question could probably be answered with an online search and does not provide an opportunity for analysis. Also, the use of the word "problem" is leading ... it assumes there is a problem with sexism.	The question is more complex and requires both investigation and evaluation of sexism and females applying to police departments in St. John´s. This will lead the researcher to produce more valuable and specific research.

In Chapter 8, we look at designing survey questions, which are not to be confused with research questions.

3.4 Hypotheses

When researchers do not have predictions about what they will find, they conduct research to answer a question or questions with an open-minded desire to know about a topic, or to help develop hypotheses for later testing. In other situations, the purpose of research is to test a specific hypothesis or hypotheses. A hypothesis is a statement, sometimes but not always causal, describing a researcher's expectations regarding anticipated finding. Often hypotheses are written to describe the expected relationship between two variables (though this is not a requirement). To develop a hypothesis, one needs to understand the differences between independent and dependent variables and between units of observation and units of analysis. Hypotheses are typically drawn from theories and usually describe how an independent variable is expected to affect some dependent variable or variables. Researchers following a deductive approach to their research will hypothesize about what they expect to find based on the theory or theories that frame their study. If the theory accurately reflects the phenomenon it is designed to explain, then the researcher's hypotheses about what would be observed in the real world should bear out.

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 legalization of marijuana. Perhaps you have done some reading in your spare time, or in another course you have taken. Based on the theories you have read, you hypothesize that "age is negatively related to support for marijuana legalization." What have you just hypothesized?

You have hypothesized that as people get older, the likelihood of their support for marijuana legalization decreases. Thus, as age moves in one direction (up), support for marijuana legalization moves in another direction (down). If writing hypotheses feels tricky, it is sometimes helpful to draw them out and depict each of the two hypotheses we have just discussed.

Note that you will almost never hear researchers say that they have proven their hypotheses. A statement that bold implies that a relationship has been shown to exist with absolute certainty and there is no chance that there are conditions under which the hypothesis would not bear out. Instead, researchers tend to say that their hypotheses have been supported (or not). This more cautious way of discussing findings allows for the possibility that new evidence or new ways of examining a relationship will be discovered. Researchers may also discuss a null hypothesis, one that predicts no relationship between the variables being studied. If a researcher rejects the null hypothesis, he or she is saying that the variables in question are somehow related to one another.

Quantitative and qualitative researchers tend to take different approaches when it comes to hypotheses. In quantitative research, the goal often is to empirically test hypotheses generated from theory. With a qualitative approach, on the other hand, a researcher may begin with some vague expectations about what he or she will find, but the aim is not to test one's expectations against some empirical observations. Instead, theory development or construction is the goal. Qualitative researchers may develop theories from which hypotheses can be drawn and quantitative researchers may then test those hypotheses. Both types of research are crucial to understanding our social world, and both play an important role in the matter of hypothesis development and

testing. In the following section, we will look at qualitative and quantitative approaches to research, as well as mixed methods.

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3.5 Quantitative, Qualitative, & Mixed Methods Research Approaches

Generally speaking, qualitative and quantitative approaches are the most common methods utilized by researchers. While these two approaches are often presented as a dichotomy, in reality it is much more complicated. Certainly, there are researchers who fall on the more extreme ends of these two approaches, however most recognize the advantages and usefulness of combining both methods (mixed methods). In the following sections we look at quantitative, qualitative, and mixed methodological approaches to undertaking research. Table 2.3 synthesizes the differences between quantitative and qualitative research approaches.

Quantitative Research Approaches

A quantitative approach to research is probably the most familiar approach for the typical research student studying at the introductory level. Arising from the natural sciences, e.g., chemistry and biology), the quantitative approach is framed by the belief that there is one reality or truth that simply requires discovering, known as realism. Therefore, asking the "right" questions is key. Further, this perspective favours observable causes and effects and is therefore outcome-oriented. Typically, aggregate data is used to see patterns and "truth" about the

phenomenon under study. True understanding is determined by the ability to predict the phenomenon.

Qualitative Research Approaches

On the other side of research approaches is the qualitative approach. This is generally considered to be the opposite of the quantitative approach. Qualitative researchers are considered phenomenologists, or human-centred researchers. Any research must account for the humanness, i.e., that they have thoughts, feelings, and experiences that they interpret of the participants. Instead of a realist perspective suggesting one reality or truth, qualitative researchers tend to favour the constructionist perspective: knowledge is created, not discovered, and there are multiple realities based on someone's perspective. Specifically, a researcher needs to understand why, how and to whom a phenomenon applies. These aspects are usually unobservable since they are the thoughts, feelings and experiences of the person. Most importantly, they are a function of their perception of those things rather than what the outside researcher interprets them to be. As a result, there is no such thing as a neutral or objective outsider, as in the quantitative approach. Rather, the approach is generally process-oriented. True understanding, rather than information based on prediction, is based on understanding action and on the interpretive meaning of that action.

Table 3.3 Differences between quantitative and qualitative approaches (from Adjei, n.d).

Quantitative	Qualitative
Tests hypotheses that the researcher generates	Discovers and encapsulates meanings once the researcher becomes immersed in the data.
Concepts are in the form of distinct variables.	Concepts tend to be in the form of themes, motifs, generalizations, and taxonomies. However, the objective is still to generate concepts.
Measures are systematically created before data collection and are standardized as far as possible; e.g. measures of job satisfaction	Measures are more specific and may be specific to the individual setting or researcher; e.g. a specific scheme of values.
Data are in the form of numbers from precise measurement	Data are in the form of words from documents, observations, and transcripts. However, quantification is still used in qualitative research
Theory is largely causal and is deductive.	Theory can be causal or non-causal and is often inductive
Procedures are standard, and replication is assumed.	Research procedures are particular and replication is difficult.
Analysis proceeds by using statistics, tables, or charts and discussing how they relate to hypotheses.	Analysis proceeds by extracting themes or generalizations from evidence and organizing data to present a coherent, consistent picture. These generalizations can then be used to generate hypotheses

Note: Researchers in emergency and safety professions are increasingly turning toward qualitative methods. Here is an interesting peer

paper related to qualitative research in emergency care.

Qualitative Research in Emergency Care Part I: Research Principles and Common Applications by Choo, Garro, Ranney, Meisel, and Guthrie (2015)

Interview-based Qualitative Research in Emergency Care Part II: Data Collection, Analysis and Results Reporting.

3.6 Mixed-Methods Research Approaches

Increasingly, researchers combine both approaches, and take a mixed methods approach. Mixed methods research represents more of an approach to examining a research problem than a methodology. Mixed methods are characterized by a focus on research problems that require:

1. an examination of real-life contextual understandings, multi-level perspectives, and cultural influences;
2. an intentional application of rigorous quantitative research assessing magnitude and frequency of constructs, and rigorous qualitative research exploring the meaning and understanding of the constructs; and
3. an objective of drawing on the strengths of quantitative and qualitative data gathering techniques to formulate a holistic interpretive framework for generating possible solutions or new understandings of the problem. (from Adjei, n.d.)

Researchers who favour mixed methods believe that the approach can be the most effective at getting to "the truth" or at least "a truth." However, some argue against mixing these approaches. They contend that the fundamentally different beliefs about knowledge and its creation or discovery with the various approaches hampers one's ability to get at the truth. However, some of the most highly regarded social scientific investigations combine approaches in an effort to gain the most complete understanding of their topic possible. Using a combination of multiple and different research strategies is called triangulation.

Summary

Summary

The distinction between qualitative and quantitative methods may seem irrelevant; however, it has led to bitter rivalries and divisions in the research world. Reflecting on Foucault's idea of power- knowledge and the fact that people tend to like to quantify things, funding often goes to quantitative researchers. It is easier to demonstrate what the money was used for, given its focus on cause/ effect and outcomes. Qualitative researchers often are left out of funding decisions. What does this mean for our understanding of the world?

Key Takeaways

Key Takeaways

- ***Normative statements*** are judgmental, whereas ***empirical statements*** are informative and facts-based.
- ***Exploratory research*** is usually conducted when a researcher wants to test the feasibility of conducting a more extensive study. ***Descriptive research*** seeks to describe or define a particular phenomenon. ***Explanatory research*** seeks to answer "why" questions.
- ***Good research*** is generally written in the form of a question; it is also focused; it cannot be answered with a simple yes or no; it should have more than one plausible answer; and it considers relationships amongst multiple concepts.
- A ***hypothesis*** is a statement, sometimes but not always causal, describing a researcher's expectations regarding anticipated findings.
- ***Quantitative*** approaches to data collection utilize aggregate data to see patterns of "truth" about the phenomenon. True understanding is created by the ability to predict the phenomenon. ***Qualitative*** approaches to research emphasize that knowledge is created, not discovered, and that there are multiple realities based upon an

individual's perspective. True understanding is created by understanding.

- ***Mixed methods*** is an increasingly popular method for undertaking research. It combines both qualitative and quantitative approaches.
- ***Triangulation*** is the process of using a combination of multiple and different research strategies.It follows the researcher to take advantage of the strengths of the various methods, and at the same time overcome some of the weaknesses

There are other forms of triangulation, including triangulation of measures, which occurs when researchers use multiple approaches to measure a single variable. Researchers also use triangulation of theories, which occurs when researchers rely on multiple theories to help explain a single event or phenomenon.

References

Adjei, J.K. (n.d.). *Research methods*. Retrieved from African Virtual University website: https://oer.avu.org/handle/123456789/490

Organisation for Economic Cooperation and Development. (2016). *PISA 2015: Results in focus*. https://doi.org/10.1787/aa9237e6-en

Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Retrieved from https://resources.saylor.org/wwwresources/archived/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

CHAPTER 4: MEASUREMENT AND UNITS OF ANALYSIS

Learning Objectives

- Differentiate between validity and reliability.
- Explain the difference between internal and external validity.
- Examine the difference between a variable and an attribute.
- Define and provide examples for each of the four level of measurement: nominal, ordinal, interval, ratio.
- Explain the difference between the independent and dependent variable.
- Describe an extraneous variable and explain how it can threaten research findings.
- Discuss what is meant by a rival plausible explanation.
- Explain what a hypothesis is and in what situations creating a hypothesis is a suitable approach.

How do we know that our measures are good? Without some assurance of the quality of our measures, we cannot be certain

that our findings have any meaning or, at the least, that our findings mean what we think they mean. When social scientists measure concepts, they aim to achieve reliability and validity in their measures. These two aspects of measurement quality are the focus of the first section in this chapter. We will consider reliability first and then take a look at validity. For this section, imagine we are interested in measuring the concepts of alcoholism and alcohol intake. What are some potential problems that could arise when attempting to measure this concept, and how might we work to overcome those problems?

4.1 Reliability

First, suppose a researcher has 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 in this way, it seems likely that anyone who identifies as an alcoholic would respond with a yes to the question. So this must be a good way to identify our group of interest, right? Well, maybe. Think about how you or others you know would respond to this question. Would responses differ after a wild night out from what they would have been the day before? Might a teetotaler's current headache from the single glass of wine he had last night influence how he answers the question this morning? How would that same person respond to the question before consuming the wine? In each of these cases, if the same person would respond differently to the same question at different points, it is possible that our measure of alcoholism has a reliability problem. Reliability in measurement is about consistency. If a measure is reliable, it means that if the same measure is applied consistently to the same person, the result will be the same each time.

One common problem of reliability with social scientific measures is memory. If we ask research participants to recall some aspect of their own past behaviour, 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 have consumed each day over the course of the past three 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. If, on the other hand, we ask a person how many drinks of any kind he or she has consumed in the past week, we might get a more accurate

set of responses. Reliability can be an issue even when we are reliant upon individuals to accurately report their behaviours.

We can look at another example. Perhaps a field researcher is interested in observing how alcohol intake influences interactions in public locations. She may decide to conduct observations at a local pub, noting how many drinks patrons consume and how their behaviour changes as their intake changes. But what if the researcher needs to use the restroom and misses the three shots of tequila that the person next to her downs during the brief period she is away? The reliability of this researcher's measure of alcohol intake, counting numbers of drinks she observes patrons consume, depends upon her ability to actually observe every instance of patrons consuming drinks. If she is unlikely to be able to observe every such instance, then perhaps her mechanism for measuring this concept is not reliable.

4.2 Validity

While reliability is about consistency, validity is about shared understanding. What image comes to mind for you when you hear the word alcoholic? Are you certain that the image you conjure up is similar to the image others have in mind? If not, then we may be facing a problem of validity.

To be valid, we must be certain that our measures accurately get at the meaning of our concepts. Think back to the first possible measure of alcoholism we considered in the subsection "Reliability." There, we initially considered measuring alcoholism by asking research participants the following question: Have you ever had a problem with alcohol? We realized that this might not be the most reliable way of measuring alcoholism because the same person's response might vary dramatically depending on how he or she is feeling that day. Likewise, this measure of alcoholism is not particularly valid. What is "a problem" with alcohol? For some, it might be having had a single regrettable or embarrassing moment that resulted from consuming too much. For others, the threshold for "problem" might be different; perhaps a person has had numerous embarrassing drunken moments but still gets out of bed for work every day and he therefore does not perceive himself as having a problem. Because what each respondent considers to be problematic could vary so dramatically, our measure of alcoholism is not likely to yield any useful or meaningful results if our aim is to objectively understand, say, how many of our research participants are alcoholics.

Here is another example: Perhaps we are interested in learning about a person's dedication to healthy living. Most of us would probably agree that engaging in regular exercise is a sign of healthy living, so we could measure healthy living by counting the number of times per week that a person visits his

local gym. At first this might seem like a reasonable measure, but if this respondent's gym is anything like some of the gyms, there exists the distinct possibility that his gym visits include activities that are decidedly not fitness related. Perhaps he visits the gym to use the tanning beds, not a particularly good indicator of healthy living, or to flirt with potential dates or sit in the sauna. These activities, while potentially relaxing, are probably not the best indicators of healthy living. Therefore, recording the number of times a person visits the gym may not be the most valid way to measure his or her dedication to healthy living. Using this measure would not really give us an indication of a person's dedication to healthy living and therefore, we would not really be measuring what we intended to measure.

Indeed, in the social sciences it is often not as straightforward as A causes B in the classic experiments. Frequently, there are many other variables that may occur at the same time that A and/or B cause both A and B. Therefore, a researcher must be careful to ensure that his or her study has internal validity — that it does, in fact, test the very thing it seeks to test. There are several threats to internal validity (e.g. history, maturation, testing, and regression to the mean, selection biases, and instrumentation) and ways to control for these types of threats, e.g., experiment and the use of a control or comparison groups. We will return to the topic of internal validity in Chapter 6.

Researchers usually also want external validity, meaning that they want their study to be generic to other situations and contexts, beyond the current project. They also want it to reflect real world environments where the phenomena occur and to prove that it was not due to chance that they got the findings they did. As Palys and Atchison (2014) state, it does not, necessarily, have anything to do with the representativeness of the sample. Rather, it depends upon the nature of the phenomenon under study and on the research objectives.

At its core, validity is about social agreement. One quick and easy way to help ensure that your measures are valid is to discuss them with others. One way to think of validity is to think of it as you would a portrait. Some portraits of people look just like the actual person they are intended to represent. But other representations of people's images, such as caricatures and stick drawings, are not nearly as accurate. While a portrait may not be an exact representation of how a person looks, what's important is the extent to which it approximates the look of the person it is intended to represent. The same goes for validity in measures. No measure is exact, but some measures are more accurate than others.

4.3 Complexities in Measurement

You should now have an idea about how to assess the quality of your measures. But measurement is a complex process, and some concepts are more complex than others. Measuring a person's political party affiliation, for example, is less complex than measuring her or his sense of alienation. In this section we will consider some of these complexities in measurement. First, we will examine the various levels of measurement that exist, and then we will consider a couple of strategies for capturing the complexities of the concepts we wish to measure.

Levels of measurement

When social scientists measure concepts, they sometimes use the language of variables and attributes. A ***variable*** refers to a grouping of several characteristics. ***Attributes*** are those characteristics. A variable's attributes determine its level of measurement. There are four possible levels of measurement; they are nominal, ordinal, interval, and ratio.

Nominal measurement

At the **nominal level** of measurement, variable attributes meet the criteria of exhaustiveness and mutual exclusivity. This is the most basic level of measurement. Relationship status, gender, race, political party affiliation, and religious affiliation are all examples of nominal-level variables. For example, to measure

relationship status, we might ask respondents to tell us if they are currently partnered or single. These two attributes pretty much exhaust the possibilities for relationship status (i.e., everyone is always one or the other of these), and it is not possible for a person to simultaneous occupy more than one of these statuses (e.g., if you are single, you cannot also be partnered). Therefore, this measure of relationship status meets the criteria that nominal-level attributes must be exhaustive and mutually exclusive. One unique feature of nominal-level measures is that they cannot be mathematically quantified. We cannot say, for example, that being partnered has more or less quantifiable value than being single (note we are not talking here about the economic impact of one's relationship status— we are talking only about relationship status on its own, not in relation to other variables).

Ordinal measurement

Unlike nominal-level measures, attributes at the **ordinal level** can be rank ordered, though 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. Ordinal-level attributes are also exhaustive and mutually exclusive, as with nominal-level variables. Examples of ordinal-level measures include social class, degree of support for policy initiatives, television program rankings, and prejudice. Thus, while we can say that one person's support for some public policy may be more or less than his neighbour's level of support, we cannot say exactly *how much* more or less.

Interval measurement

At the **interval level**, measures meet all the criteria of the two preceding levels, plus the distance between attributes is known to be equal. IQ scores are interval level, as are temperatures. Interval-level variables are not particularly common in social science research, but 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 50 degrees is half as hot as 100 degrees.

Ratio measurement

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. 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, for example, that a person who is 12 years old is twice as old as someone who is six years old.

4.4 Units of Analysis and Units of Observation

Another point to consider when designing a research project, and which might differ slightly in qualitative and quantitative studies, has to do with units of analysis and units of observation. These two items concern what you, the researcher, actually observe in the course of your data collection and what you hope to be able to say about those observations. Table 3.1 provides a summary of the differences between units of analysis and observation.

Unit of Analysis

A ***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 would consider to be the main focus of your study.

Unit of Observation

A ***unit of observation*** is the item (or items) that you actually observe, measure, or collect in the course of trying to learn something about your unit of analysis. In a given study, the unit of observation might be the same as the unit of analysis, but that is not always the case. Further, units of analysis are not required to be the same as units of observation. What is required, however, is for researchers to be clear about how

they define their units of analysis and observation, both to themselves and to their audiences. More specifically, your unit of analysis will be determined by your research question. Your unit of observation, on the other hand, is determined largely by the method of data collection that you use to answer that research question.

To demonstrate these differences, let us look at the topic of students' addictions to their cell phones. We will consider first how different kinds of research questions about this topic will yield different units of analysis. Then we will think about how those questions might be answered and with what kinds of data. This leads us to a variety of units of observation.

If I were to ask, "Which students are most likely to be addicted to their cell phones?" our unit of analysis would be the individual. We might mail a survey to students on a university or college campus, with the aim to classify individuals according to their membership in certain social classes and, in turn, to see how membership in those classes correlates with addiction to cell phones. For example, we might find that students studying media, males, and students with high socioeconomic status are all more likely than other students to become addicted to their cell phones. Alternatively, we could ask, "How do students' cell phone addictions differ and how are they similar? In this case, we could conduct observations of addicted students and record when, where, why, and how they use their cell phones. In both cases, one using a survey and the other using observations, data are collected from individual students. Thus, the unit of observation in both examples is the individual. But the units of analysis differ in the two studies. In the first one, our aim is to describe the characteristics of individuals. We may then make generalizations about the populations to which these individuals belong, but our unit of analysis is still the individual. In the second study, we will observe individuals in order to describe some social phenomenon, in this case, types of cell phone addictions.

Consequently, our unit of analysis would be the social phenomenon.

Another common unit of analysis in sociological inquiry is groups. Groups, of course, vary in size, and almost no group is too small or too large to be of interest to sociologists. Families, friendship groups, and street gangs make up some of the more common micro-level groups examined by sociologists. Employees in an organization, professionals in a particular domain (e.g., chefs, lawyers, sociologists), and members of clubs (e.g., Girl Guides, Rotary, Red Hat Society) are all meso-level groups that sociologists might study. Finally, at the macro level, sociologists sometimes examine citizens of entire nations or residents of different continents or other regions.

A study of student addictions to their cell phones at the group level might consider whether certain types of social clubs have more or fewer cell phone-addicted members than other sorts of clubs. Perhaps we would find that clubs that emphasize physical fitness, such as the rugby club and the scuba club, have fewer cell phone-addicted members than clubs that emphasize cerebral activity, such as the chess club and the sociology club. Our unit of analysis in this example is groups. If we had instead asked whether people who join cerebral clubs are more likely to be cell phone-addicted than those who join social clubs, then our unit of analysis would have been individuals. In either case, however, our unit of observation would be individuals.

Organizations are yet another potential unit of analysis that social scientists might wish to say something about. Organizations include entities like corporations, colleges and universities, and even night clubs. At the organization level, a study of students' cell phone addictions might ask, "How do different colleges address the problem of cell phone addiction?" In this case, our interest lies not in the experience of individual students but instead in the campus-to-campus differences in confronting cell phone addictions. A researcher

conducting a study of this type might examine schools' written policies and procedures, so his unit of observation would be documents. However, because he ultimately wishes to describe differences across campuses, the college would be his unit of analysis.

Social phenomena are also a potential unit of analysis. Many sociologists study a variety of social interactions and social problems that fall under this category. Examples include social problems like murder or rape; interactions such as counselling sessions, Facebook chatting, or wrestling; and other social phenomena such as voting and even cell phone use or misuse. A researcher interested in students' cell phone addictions could ask, "What are the various types of cell phone addictions that exist among students?" Perhaps the researcher will discover that some addictions are primarily centred on social media such as chat rooms, Facebook, or texting, while other addictions centre on single-player games that discourage interaction with others. The resultant typology of cell phone addictions would tell us something about the social phenomenon (unit of analysis) being studied. As in several of the preceding examples, however, the unit of observation would likely be individual people.

Finally, a number of social scientists examine policies and principles, the last type of unit of analysis we will consider here. Studies that analyze policies and principles typically rely on documents as the unit of observation. Perhaps a researcher has been hired by a college to help it write an effective policy against cell phone use in the classroom. In this case, the researcher might gather all previously written policies from campuses all over the country, and compare policies at campuses where the use of cell phones in classroom is low to policies at campuses where the use of cell phones in the classroom is high.

In sum, there are many potential units of analysis that a

sociologist might examine, but some of the most common units include the following:

1. Individuals
2. Groups
3. Organizations
4. Social phenomena.
5. Policies and principles.

Table 4.1 Units of analysis and units of observation: A hypothetical study of students' addictions to cell phones.

Research Question	Unit of Analysis	Data Collection	Unit of Observation	Statements of Findings
Which students are most likely to be addicted to their cell phones?	Individuals	Survey of students on campus.	Individuals	Media majors, men, and students with high socioeconomic status are all more likely than other students to become addicted to their cell phones.
Do certain types of social clubs have more cell phone -addicted members than other sorts of clubs?	Group	Survey of students on campus.	Individuals	Clubs with a scholarly focus have more cell phone-addicted members than more socially focused clubs.
How do different colleges address the problem of addiction to cell phones?	Organizations	Content analysis of policies.	Documents	Campuses without policies prohibiting cell phone use in the classroom have high levels of cell phone addiction.
What are the various types of cell phone addictions?	Social phenomena	Observations of students	Individual	There are two main types of cell phone addictions: social and antisocial.

What are the most effective policies against cell phone addiction?	Policies and principles	Content analysis of policies and student records.	Documents	Policies that require students with cell phone addictions to attend group counselling for a minimum of one semester have been found to treat addictions more effectively than those that call for expulsion of addicted students.

4.5 Independent and Dependent Variables

When one variable causes another variable, we have what researchers call independent and dependent variables. In the example where gender was found to be causally linked to cell phone addiction, gender would be the independent variable (IV) and cell phone addiction would be the dependent variable (DV). An independent variable is one that causes another. A dependent variable is one that is caused by the other. Dependent variables depend on independent variables. If you are struggling to figure out which is the dependent and which is the independent variable, there is a little trick, as follows:

Ask yourself the following question: Is X dependent upon Y. Now substitute words for X and Y. For example, is the level of success in an online class dependent upon time spent online? Success in an online class is the dependent variable, because it is dependent upon something. In this case, we are asking if the level of success in an online class is dependent upon the time spent online. Time spent online is the independent variable.

Table 4.2 provides you with an opportunity to practice identifying the dependent and the independent variable.

Practice Exercise: Practice choosing the dependent and independent variables. Identify the dependent and independent variables from the questions below.

	Dependent Variable	Independent Variable
1. Is success in an online class dependent upon gender?		
2. Is the prevalence of post-traumatic stress disorder in Canada dependent upon the level of funding for early intervention?		
3. Is the reporting of incidents of high school bullying dependent upon anti-bullying programs in high school?		
4. Is the survival rate of female heart attack victims correlated to hospital emergency room procedures?		

Answers:

1. Dependent variable = success in online class; Independent variable = gender.
2. Dependent variable = prevalence of PTSD in BC; Independent variable = level of funding for early intervention.

3. Dependent variable = reporting of high school bullying; Independent variable = anti-bullying programs in high schools.
4. Dependent variable = survival rate of female heart attack victims; Independent variable = hospital emergency room procedures.

4.6 Extraneous Variables

While it is very common to hear the terms independent and dependent variable, extraneous variables are less common, which is surprising because an extraneous variable can destroy the integrity of a research study that claims to show a cause and effect relationship. An extraneous variable is a variable that may compete with the independent variable in explaining the outcome. Remember this, if you are ever interested in identifying cause and effect relationships you must always determine whether there are any extraneous variables you need to worry about. If an extraneous variable really is the reason for an outcome (rather than the IV) then we sometimes like to call it a confounding variable because it has confused or confounded the relationship we are interested in. (*see example below*)

Example

Suppose we want to determine the effectiveness of new course curriculum for an online research methods class. We want to test how effective the new course curriculum is on student learning, compared to the old course curriculum. We are unable to use random assignment to equate our groups. Instead, we ask one of the college´s most experienced online teachers to use the new online curriculum with one class of online students and

the old curriculum with the other class of online students. Imagine that the students taking the new curriculum course (the experimental group) got higher grades than the control group (the old curriculum). Do you see any problems with claiming that the reason for the difference between the two groups is because of the new curriculum? The problem is that there are alternative explanations.

First, perhaps the difference is because the group of students in the new curriculum course were more experienced students, both in terms of age and where they were in their studies (more third year students than first year students). Perhaps the old curriculum class had a higher percentage of students for whom English is not their first language and they struggled with some of the material because of language barriers, which had nothing to do with then old curriculum. In other words, we have a problem, in that there could be alternative explanations for our findings. These alternative explanations are called extraneous variables and they can occur when we do not have random assignation. Indeed, it is very possible that the difference we saw between the two groups was due to other variables (i.e. experience level of students, English language proficiency), rather than the IV (new versus old curriculum).

It is important to note that researchers can and should attempt to control for extraneous variables, as much as possible. This can be done in two ways. The first is by employing standardized

procedures. This means that the researcher attempts to ensure that all aspects of the experiment are the same, with the exception of the independent variable. For example, the researchers would use the same method for recruiting participants and they would conduct the experiment in the same setting. They would ensure that they give the same explanation to the participants at the beginning of the study and any feedback at the end of the study in exactly the same way. Any rewards for participation would be offered for all participants in the same manner. They could also ensure that the experiment occurs on the same day of the week (or month), or at the same time of day, and that the lab is kept at a constant temperature, a constant level of brightness, and a constant level of noise (Explore Psychology, 2019).

The second way that a researcher in an experiment can control for extraneous variables is to employ random assignation to reduce the likelihood that characteristics specific to some of the participants have influenced the independent variable. Random assignment means that every person chosen for an experiment has an equal chance of being assigned to either the test group of the control group (Explore Psychology, 2019). Chapter 6 provides more detail on random assignment, and explains the difference between a test group and a control group.

4.7 Rival Plausible Explanations

Similar to the threats posed by extraneous variables, a rival plausible explanation (RPE) is an alternative factor that may account for the results you observed in your research, other than what you might have been expecting. Threats to internal validity are considered RPEs. While it is true that most RPEs can be eliminated through careful research design (Palys & Atchison, 2014), it is important to acknowledge that some cannot.

For example, imagine that you plan a research project to study a downtown Vancouver community's level of satisfaction with a safe injection centre that has been operating for a year in the community. You carefully design and plan your research project to eliminate threats to internal validity. Your research includes a mail-out survey to every community household registered on the Province of British Columbia's most recent voters' list. You also mail the survey to all community businesses. Shortly after your survey is mailed out there is a serious violent incident at the safe injection centre. A client has attacked and seriously injured a staff member at the clinic, but he was able to disappear from the clinic without being apprehended. This individual is still on the loose. How do you think this incident will affect the members of the community and the local businesses? How might this incident affect how your survey participants fill out the survey, as it relates to their feelings related to the centre? How might their survey answers differ, had the survey taken place before this incident, when there had been no such incidents? It is quite likely that this event will impact or "colour" the responses of your participants. In other words, there is now a strong likelihood that you have

an RPE as to why the research participants have reacted negatively to the safe injection centre.

RPEs are serious, and while it is true that careful research design can eliminate threats to internal validity, the incident as outlined in the previous paragraph demonstrates how an RPE can sink a research project. As a researcher you spent a lot of time designing and planning your research, but essentially the findings are null, in this case, because you are not getting the true feelings of the community. Their feelings will have been negatively influenced by this recent incident. The researcher must decide how significant and how likely it is that the RPE influenced the results, in order to decide whether or not to scrap the research project.

While the preceding is an example of a blatant RPE, some are less obvious. Researchers must always consider the likelihood that an RPE explains the results of their findings when analyzing data. Less blatant RPEs (i.e. weather, postal strikes, a new government policy, recent media attention to an incident related to your research) must be discussed in the limitations section of the research findings.

Summary

Summary

This chapter has focused on understanding how a researcher moves from identifying concepts to conceptualizing them and then to operationalizing them in a research project. Each step becomes more specific than the previous. The researcher begins with a general interest, identifies a few concepts that are essential for studying the area of interest, works to define those concepts, and then spells them out precisely. As discussed earlier in the chapter, the researcher next must decide how to measure those concepts. In other words, the researcher's focus becomes narrower and narrower as s/he moves from a general interest to operationalization.

Key Takeaways

Key Takeaways

- ***Reliability in measurement*** is about consistency. ***Validity in measurement*** is about social agreement.
- ***Internal validity*** means that the experiment actually tests what it seeks to test, while ***external validity*** means that the study is generic to other situations and contexts.
- A ***variable*** refers to a grouping of several characteristics. ***Attributes*** are those characteristics.
- ***Nominal level of measurement*** has attributes that meet the criteria of exhaustiveness and mutual exclusivity. ***Ordinal level measurement*** can be rank ordered, though we cannot calculate a mathematical distance between those attributes. ***Interval level measurement*** meets all criteria if the two preceding levels plus the distance between attributes is known to be equal. ***Ratio level measurement*** has attributes that are mutually exclusive and exhaustive, can be rank ordered, have an equal distance between them, and have a true zero point.
- ***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. A ***unit of observation*** is the item (or items) that you actually observe, measure, or collect in the course of trying to learn something about your unit of analysis.

- *An* ***independent variable*** is one that causes another. It is the variable that is manipulated by the researcher in order to measure the difference in the outcome or the dependent variable.
- *A* ***dependent variable*** is one that is caused by another.
- *An* ***extraneous variable*** may compete with the independent variable in explaining the outcome.
- *A* ***rival plausible explanation (RPE)*** is an alternative factor, to the idea that you might have been expecting respondents to try to answer, that may account for the results you observed in your research.

References

Explore Psychology. (2019). What is an extraneous variable? Retrieved from https://www.explorepsychology.com/what-is-an-extraneous-variable/

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

CHAPTER 5: THE LITERATURE REVIEW

Learning Objectives

- Describe a literature review and explain its purpose.
- Describe the steps in undertaking a literature review.
- Write a literature review.
- Identify acceptable sources to include in your literature review.
- Apply the five 'C's of writing a literature review.
- Compare a literature review, an essay and an annotated bibliography.
- Explain the importance of APA referencing and list some of the sources for getting assistance with APA referencing.

In this chapter, we will focus on writing a literature review. As part of this focus we will concentrate on four key aspects, as follows:

1. The purpose behind a literature review and where it fits in the research process;
2. The difference between a literature review, an essay, and an annotated bibliography;

3. The special aspects that distinguish a literature review from other styles of academic writing; and
4. The way to conduct a literature review and is the importance of reviewing previous research studies.

If you have never written a literature review, and even if you have, this chapter will provide valuable information for you. Understanding how to write a literature review is important because it is quite likely that you will have to do another one at some point in your academic and/or professional career.

5.1 The Literature Review

A literature review is a survey of everything that has been written about a particular topic, theory, or research question. The word “literature” means “sources of information”. The literature will inform you about the research that has already been conducted on your chosen subject. This is important because we do not want to repeat research that has already been done unless there is a good reason for doing so (i.e., examining a new development in this area or testing a theory with a new population, or even just seeing if the research can be reproduced). A literature review usually serves as a background for a larger work (e.g., as part of a research proposal), or it may stand on its own. Much more than a simple list of sources, an effective literature review analyzes and synthesizes information about key themes or issues.

Purpose of a literature review

The literature review involves an extensive study of research publications, books and other documents related to the defined problem. The study is important because it advises you, as a researcher, whether or not the problem you identified has already been solved by other researchers. It also confirms the status of the problem, techniques that have been used by other researchers to investigate the problem, and other related details.

A literature review goes beyond the search for information; it includes the identification and articulation of relationships between existing literature and your field of research. The

literature review enables the researcher to discover what material exists about a topic and to understand the relationship between the various contributions. This will enable the researcher to determine the contributions of each source (books, articles, etc.) to the topic. A literature review also enables the researcher to identify and (if possible) resolve contradictions, and determine research gaps and/or unanswered questions.

Even though the nature of the literature review may vary with different types of studies, the basic purposes remain constant and could be summarized as follows:

- Provide a context for your research.
- Justify the research you are proposing.
- Ensure that your proposed research has not been carried out by another person (and if you find it has, then your literature review should specify why replication is necessary).
- Show where your proposed research fits into the existing body of knowledge.
- Enable the researcher to learn from previous theories on the subject.
- Illustrate how the subject has been studied previously.
- Highlight flaws in previous research.
- Outline gaps in previous research.
- Show how your proposed research can add to the understanding and knowledge of the field.
- Help refine, refocus, or even move the topic in a new direction.

5.2 What is involved in writing a literature review?

Research – to discover what has been written about the topic;

Critical Appraisal – to evaluate the literature, determine the relationship between the sources and ascertain what has been done already and what still needs to be done; and

Writing – to explain what you have found.

Generally speaking, it is helpful to think of the literature review as a funnel. One starts with a broad examination of the research related to the issue, working down to look at more specific aspects of the issue, which leads to the gap or the specific issue that your research will address.

How to undertake a literature review

The first step in undertaking a literature review is to conduct a library search of academic research that has been done on your topic. This can be done electronically, or if you are close to a library, you can go in and use their computers to find electronic and print holdings. You can also use Google Scholar for your search. In some cases, research conducted outside academia can serve as an important research source for your literature review. Indeed, such research can have important practical implications, as opposed to academic research which usually (although not always) tends toward theoretical applications.

However, it is important to understand who funded the

research you review, in addition to the perspective and the purpose of the research. This is becoming an issue in Canada as universities and colleges increasingly turn to industry for research funding grants https://www.cbc.ca/news/canada/edmonton/transalta-coal-report-1.4752314.

As part of this first step there are a few more some things to be thinking about as you review the literature:

- Who are the various researchers who have studied this topic? Who are the most prolific researchers/writers on this topic? Has a specific researcher or team of researchers been identified as pioneers or leaders in this field of study?
- How have the various researchers defined key terms that are relevant to your topic? Have the definitions of any of the key terms evolved over time?
- What are the different theories that have been examined and applied to this topic? How, if at all, have the various theories applied to this topic evolved over time?
- What methodologies have been used to study this topic? Have the methodologies evolved over time?
- In addition to thinking about these questions, you should be taking notes during this process. It can be helpful to keep these notes in an Excel file, e.g., your notes should include the following information:
- If the article is empirical, write down the results of the research study in one or two sentences of your own words, e.g., "people who are between ages 18 – 35 are more likely to own a smart phone than those in an age range above or below." It is also a good idea to take note of the methods, research design, number of participants, and details of the sample used in the study. Sometimes, you may even want to write down the names of the statistical procedures used to analyze the data or even some of the statistics, depending on your assignment.

- If the article is a review of previous research, look for the main points. It may be helpful to read or skim the whole article, look away, and ask yourself what you felt was the main idea.
- Write down any limitations or gaps you notice, anything that seems to contradict something you read elsewhere, or just anything that you think is important or interesting (Adjei, n.d.).

When reading through your sources, remember that you are looking for the "big picture," not a collection of random, separate articles (an annotated bibliography). You are also not trying to prove a point (an essay). You are looking for common themes and patterns in the research as a whole. You are also looking to see how the various pieces of research are linked, if at all. As part of this process, you also want to identify research gaps or areas that require further research related your topic (Adjei, n.d.). In this regard, you cannot be expected to be an expert on your topic. A suggestion for finding gaps is to read the conclusion section of the academic journal articles and conference proceedings your search has uncovered. Researchers often identify gaps in the research in their conclusion. They may even suggest areas for future research. However, remember, if a researcher suggested a gap 10 years ago, it is likely that the gap has now been addressed. To find a gap, look at the most recent research your literature review has uncovered (within 2-3 years of the current date). At this point in your search of the literature, you may realize that your research question needs to change or adapt. This is a fairly common occurrence, since when you first develop a research question, you cannot be sure what the status of the research area is until you undertake your review of the literature related to this topic. Finally, it is worth mentioning that it is very likely you will not include all of the resources you have read in your literature

review. If you are asked to include 20 resources in your literature review, e.g., expect to read approximately 30.

How to write a literature review

There are three parts to the literature review: the introduction, the body, and the conclusion. In the following paragraphs we outline what to include in each of these sections. This section concludes with a variety of resources for you to check out.

Introduction

The introduction must identify the topic by briefly discussing the significance of the topic, including a statement that outlines the conclusion to be drawn from the literature review.

If your literature review is part of a larger work, explain the importance of the review to your research question.

Defend the importance of the topic by giving a broad overview of the scope of the work you are reviewing. For example, if you are interested in post-traumatic stress disorder (PTSD) in paramedics, you might provide some statistics to prove how much work time is lost by those suffering from PTSD.

Clarify whether you are looking at the entire history of the field, or just a particular period of time.

Body

Discuss and assess the research according to specific organizational principles (see examples below), rather than addressing each source separately. Most, if not all, paragraphs should discuss more than one source. Avoid addressing your

sources alphabetically, since this does not assist in developing the themes or key issues central to your review.

Compare, contrast, and connect the various pieces of research. Much of the research you are reading should be connected, however you may notice various themes within the research (i.e. effects of PTSD on sick time, effects of PTSD on families of paramedics, effects of PTSD on overall paramedic wellness, etc.). If you have undertaken a thorough review of the literature, you should start to see the bigger picture of how the research on this topic has evolved over time, who the main researchers are on this topic, and how the methods and theories related to this topic have changed (if at all) over time.

Summarize the works you are reviewing. Just as in any written assignment, use logical organization and clear transitions. Spend more time on the researchers and bodies of research that are considered most important in the field and/or that are most relevant.

Conclusion

Based upon your research, suggest where the research in the field will or should go next. If you are proposing your own research study, show how you will contribute to the field and fill in any gaps. The conclusion would also be a good place to defend the importance of the topic, now that you have demonstrated the current state of thinking in the field.

Other resources to help you write a literature review

In conclusion, there is a plethora of resources, both here and online, that provide information on how to write a literature review. For example, check out this series of very helpful YouTube videos prepared by a professor at the University of Maryland, in the U.S.A:

The Literature Review, Part 1: https://www.youtube.com/watch?v=2IUZWZX4OGI

The Literature Review, Part 2: https://www.youtube.com/watch?v=UoYpyY9n9YQ&t=8s

The Literature Review, Part 3: https://www.youtube.com/results?search_query=the+literature+review+part+3 [link not working]

The Literature Review, Part 3: https://www.youtube.com/watch?v=TdJxY4w9XKY

Table 5.1 also provides some suggested organizational techniques, as well as instances when you might use these various techniques. The table also provides a writing sample to demonstrate the writing technique.

Table 5.1 Three ways to organize your literature review (adapted from Adjei, n.d.)

Organization technique	Instances When to Use	Examples
Thematically	When explaining key themes or issues relevant to the topic.	A literature review of 31 relevant articles published between January 2005 and March 2015 identified 10 variables relevant to user adoption of mobile technology: perceived usefulness, perceived ease of use, income/ wealth, employment, mobility requirement, education, social resources, etc. "User adoption variables" is the theme.
	This is the most common way to organize literature reviews.=	
Methodologically (also called a methodology review)	When discussing interdisciplinary approaches to a topic or when discussing a number of studies with a different approach.	In e-business adoption literature, various models have been used as a framework for analyzing the factors that need to be satisfied in order to guarantee business success. This review evaluates the different models used in this area with the intent of determining if standardized methodologies exist.
Chronologically	When historical changes are central to explaining the topic.	A literature review is presented on the evolution of post-traumatic stress disorder and its impact on firefighters from the late 1970s through to the present time. As part of this evolution you might discuss how the definition of PTSD has evolved over time, or how the methods used for studying this topic have evolved over time, or how treatment options have evolved over time, etc

And remember, most university and college libraries also have valuable information on literature reviews. Here is the link to one such website: http://www.jibc.ca/sites/default/files/library/pdf/ Lit_Review.pdf

5.3 Acceptable sources for literature reviews

Following are a few acceptable sources for literature reviews, listed in order from what will be considered most acceptable to less acceptable sources for your literature review assignments:

1. Peer reviewed journal articles.
2. Edited academic books.
3. Articles in professional journals.
4. Statistical data from government websites.
5. Website material from professional associations (use sparingly and carefully). The following sections will explain and provide examples of these various sources.

Peer reviewed journal articles (papers)

A peer reviewed journal article is a paper that has been submitted to a scholarly journal, accepted, and published. Peer review journal papers go through a rigorous, blind review process of peer review. What this means is that two to three experts in the area of research featured in the paper have reviewed and accepted the paper for publication. The names of the author(s) who are seeking to publish the research have been removed (blind review), so as to minimize any bias towards the authors of the research (albeit, sometimes a savvy reviewer can discern who has done the research based upon previous publications, etc.). This blind review process can be long (often 12 to 18 months) and may involve many back and forth edits on the behalf of the researchers, as they work to address the edits and concerns of the peers who reviewed

their paper. Often, reviewers will reject the paper for a variety of reasons, such as unclear or questionable methods, lack of contribution to the field, etc. Because peer reviewed journal articles have gone through a rigorous process of review, they are considered to be the premier source for research. Peer reviewed journal articles should serve as the foundation for your literature review.

The following link will provide more information on peer reviewed journal articles. Make sure you watch the little video on the upper left-hand side of your screen, in addition to reading the material at the following website: http://guides.lib.jjay.cuny.edu/c.php?g=288333&p=1922599

Edited academic books

An edited academic book is a collection of scholarly scientific papers written by different authors. The works are original papers, not published elsewhere ("Edited volume," 2018). The papers within the text also go through a process of review; however, the review is often not a blind review because the authors have been invited to contribute to the book. Consequently, edited academic books are fine to use for your literature review, but you also want to ensure that your literature review contains mostly peer reviewed journal papers.

Articles in professional journals

Articles from professional journals should be used with caution for your literature review. This is because articles in trade journals are not usually peer reviewed, even though they may appear to be. A good way to find out is to read the "About Us" section of the professional journal, which should state whether

or not the papers are peer reviewed. You can also find out by Googling the name of the journal and adding "peer reviewed" to the search.

Statistical data from governmental websites

Governmental websites can be excellent sources for statistical data, e.g, Statistics Canada collects and publishes data related to the economy, society, and the environment (see https://www.statcan.gc.ca/eng/start).

Website material from professional associations

Material from other websites can also serve as a source for statistics that you may need for your literature review. Since you want to justify the value of the research that interests you, you might make use of a professional association's website to learn how many members they have, for example. You might want to demonstrate, as part of the introduction to your literature review, why more research on the topic of PTSD in police officers is important. You could use peer reviewed journal articles to determine the prevalence of PTSD in police officers in Canada in the last ten years, and then use the Ontario Police Officers´ Association website to determine the approximate number of police officers employed in the Province of Ontario over the last ten years. This might help you estimate how many police officers could be suffering with PTSD in Ontario. That number could potentially help to justify a research grant down the road. But again, this type of website- based material should be used with caution and sparingly.

5.4 The Five 'C's of Writing a Literature Review

To help you frame and write your literature review, think about these five c's (Callahan, 2014):

1. Cite the material you have referred to and used to help you define the research problem that you will study.
2. Compare the various arguments, theories, methods, and findings expressed in the literature.For example, describe where the various researchers agree and where they disagree. Describe the similarities and dissimilarities in approaches to studying related research problems.
3. Contrast the various arguments, themes, methods, approaches, and controversies apparent and/or described in the literature. For example, describe what major areas are contested, controversial and/or still in debate.
4. Critique the literature. Describe which arguments you find more persuasive and explain why. Explain which approaches, findings, and methods seem most reliable, valid, appropriate, and/or most popular and why. Pay attention to the verbs you use to describe what previous researchers have stated (e.g., asserts, demonstrates, argues, clarifies, etc.).
5. Connect the various research studies you reviewed. Describe how your work utilizes, draws upon, departs from, synthesizes, adds to or extends previous research studies.

5.5 The Difference between a Literature Review and an Essay

So, now that you know what a literature review is and how to write it, it is important to understand how a literature review is different from an essay. First of all, it is necessary to point out that many students struggle with understanding the difference between a literature review and an essay. This is particularly so because a student can use the exact same resources to create a literature review or an essay; however, what is different about the two is where the emphasis in the writing is placed (Thomas 2012).

A literature review focuses on everything that has been written about a particular topic, theory, or body of research. It is focused on the research and the researchers who have undertaken research on your topic. In contrast, an essay focuses on proving a point. It does not need to provide an extensive coverage of all of the material on the topic. In fact, the writer chooses only those sources that prove the point. Most professors will expect to see you discuss a few different perspectives from the materials that run contrary to the point you are trying to make. For example, suppose you want to write an essay about the negative effects of shiftwork on nurses. You would gather material to show that shiftwork negatively affects nurses, and the various ways it affects nurses. Now in this case, you might find the odd research paper that states shiftwork has no effect – although this seems unlikely because it has been extensively documented to have a negative effect. However, in an essay you are focused on providing information on your topic and proving your point.

5.6 The Difference Between a Literature Review and an Annotated Bibliography

An annotated bibliography is a third type of academic writing that can confuse students who are attempting to write a literature review. An annotated bibliography provides all of the reference details of a bibliography, but it goes one step further and provides a short (approximately 150 words) description of the reference. An annotated bibliography is not to be confused with a bibliography, which is a list of journal articles, books, and other resources that someone has utilized in writing. The bibliography provides a list of all resources that someone used to write a research paper and, unlike a reference list, includes references that may not appear in the body of the paper. No doubt you have had to create many bibliographies in your academic studies. Here is a link to a website where you can learn more about annotated bibliographies and also to see a sample of an annotated bibliography: Annotated Bibliographies

5.7 APA Referencing (from JIBC Online Library)

As part of creating a social sciences focused literature review, you will be required to provide a reference list of all of the sources that appear in your paper. The American Psychological Association (APA) has developed a style of referencing that is widely accepted in the social sciences. Specifically, APA referencing is a set of rules for writing and referencing (citing) your sources. The purpose of referencing your sources is to give credit where credit is due (i.e., someone else´s work) and to ensure that you avoid being accused of plagiarism (i.e., putting forth someone else´s work as your own).

The current version of the APA manual in use is the 6th edition. You can get everything you need regarding APA referencing at the following link: American Psychological Association Reference.

Key Takeaways

Takeaways

- A ***literature review*** is a survey of everything that has been written about a particular topic, theory, or research question. It is focused on the research related to a topic and the researchers who undertook that research. It is different from an ***essay***, which proves a point, and an ***annotated bibliography***, which is a reference plus a short description.
- ***Acceptable literature review sources*** include peer reviewed journal articles, edited books, and, to a limited degree, professional journals. Professional association websites should be used sparingly and carefully.
- ***The 5C's of literature review writing*** are: cite, compare, contrast, critique, and connect.
- ***APA referencing*** is a set of rules for writing and referencing (citing) your sources.

References

Adjei, J. K. (n.d.). *Research methods*. Retrieved from African Virtual University website: https://oer.avu.org/handle/123456789/490

Callahan, J. L. (2014). Writing literature reviews: A reprise and update. *Human Resource Development Review*, *13*(3), 271-275. doi:10.1177/1534484314536705

Edited volume. (2019, October 15). In *Wikipedia*. Retrieved December 10, 2019, from https://en.wikipedia.org/wiki/Edited_volume

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Thomas, J. (2012, September 26). Literature review vs. essay [Blog post]. Retrieved from https://blogs.qut.edu.au/library/2012/09/26/literature-review-vs-essay/

CHAPTER 6: DATA COLLECTION STRATEGIES

Learning Objectives

- Differentiate between the various data collection strategies for experimental and non-experimental research.
- Differentiate between the experimental and the control group.
- Define random assignment and explain its importance in an experiment.
- Describe two types of non-experimental research (quasi-experiment & correlational).
- Explain how internal validity can be affected by research design.

There are many data collection strategies from which a researcher can choose. Choosing the data collection strategy is another important decision for the researcher. If the wrong strategy is chosen, it is likely that the researcher will not be able to answer the research question(s). In the following sections we will discuss three types of data collection strategies: experiments, quasi-experiments, and non-experimental.

6.1 Experiments

An experiment is a method of data collection designed to test hypotheses under controlled conditions (often in a laboratory), with the goal to eliminate threats to internal validity. Most commonly a quantitative research method, experiments are used more often by psychologists than sociologists, but understanding what experiments are and how they are conducted is useful for all social scientists, whether they actually plan to use this methodology or simply aim to understand findings based on experimental designs.

An ***experiment*** is a method of data collection designed to test hypotheses under controlled conditions, with the goal to eliminate threats to internal validity. There are different experiment designs. In the ***classic experiment***, the effect of a stimulus is tested by comparing two groups: one that is exposed to the stimulus (the ***experimental group***) and another that does not receive the stimulus (the ***control group***). The control group, often called the comparison group, is treated equally to the experimental group in all respects, except it does not receive the independent variable. The purpose of the control group is to control for rival plausible explanations.

Most experiments take place in a lab or some other controlled environment. In an experiment, the effects of an independent variable upon a dependent variable are tested. Because the researcher's interest lies in the effects of an independent variable, the researcher must measure participants on the dependent variable before and after the independent variable (or stimulus) is administered. In this type of experiment researchers employ ***random assignation*** (often referred to as random assignment), which means that one group is the equivalent of the other. Random assignation is

more fully explored in the following section "Random Assignation".

It is important to note that social sciences research usually takes place in a natural setting, where the researcher will utilize a quasi-experimental design, rather than an experimental design. Similar to an experiment, the independent variable in a quasi-experiment is manipulated. A quasi-experimental design is discussed in more detail in section 6.3 Nonexperimental research.

Students in research methods classes often use the term "experiment" to describe all kinds of empirical research projects, but in social scientific research the term has a unique meaning and should **not** be used to describe all research methodologies. In general, designs considered to be "true experiments" contain three key features:

1. Independent and dependent variables.
2. Pretesting and post-testing.
3. Experimental and control groups.

Pretesting and post-testing are both important steps in a classic experiment. Here are a couple of hypothetical examples.

Example 1

In a study of PTSD, 100 police officer participants from the Winnipeg police department were randomly assigned to either an experiment or control group. All of the police officer participants, from both the experiment and the control group were given the exact same pre-test to assess their levels of PTSD. No significant differences in reported

levels of symptoms related to PTSD were found between the experimental and control groups during the pre-test. Participants in the experimental group were then asked to watch a video on scenic travel routes in Manitoba. Both groups then underwent a post-test to re-measure their reported level of symptoms related to PTSD. Upon measuring the scores from the post-test, the researchers discovered that those who had received the experimental stimulus (the video on the car accident) reported greater symptoms of PTSD than those in the control group.

As you can see from Example 1, the dependent variable is reported levels of PTSD symptoms (measured through the pre- and post-test) and the independent variable is visual exposure to trauma (video). Ask yourself: Is the reported level of PTSD symptoms dependent upon visual exposure to trauma (as depicted through the video)? Table 6.1 depicts the design of the study from example 1, above.

Table 6.1 True Experiment Design

Pretest	Treatment	Posttest
01	XE	02
01	XC	02

Where:

- X stands for the treatment
- E stands for the experimental group (e.g., car accident video)

- C stands for the control or comparison group (e.g., scenic byways of Manitoba video)
- O stands for time, subscripts stand for time: 1=time one; 2=time two.

Example 2

In one portion of a multifaceted study on depression, all participants were randomly assigned to either an experimental or a control group. All participants were given a pre-test to assess their levels of depression. No significant differences in depression were found between the experimental and control groups during the pre- test. Participants in the experimental group were then asked to read an article suggesting that prejudice against their same racial group is severe and pervasive. Upon measuring depression scores during the post-test period, the researchers discovered that those who had received the experimental stimulus (the article citing the prejudice against their same racial group) reported greater depression than those in the control group (McCoy & Major, 2003).

Now it is your turn. See if you can fill in Table 6.2, based upon what you read in Example 2.

Table 6.2 True Experiment Design

Pretest	Treatment	Posttest

Where:

- X stands for the treatment.
- E stands for the experimental group (e.g., _____ _____).
- C stands for the control or comparison group (e.g., _____ _____).
- O stands for time, subscript stands for (_____ _____).
- The dependent variable is _____ _____).
- The independent variable is _____ _____).

Answer for Table 6.2, a true experiment design

Pretest	Treatment	Posttest
01	XE	02
01	XC	02

Where:

- X stands for treatment.
- E stands for the experimental group (e.g., article on severe prejudice within group).

- C stands for the control or comparison group (e.g., article on severe prejudice outside group).
- O stands for time, 1 and 2 subscripts stand for time: 1=timeone;2=timetwo.
- The dependent variable is depression.
- The independent variable is feelings that prejudice is a significant issue within your racial group.

6.2 Random Assignation

As previously mentioned, one of the characteristics of a true experiment is that researchers use a random process to decide which participants are tested under which conditions. ***Random assignation*** is a powerful research technique that addresses the assumption of pre-test equivalence – that the experimental and control group are equal in all respects before the administration of the independent variable (Palys & Atchison, 2014).

Random assignation is the primary way that researchers attempt to control extraneous variables across conditions. Random assignation is associated with experimental research methods. In its strictest sense, random assignment should meet two criteria. One is that each participant has an equal chance of being assigned to each condition (e.g., a 50% chance of being assigned to each of two conditions). The second is that each participant is assigned to a condition independently of other participants. Thus, one way to assign participants to two conditions would be to flip a coin for each one. If the coin lands on the heads side, the participant is assigned to Condition A, and if it lands on the tails side, the participant is assigned to Condition B. For three conditions, one could use a computer to generate a random integer from 1 to 3 for each participant. If the integer is 1, the participant is assigned to Condition A; if it is 2, the participant is assigned to Condition B; and, if it is 3, the participant is assigned to Condition C. In practice, a full sequence of conditions—one for each participant expected to be in the experiment—is usually created ahead of time, and each new participant is assigned to the next condition in the sequence as he or she is tested.

However, one problem with coin flipping and other strict procedures for random assignment is that they are likely to result in unequal sample sizes in the different conditions. Unequal sample sizes are generally not a serious problem, and you should never throw away data you have already collected to achieve equal sample sizes. However, for a fixed number of participants, it is statistically most efficient to divide them into equal-sized groups. It is standard practice, therefore, to use a kind of modified random assignment that keeps the number of participants in each group as similar as possible.

One approach is block randomization. In block randomization, all the conditions occur once in the sequence before any of them is repeated. Then they all occur again before any of them is repeated again. Within each of these "blocks," the conditions occur in a random order. Again, the sequence of conditions is usually generated before any participants are tested, and each new participant is assigned to the next condition in the sequence. When the procedure is computerized, the computer program often handles the random assignment, which is obviously much easier. You can also find programs online to help you randomize your random assignation. For example, the Research Randomizer website will generate block randomization sequences for any number of participants and conditions (Research Randomizer).

Random assignation is not guaranteed to control all extraneous variables across conditions. It is always possible that, just by chance, the participants in one condition might turn out to be substantially older, less tired, more motivated, or less depressed on average than the participants in another condition. However, there are some reasons that this may not be a major concern. One is that random assignment works better than one might expect, especially for large samples. Another is that the inferential statistics that researchers use to decide whether a difference between groups reflects a difference in the population take the "fallibility" of random

assignment into account. Yet another reason is that even if random assignment does result in a confounding variable and therefore produces misleading results, this confound is likely to be detected when the experiment is replicated. The upshot is that random assignment to conditions—although not infallible in terms of controlling extraneous variables—is always considered a strength of a research design. Note: Do not confuse random assignation with random sampling. Random sampling is a method for selecting a sample from a population; we will talk about this in Chapter 7.

6.3 Nonexperimental Research

Nonexperimental research is research that lacks manipulation of an independent variable and/or random assignment of participants to conditions. While the distinction between experimental and nonexperimental research is considered important, it does not mean that nonexperimental research is less important or inferior to experimental research (Price, Jhangiani & Chiang, 2015).

When to use nonexperimental research

Often it is not possible, feasible, and/or ethical to manipulate the independent variable, nor to randomly assign participants to conditions or to orders of conditions. In such cases, nonexperimental research is more appropriate and often necessary. Price, et al. (2015) provide the following examples that demonstrate when the research question is better answered with non-experimental methods:

1. The research question or hypothesis contains a single variable rather than a statistical relationship between two variables (e.g., How accurate are people's first impressions?).
2. The research question involves a non-causal statistical relationship between variables (e.g., is there a correlation between verbal intelligence and mathematical intelligence?).
3. The research question involves a causal relationship, but the independent variable cannot be manipulated, or

participants cannot be randomly assigned to conditions or orders of conditions (e.g., Does damage to a person's hippocampus impair the formation of long-term memory traces?).

4. The research question is broad and exploratory, or explores a particular experience (e.g., what is it like to be a working mother diagnosed with depression?).

As demonstrated above, it is the nature of the research question that guides the choice between experimental and non-experimental approaches. However, this is not to suggest that a research project cannot contain elements of both an experiment and a non-experiment. For example, nonexperimental studies that establish a relationship between two variables can be explored further in an experimental study to confirm or refute the causal nature of the relationship (Price, Jhangiani & Chiang, 2015).

Types of nonexperimental research

In social sciences it is often the case that a true experimental approach is inappropriate and unethical. For example, conducting a true experiment may require the researcher to deny needed treatment to a patient, which is clearly an ethical issue. Furthermore, it might not be equitable or ethical to provide a large financial or other reward to members of an experimental group, as can occur in a true experiment.

There are three types of non-experimental research: single-variable research; correlational and quasi- experimental research; and qualitative research. In the following sections we will explore single variable research, and correlational research and quasi-experiments. Qualitative research is a large body of research methods that will be more fully discussed in the following chapters.

Single-variable research

Single-variable research focuses, not surprisingly, on a single variable, as opposed to a statistical relationship between two variables (Price et al., 2015). As Price et al. (2015) point out, Stanley Milgram's original obedience study (See Research on Human Participants: An Historical Look) is an interesting example of research focused on one variable—the extent to which the participants obeyed the researcher when he told them to provide a shock to the person behind the screen. Milgram observed all participants undertaking the same task, under the same conditions.

6.4 Correlational Research

Correlational research is a type of non-experimental research in which the researcher is interested in the relationship between variables; however, the researcher does not attempt to influence the variables (in contrast to experimental research where the researcher manipulates the variables) (Siegle, 2015). Relationships between variables can be visualized with the aid of a graph known as a ***scatterplot*** diagram.

Scatterplots provide information on two dimensions. The first dimension demonstrates the direction of relationship: linear, curvilinear, or no relationship. Linear relationships can be positive or negative. A positive relationship or correlation is demonstrated through a rise from left to right, while a negative correlation falls from left to right (Palys & Atchison, 2014). Here is a short video that effectively demonstrates positive relationships and no relationship: Direction of Scatterplots.

The second dimension related to scatterplots is that they can provide an indication of the magnitude or strength of the relationship. The strongest of relationships are evidenced when all points in a scatterplot graph fall along the same straight line (known as the regression line). The next strongest of relationships are evidenced by a little bit of dispersion around the line; however, if one were to draw an oval close to the line all points would be captured within the oval. The more dispersed the points (i.e., the points do not adhere as closely to the line), the weaker the relationship (Palys & Atchison, 2014).

Near the beginning of the 20th century, Karl Pearson developed a method to statistically measure the strength of relationships between variables. This method, known as the ***Pearson Product-moment Correlation Coefficient (Pearson's***

r), was developed to measure the strength of linear relationships only. There are two aspects to Pearson's r: The first is the direction, represented by a sign (+ or -). A plus sign (+) indicates a positive or a directional relationship, while a negative sign (-) indicates a negative or an inverse relationship. The second aspect is a number, where a zero represents no linear relationship, and a 1.0 represents a perfect linear relationship. A 1.0 is represented on a scatterplot whenever the point lies on the same straight line. For these purposes, we will not delve further into how to compute a correlational coefficient; however, there are many online and library statistical resources if you wish to seek more information on this measure.

6.5 Quasi-Experiments

Under certain conditions, researchers often turn to field experiments, also known as quasi-experiment. These conditions usually occur when it is not possible to randomly assign participants to treatment and control groups (White & Sabarwal, 2014). Rather, selection to a group is by the participants, the researcher, or both the participant and the researcher (White & Sabarwal, 2014).

In a quasi-experiment, the independent variable is manipulated and similar to an experiment, it tests causal hypothesis (Campbell & Stanley, 1963).

Quasi-experiments allow researchers to infer causality by using the logic behind the experiment in a different way; however, there are three criteria that must be satisfied for causality to be inferred:

1. The independent variable (X) comes before the dependent variable (Y) in time.
2. X and Y are related to each other (i.e., they occur together).
3. The relationship between X and Y aren't explained by other causal agents (Crump, Price, Jhangiani, Chiang, & Leighton, 2017).

In a quasi-experiment the researcher identifies a comparison group that is as similar as is possible to the treatment group, as it relates to baseline (pre-intervention) characteristics. There are techniques for reducing selection bias when creating a comparison group. These techniques are regression discontinuity design and propensity score matching (White & Sabarwal, 2014); available at https://www.unicef-irc.org/publications/pdf/brief_8_quasi-

experimental%20design_eng.pdf for more detail on these techniques.

6.6 Internal Validity

In the preceding sections we reviewed three types of research: experimental, correlational and quasi- experimental. It is important to note that when it comes to internal validity, they are not considered equal. You will recall in Chapter 20, Validity, we briefly discussed internal validity. To recap, internal validity is the extent to which the study design supports the conclusion that changes to the independent variable were responsible for the observed changes in the dependent variable.

Of the three types of research, experimental, correlational and quasi-experimental, experimental research usually has the highest internal validity. This is because it addresses directional and third variable problems through manipulation and controlling for extraneous variables through random assignment (Crump et al., 2017). As Crump et al claim, if the average score on the dependent variable changes across conditions, it is likely that these changes are the result of the independent variable. On the other hand, correlational research is said to have the lowest internal validity. This is because if the average score on the dependent variable changes across conditions, it could be because of the independent variable. However, there could be other reasons, e.g., the direction of causality is reversed, or there is a third variable causing the differences in both the independent and dependent variables (Crump et al., 2017).

Quasi experimental research is considered in the middle of the two other types of research when it comes to internal validity. This is because the independent variable is manipulated in quasi-experimental research; however, the lack of random assignment and experimental control can create other problems.

Example

Suppose a researcher finds two similar fire halls in which to conduct a study on Post Traumatic Stress Disorder (PTSD). As part of her research, the researcher creates a PTSD awareness program and implements the program at one of the two fire halls. At the end of the in-field portion of her study she finds lower levels of PTSD in firefighters at the "treatment fire hall," than in the "control fire hall (no program)." As she did not choose which fire hall received the program based upon the number of firefighters with PTSD in each fire hall, we can see that she did not have a directional problem with her study design. However, because she did not randomly assign firefighters to one of the two fire halls, it could mean that the firefighters at the treatment fire hall differed somehow from the firefighters at the control fire hall. In other words, it is the difference in the firefighters themselves (or something about their jobs, their superiors, etc.) that was responsible for the lower levels of PTSD at the treatment fire hall, not the PTSD awareness program that was applied.

Figure 6.1 demonstrates the differences in terms of internal validity as it relates to experimental, quasi- experimental, and correlational research. You will notice that there is some overlap in internal validity amongst the three types of research. For example, a poorly designed quasi-experiment can have a lower or equal level of internal validity than a well-designed correlational study. It is important to note that in addition to

internal validity, it is important for the researcher to think about how to ensure a high level of other types of validity, such as external validity.

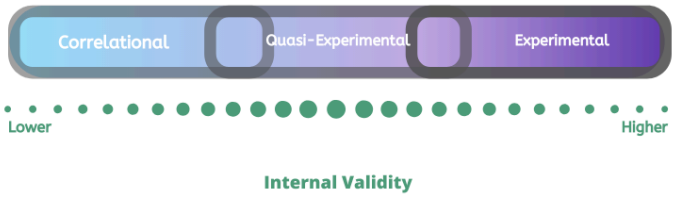

Figure 6.1 Differences in internal validity (from Crump et al., 2017)

Summary

Summary

This chapter has focused on three data collection strategies: experimental, quasi-experimental and non-experimental designs. As outlined, choosing the data collection strategy is another important decision to be made by the researcher. The research question, including whom you plan to study, will guide the type of strategy best employed; however, it is important to understand the strengths and weaknesses of each, as outlined in this chapter.

References

Adjei, J. K. (n.d.). *Research methods*. Retrieved from African Virtual University website: https://oer.avu.org/handle/123456789/490

Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Boston, USA: Houghton Mifflin.

Crump, M. J., Price, P. C., Jhangiani, R., Chiang, I-C.A., & Leighton, D. C. (2017). *Research methods for psychology* (3rd ed.). Retrieved from http://www.saylor.org/books/

McCoy, S. K., & Major, B. (2003). Group identification moderates emotional response to perceived prejudice. *Personality and Social Psychology Bulletin*, *29*(8), 1005–1017. http://dx.doi.org/10.1177/0146167203253466

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Price, P. C., Jhangiani, R., & Chiang, I-C, A. (2015). *Research methods in psychology* (2nd ed.). Retrieved from https://opentextbc.ca/researchmethods/front-matter/about-this-book/

Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

Siegle, D. (2015). *Introduction to correlation research*. Retrieved from https://researchbasics.education.uconn.edu/correlation/#

White, H. & Sabarwal, S. (2014). *Quasi-experimental design and methods* (Methodological Briefs: Impact Evaluation No. 8). Retrieved from UNICEF website: https://www.unicef-irc.org/

KM/IE/img/downloads/Quasi-Experimental_Design_and_Methods_ENG.pdf

CHAPTER 7: SAMPLING TECHNIQUES

Learning Objectives

- Differentiate between the population and the sample.
- Describe the difference between homogenous and heterogeneous samples.
- Differentiate between probabilistic and non-probabilistic sampling.
- Explain what is meant by representativeness and generalizability.
- Discuss sampling error, and differentiate between a random sampling error and a system sampling error.
- Explain the importance of knowing the who, the how, and the why for the purpose of sampling.

All research projects involve gathering specific data from specific sources in specific places at specific times (Palys & Atchison, 2014). Also known as sampling, the necessity of sampling occurs because we simply cannot gather all data from all sources at all places and all times. In other words, we must make choices when we design our research projects. This

chapter focuses on sampling techniques as another level of choice to be made by the researcher.

7.1 Sampling

Sampling is the process of selecting observations that will be analyzed for research purposes. To put it another way, sampling has to do with selecting some subset of one's group of interest and drawing conclusions from that subset. Sampling is an integral part of any research project. The question is not ***if*** you will sample, but ***how*** you will sample. The answer to that question usually is dependent on the methods you use and the objectives of the study. Sampling can apply to people or objects, and is most important when these people or objects (your units of analysis) are heterogeneous (have different characteristics). If people (or objects) are ***homogeneous,*** or the same in terms of a specific characteristic of study, any sample will do, since everyone you sampled would be the same on that characteristic. However, when there is diversity or ***heterogeneity***, sampling becomes highly relevant to the study, since a researcher will want to ensure that his/her sample reflects that variability in the population. How we sample and whom we sample shapes the sorts of conclusions we are able to draw.

7.2 Population versus Samples

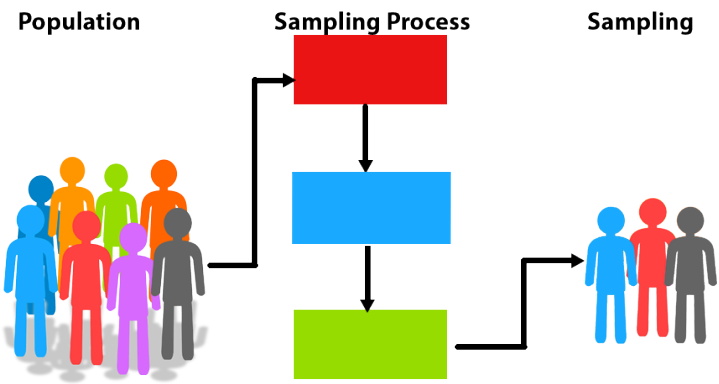

Fig 7.1 Difference between population and sampling ©Creative Common

If you had all the money and resources in the world, you could potentially sample the whole population. However, money and resources usually limit sampling, and furthermore all members of a population may not actually be identifiable in a way that allows you to sample. As a result, researchers take a sample, or a subgroup of people (or objects) from the population and study that instead of the population. In social scientific research, the ***population*** is the cluster of people, events, things, or other phenomena in which you are most interested. It is often the "who" or "what" that you want to be able to say something about at the end of your study. Populations in research may be rather large, such as "the Canadian people," but typically they are more focused than that. For example, a large study, for which the population of interest really is the Canadian people, will likely specify which Canadian people, such as adults over the age of 18 or citizens or legal residents.

One of the most surprising and often frustrating lessons students of research methods learn is that there is a difference between one's population of interest and one's study sample. While there are certainly exceptions, more often than not, a researcher's population and the sample are not the same. A ***sample*** is the cluster of people or events, for example, from or about which you will actually gather data. Some sampling strategies allow researchers to make claims about populations that are much larger than their actual sample with a fair amount of confidence. Other sampling strategies are designed to allow researchers to make theoretical contributions rather than to make sweeping claims about large populations. We will discuss both types of strategies later in this chapter.

As mentioned previously, it is quite rare 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 sociologists typically ask. For example, suppose we wish to answer the following research question: "How do men's and women's college experiences differ, and how are they similar?" Would you expect to be able to collect data from all college students 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), the answer is probably "no." So then, what is a researcher 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? Absolutely not. It just means having to make some hard choices about sampling, and then being honest with yourself and your readers about the limitations of your study based on the sample from whom you were able to actually collect data. Click on this link to help you better understand how to get from the theoretical population (to whom you want to generalize) to your sample (who will actually be in your study) https://www.socialresearchmethods.net/kb/sampterm.php

Now having said this, there are certainly times when it is possible to access every member of the population. This happens when the population is small, accessible, and willing to participate, or the researcher has access to relevant records. For example, suppose that a university dean wants to analyse the final graduating scores for all students enrolled in the university's health sciences program, for 2015 to 2019. The dean wants to know if there is a trend toward an average increase in final graduating scores in health sciences, over this time period, as she suspects. Since the dean is only interested in her particular university and only those students who graduated from health sciences from 2015 to 2019, she can easily use the whole population. In this case, the population is the records of final graduating scores for all students enrolled in the university's health sciences program from 2015 to 2019.

To summarize, we use sampling when the population is large and we simply do not have the time, financial support, and/or ability (i.e. lack of laboratory equipment) to reach the entire population.

In the following table you will find some examples of a population versus a sample, and the type of research methodology that might lead such a study. Do not worry about the methodology column now, as you have most likely not yet read the applicable chapters. Make a note to yourself and return to this table after reading Chapters 8 through 13.

Population versus sample		
Population	**Sample**	**Methodology**
Resumes submitted to security firms in Canada for security guard positions.	120 resumes for security guard positions submitted to Canada's three largest security firms in the year 2019, being 40 resumes from each firm.	Non-obtrusive methods, content analysis. See Section 13.3
Canadian residents who tested positive for COVID-19 and were hospitalized, but now test negative	300 Canadian residents who tested positive for COVID-19 and were hospitalized, but now test negative in the provinces of British Columbia and Quebec.	Quantitative research methods, likely survey methods. See Section 8.1
Undergraduate students currently enrolled at colleges across Canada	750 undergraduate students, taken from across 13 colleges, being one college from each of the country's 10 provinces and 3 territories.	Quantitative research, likely survey methods. See Section 8.1
Individuals who are in employed, in management positions at firehalls in the province of Nova Scotia.	30 managers from Nova Scotia's two largest firehalls, 15 from each, in the province of Nova Scotia.	Qualitative research, likely interviews and or focus groups. See Section 10.3 & 10.4

7.3 Probabilistic and Non-Probabilistic Sampling Techniques

What constitutes an appropriate sample depends upon the research question(s), the research objectives, the researcher's understanding of the phenomenon under study (developed through the literature review), and practical constraints (Palys & Atchison, 2014). These considerations will influence whether the researcher chooses to employ probabilistic or non-probabilistic sampling techniques. ***Probabilistic sampling*** techniques are employed to generate a formal or statistically representative sample. This technique is utilized when the researcher has a well-defined population to draw a sample from, as is often the case in quantitative research. This fact enables the researcher to generalize back to the broader population (Palys & Atchison, 2014). On the other hand, a ***non-probabilistic sampling*** technique is the method of choice when the population is not created equal and some participants are more desirable in advancing the research project´s objectives. Non-probability sampling techniques are the best approach for qualitative research. Because the researcher seeks a strategically chosen sample, generalizability is more of a theoretical or conceptual issue, and it is not possible to generalize back to the population (Palys & Atchison, 2014).

Probabilistic sampling techniques

As previously mentioned, probability sampling refers to sampling techniques for which a person's (or event's) likelihood of being selected for membership in the sample is known. You might ask yourself why we should care about a study element's likelihood of being selected for membership in a researcher's sample. The reason is that, in most cases, researchers who use probability sampling techniques are aiming to identify a representative sample from which to collect data. A ***representative sample*** is one that resembles the population from which it was drawn in all the ways that are important for the research being conducted. If, for example, you wish to be able to say something about differences between men and women at the end of your study, you must make sure that your sample doesn't contain only women. That is a bit of an oversimplification, but the point with representativeness is that if your population varies in some way that is important to your study, your sample should contain the same sort of variation. While there is a formula to help you determine the sample size you will need to ensure representativeness, one of the easiest ways to do this is through an online sample size calculator. The calculator will do the work for you and tell you the minimum number of samples you will need in order to meet the desired statistical limitations (see https://www.calculator.net/sample-size-calculator.html)

Obtaining a representative sample is important in probability sampling because a key goal of studies that rely on probability samples is ***generalizability.*** In fact, generalizability is perhaps the key feature that distinguishes probability samples from nonprobability samples. Generalizability refers to the idea that a study's results will tell us something about a group larger than the sample from which the findings were generated. In order to achieve generalizability, a core principle of probability sampling is that all elements in the researcher's target

population have an equal chance of being selected for inclusion in the study. In research, this is the principle of random selection. ***Random selection*** is a mathematical process that must meet two criteria. The first criterion is that chance governs the selection process. The second is that every sampling element has an equal probability of being selected (Palys & Atchison, 2014).

The core principal of probability sampling is random selection. If a researcher uses random selection techniques to draw a sample, he or she will be able to estimate how closely the sample represents the larger population from which it was drawn by estimating the sampling error.

Sampling error is the degree to which your sample deviates from the population's characteristics. It is a statistical calculation of the difference between results from a sample and the actual parameters of a population. It is important to ensure that there is a minimum of ***sampling error*** (your sample needs to match the diversity of the population as closely as possible.) Sampling error comes from two main sources – systemic error and random error. ***Random error*** is due to chance, while ***systemic error*** means that there is some bias in the selection of the sample that makes particular individuals more likely to be selected than others. Here is an example to more fully explain the difference between a random and systemic error.

Example: Random and systemic errors

Consider the study of playground conditions for elementary school children. You would need a sampling frame (or list from which you sample) and select from that. Random sampling error would

occur by chance and could not be controlled, but systemic error would be possible. Let us say that the list is designed in such a way that every 5th school is a private school. If you were to randomly sample every 5th school on the list, you would end up with a sample exclusively from private schools! Sampling error just means that an element of the population is more likely to be selected for the sample than another (in this case, the private schools are more likely to be sampled than the public schools).

Why is this discussion of error important? The use of the right techniques for sampling gives researchers the best chances at minimizing sampling error, and thus the strongest ability to say their results are reflective of the population. Research is done to benefit society in some way, so it is important that research results reflect what we might expect to see in society. Sample size also impacts sampling error. Generally, the bigger the sample, the smaller the error. However, there is a point of diminishing returns where only small reductions in error occur for increases in size. Cost and resources usually also prohibit very large samples, so ultimately the sample size is dependent upon a variety of factors, of which sampling error is only one

Probability sampling techniques.

There are a variety of probability samples that researchers may use. For our purposes, we will focus on four: simple random samples, systematic samples, stratified samples, and cluster samples (see Table 6.1 for a summary of these four techniques). ***Simple random*** samples are the most basic type of probability sample, but their use is not particularly common. Part of the reason for this may be the work involved in generating a simple random sample. To draw a simple random

sample, a researcher starts with a list of every single member, or element, of his or her population of interest. This list is sometimes referred to as a ***sampling frame***. Once that list has been created, the researcher numbers each element sequentially and then randomly selects the elements from which he or she will collect data. To randomly select elements, 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 offer such tables as appendices to the text. Perhaps a more accessible source is one of the many free random number generators available on the Internet. A good online source is the website Stat Trek (https://stattrek.com/), which contains a random number generator that you can use to create a random number table of whatever size you might need.

As you might have guessed, drawing a simple random sample can be quite tedious. S***ystematic sampling techniques*** are somewhat less tedious but offer the benefits of a random sample. As with simple random samples, you must be able to produce a list of every one of your population elements. Once you have done that, to draw a systematic sample you would simply select every kth element on your list. But what is "k", and where on the list of population elements does one begin the selection process? The symbol "k" is your selection interval or the distance between the elements you select for inclusion in your study. To begin the selection process, you would need to figure out how many elements you wish to include in your sample.

Let us say you want to interview 25 students from the Law program at your college or university. You do some research and discover that there are 150 students currently registered in the program. In this case, your selection interval, or k, is 6. To arrive at 6, simply divide the total number of population elements by your desired sample size. To determine where on

your list of population elements to begin selecting the names of the 25 students you will interview, select a random number between 1 and k, and begin there. If we randomly select 3 as our starting point, we would begin by selecting the third student on the list and then select every sixth student from there.

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. This is sometimes referred to as the problem of periodicity. ***Periodicity*** refers to the tendency for a pattern to occur at regular intervals. For example, suppose you want to observe how people use the outdoor public spaces in your city or town and you need to complete your observations within 28 days. During this time, you wish to conduct four observations on randomly chosen days. To determine which days you will conduct your observations, you will need to determine a selection interval. As you will recall from the preceding paragraphs, to do so you must divide your population size – in this case 28 days – by your desired sample size, in this case 4 days. This formula leads you to a selection interval of 7. If you randomly select 2 as your starting point and select every seventh day after that, you will wind up with a total of 4 days on which to conduct your observations. But what happens is that you are now observing on the second day of the week, being Tuesdays. As you have probably figured out, that is not such a good plan if you really wish to understand how public spaces in your city or town are used. Weekend use probably differs from weekday use, and that use may even vary during the week.

In cases such as this, where the sampling frame is cyclical, it would be better to use a ***stratified sampling technique***. In stratified sampling, a researcher will divide the study population into relevant subgroups and then draw a sample from each subgroup. In this example, you might wish to first divide your sampling frame into two lists: weekend days and

weekdays. Once you have your two lists, you can then apply either simple random or systematic sampling techniques to each subgroup.

Stratified sampling is a good technique to use when, as in the example, a subgroup of interest makes up a relatively small proportion of the overall sample. In the example of a study of use of public space in your city or town, you want to be sure to include weekdays and weekends in your sample. However, because weekends make up less than a third of an entire week, there is a chance that a simple random or systematic strategy would not yield sufficient weekend observation days. As you might imagine, stratified sampling is even more useful in cases where a subgroup makes up an even smaller proportion of the study population, say, for example, if you want to be sure to include both male and female perspectives in a study, but males make up only a small percentage of the population. There is a chance that simple random or systematic sampling strategy might not yield any male participants, but by using stratified sampling, you could ensure that your sample contained the proportion of males that is reflective of the larger population. Let us look at another example to help clarify things.

Example #1 Choosing a sampling technique

Suppose a researcher wanted to talk to police officers in Canada about their views on illegal drug use in the general population. A researcher could find a list of all Canadian police officers (a sampling frame) and do a ***simple random sample*** or a ***systematic sample with random start*** from that list. But what if the researcher wanted to ensure

that female and male officers were included in the same proportions they are in the population of officers? Or if they wanted to ensure that urban and rural officers are represented as they are in the population of police? In these cases, ***stratified random sampling*** might be more appropriate. If the goal is to have the subgroups reflect the proportions in the population then ***proportional stratification*** should be used. With proportional stratification, the sample size of each subgroup is proportionate to the population size of the group. In other words, each subgroup has the same ***sampling fraction.*** The sampling fraction is the proportion of the population that the researcher wants included in the sample. It is equal to the sample size, divided by the population size (n/N) (see Palys & Atchison, 2014).

However, if the researcher wants to be able to compare male and female officers or rural and urban officers (or a more complicated concept: male and female officers within the rural and urban areas), a ***disproportional stratification*** may be used instead to ensure that the researcher has enough members of the subgroups to allow between group comparisons. With a disproportional sample, the size of the each sample subgroup does not need to be proportionate to the population size of the group. In other words, two or more strata will have different sampling fractions (see Palys & Atchison, 2014).

Up to this point in our discussion of probability samples, we have 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 us say, for example, that you wish to conduct a study of bullying in high schools across Canada. Just imagine trying to create a list of every single high school student in the country. 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. Here is an example of when a cluster sampling technique would be suitable:

Example #2 – Cluster sampling

Perhaps you are interested in the workplace experiences of college instructors. Chances are good that obtaining a list of all instructors that work for Canadian colleges would be rather difficult. You would be more likely, without too much hassle, to come up with a list of all colleges in Canada. Consequently, you could draw a random sample of Canadian colleges (your cluster) and then draw another random sample of elements (in this case, instructors) from within the colleges you initially selected. Cluster sampling works in stages. In this example we sampled in two stages. As you might have guessed, sampling in multiple stages does introduce the possibility of greater error (each stage

is subjected to its own sampling error), but it is nevertheless a highly efficient method.

Now suppose colleges across the country were not willing to share their instructor lists? How might you sample then? Is it important that the instructors in your study are representative of all instructors? What happens if you need a representative sample, but you do not have a sampling frame? In these cases, ***multi-stage cluster sampling*** may be appropriate. This complex form of cluster sampling involves dividing the population into groups (or **clusters**). The researcher chooses one or more clusters at random and samples everyone within the chosen cluster (see Palys & Atchison, 2014).

Table 7.1 Four Types of Probability Samples

Samples type	Description
Simple Frame	Researcher randomly selects elements from sampling.
Systematic Frame	Researcher Selects every Kth element from sampling.
Stratified Frame	Researcher creates sub-groups then randomly selects from each.
Cluster	Researcher randomly selects clusters then randomly selects elements from clusters.

Nonprobability Sampling Techniques.

Nonprobability sampling refers to sampling techniques for which a person's (or event's or researcher's focus) likelihood of being selected for membership in the sample is unknown. Because we do not know the likelihood of selection, we do not know whether or not a nonprobability sample represents a larger population. Representing the population is not the goal with nonprobability samples, however 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. The following subsection, "Types of Nonprobability Samples," examines more closely the process of selecting research elements when drawing a nonprobability sample. But first, let us consider why a researcher might choose to use a nonprobability sample.

One instance might be at the design stage of a research project. For example, if you are conducting survey research, you may want to administer the survey to a few people who seem to resemble the people you are interested in studying in order to help work out kinks in the survey. You might also use a nonprobability sample at the early stages of a research project if you are conducting a pilot study or exploratory research. Researchers also use nonprobability samples in full-blown research projects. These projects are usually qualitative in nature, where the researcher's goal is in-depth, idiographic understanding rather than more general, nomothetic1 understanding. Evaluation researchers whose aim is to describe some very specific small group might use nonprobability sampling techniques. Researchers interested in contributing to our theoretical understanding of a phenomenon might also collect data from nonprobability samples. Researchers interested in contributing to social theories, by either expanding on them, modifying them, or poking holes in their propositions, might use nonprobability

sampling techniques to seek out cases that seem anomalous in order to understand how theories can be improved.

In sum, there are many instances in which the use of nonprobability samples makes sense. The next subsection will examine several specific types of nonprobability samples.

Nonprobability sampling techniques

Researchers use several types of nonprobability samples, including: purposive samples, snowball samples, quota samples, and convenience samples. While the latter two strategies may be used by quantitative researchers from time to time, they are more typically employed in qualitative research; because they are both nonprobability methods, we include them in this section of the chapter.

To draw a purposive sample, researchers begin with specific perspectives that they wish to examine in mind, and then seek out research participants who cover that full range of perspectives. For example, if you are studying students' level of satisfaction with their college or university program of study, you must include students from all programs, males and females, students of different ages, students who are working and those who are not, students who are studying online and those who are taking classes face-to-face, as well as past and present. While purposive sampling is often used when one's goal is to include participants who represent a broad range of perspectives, purposive sampling may also be used when a researcher wishes to include only people who meet very narrow or specific criteria.

Qualitative researchers sometimes rely on snowball sampling techniques to identify study participants. In this case, a researcher might know of one or two people he or she would like to include in the study, but then relies on those initial participants to help identify additional study participants. Thus,

the researcher's sample builds and becomes larger 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 a researcher wishes to study some stigmatized group or behaviour. Having a previous participant vouch for the trustworthiness of the researcher may help new potential participants feel more comfortable about being included in the study. Snowball sampling is sometimes referred to as chain referral sampling. One research participant refers another, and that person refers another, and that person refers another—thus a chain of potential participants is identified. In addition to using this sampling strategy for potentially stigmatized populations, it is also a useful strategy to use when the researcher's group of interest is likely to be difficult to find, not only because of some stigma associated with the group, but also because the group may be relatively rare.

When conducting quota sampling, a researcher identifies categories that are important to the 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 documents 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. While quota sampling offers the strength of helping the researcher account for potentially relevant variation across study elements, we must remember that such a strategy does not yield statistically representative findings. And while this is important to note, it is also often the case that we do not really care about a statistically representative sample, because we are only interested in a specific case.

Let us go back to a previous example of student satisfaction with their college or university course of study, to look at an example of how a quota sampling approach would work in such a study.

Example

Imagine you want to understand how student satisfaction varies across two types programs: the Emergency Services Management (ESM) degree program and the ESM diploma program. Perhaps you have the time and resources to interview 40 ESM students. Since you are interested in comparing the degree and the diploma program, you decide to interview 20 students from each program. In your review of literature on the topic before you began the study, you learned that degree and diploma experiences can vary by age of the students. Consequently, you decide on four important subgroup: males who are 29 years of age or younger, females who are 29 years of age or younger, males who are 30 years of age or older, and females who are thirty years of age or older. Your findings would not be representative of all students who enroll in degree or diploma programs at the college, or at other institutions; however, this is irrelevant to your purposes since you are solely interested in finding out about the satisfaction level of ESM students who are enrolled in either the ESM degree or diploma program.

Finally, convenience sampling is another nonprobability sampling strategy that is employed by both qualitative and quantitative researchers. To draw a convenience sample, a researcher simply collects data from those people or other relevant elements to which he or she has most convenient access. This method, also sometimes referred to as haphazard

sampling, is most useful in exploratory research. It is also often used by journalists who need quick and easy access to people from their population of interest. If you have ever seen brief interviews of people on the street on the news, you have probably seen a haphazard sample being interviewed. While convenience samples offer one major benefit—convenience—we should be cautious about generalizing from research that relies on convenience sampling.

The following table provides a summary of the main differences between probability and non-probability sampling.

Basis of comparison	Probability sampling	Non-probability sampling
Definition	A sampling technique that is used with subjects of the population have an equal chance of being selected as part of a representative sample. Referred to as random sampling.	A sampling technique that is used with subjects of the population when it is not known which individual will be selected as part of the sample. Referred to as non-random sampling.
How participants are selected	Random sampling	Arbitrarily or logically
Opportunity for participants to be selected	Fixed and known	Not known
Research	Conclusive findings	Exploratory findings
Inference or interpretation	Statistical	Analytical
Hypothesis	Tested	Developed
Sampling methods	Simple random sampling; systematic sampling; stratified sampling; cluster sampling	Purposive sampling; snowball sampling; quota sampling; convenience sampling
Type of research	Quantitative	Quantitative and qualitative
Adapted from Surbhi (2016). Differences between probability and non-probability sampling. Retrieved from https://keydifferences.com/difference-between-probability-and-non-probability-sampling.html		

You will recall in Section 6.2 we discussed random assignment, which is different than random sampling. The following matrix will help differentiate the two.

	Random assignment	No random assignment	
Random sampling	Causal inference, generalized to entire population	No causal inference, correlation statement generalized to entire population	Conclusions generalizable to entire population
No random sampling	Causal inference, only to the sample	No causal inference, correlation statement only to the sample	Conclusions not generalizable to population – sample only
	Causation (one thing causes another)	Correlation (there is a relationship)	

Adapted from Cetinkaya-Rundel, M. (n.d.). Random sampling vs. assignment. Retrieved ffrom https://www2.stat.duke.edu/courses/Fall12/sta101.001/resources/lecturettes/random_sample_assignment.pdf

A Word of Caution about Sampling: Questions to Ask about Samples

We read and hear about research results so often that we might overlook the need to ask important questions about where research participants come from and how they are identified for inclusion in a research project. It is easy to focus only on findings when we are busy and when the really interesting stuff is in a study's conclusion, not its procedures. Now that you have some familiarity with the variety of procedures for selecting study participants, you are equipped to ask some very important questions about the findings you read, and to be a more responsible consumer of research.

7.4 Who Sampled, How Sampled, and for What Purpose?

If you have taken an introductory psychology or sociology class at a large university, probably you have been a participant in someone's research. Social science researchers on college campuses have a luxury that researchers elsewhere may not share—they have access to many (presumably) willing and able human guinea pigs. But that luxury comes at the cost of 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). Further, the study found that two-thirds of the work that derived from US samples published in the Journal of Personality and Social Psychology were based on samples made up entirely of American undergraduates taking psychology courses.

These findings certainly beg the question: what do we actually learn from social scientific studies and about whom do we learn it? That is exactly the concern raised by Henrich, Heine, and Norenzayan (2010), authors of the article "The Weirdest People in the World?" In their article, Henrich et al. point out that behavioural 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, many robust findings about the nature of human behaviour when it comes to fairness, cooperation, visual perception, trust,

and other behaviours, are based on studies that excluded participants from outside the United States, and sometimes excluded anyone outside the college classroom (Begley, 2010). This raises questions about what we really know about human behaviour as opposed to U.S. resident or U.S. undergraduate behaviour. 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 that are being made about to whom those studies apply.

In the preceding discussion, the concern is with researchers making claims about populations other than those from which their samples were drawn. A related, but slightly different, potential concern is sampling bias. Bias in sampling occurs when the elements selected for inclusion in a study do not represent the larger population from which they were drawn. For example, a poll conducted online by a newspaper asking for the public's opinion about some local issue will certainly not represent the public since those without access to computers or the internet, those who do not read that paper's website, and those who do not have the time or interest will not answer the question.

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. So how do you know when you can count on results that are being reported? While there might not be any magic or always-true rules you can apply, there are a couple of things you can keep in mind as you 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 selection technique, but if only a handful of the people sampled actually respond to the survey, the researcher will have to be very careful about the claims he can make about his survey findings.

- Second, researchers may be drawn to talking about implications of their findings as though they apply to some group other than the population actually sampled. Though this tendency is usually quite innocent, it is all too tempting a way to talk about findings; consumers of those findings have a responsibility to be attentive to this sort of (likely unintentional) bait and switch.
- Third, keep in mind that a sample that allows 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 non-representative sample, for example, we can learn about the strength of our social theories by comparing relevant aspects of social processes.

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 read, research results.

Summary

Summary

Researchers simply do not have the resources to draw data from all sources, at all times, and in all places. Therefore, they must make important decisions regarding their sources. This chapter has focused on sampling methods, including the most popular probabilistic and non-probabilistic techniques. It concluded by discussing the importance of thinking about who is sampled, when, how, and for what purposes, as well as the importance of ensuring the sample actually reflects the population. The next step in the research process is to determine which data collection methods are best to help you answer you research questions. Data collection is the focus of the next chapter, Chapter 8

References

Arnett, J. J. (2008). The neglected 95%: Why American psychology needs to become less American. *American Psychologist*, *63*(7), 602–614. doi:10.1037/0003-066X.63.7.602

Begley, S. (2010, July 23). The trouble with using undergrads for research. *Newsweek*. Retrieved from https://www.newsweek.com/trouble-using-undergrads-research-74633

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*(2/3), 61–135. doi:10.1017/S0140525X0999152X

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Retrieved from https://resources.saylor.org/wwwresources/archived/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

CHAPTER 8: DATA COLLECTION METHODS: SURVEY RESEARCH

Learning Objectives

- Define survey research.
- Differentiate between a survey and a questionnaire.
- Identify the strength and weakness of survey research.
- Distinguish between the various types of surveys.
- Identify the various ways to administer a survey, and understand the limitations of each survey method of administration.
- Describe the characteristics of an effective survey question.
- Describe the characteristics of an effective survey.

In this chapter we will cover the collection of research data through the survey methods. It is most likely that you have participated in a survey at one time or another; accordingly, you probably have a fairly good idea of what a survey is. However, constructing a good survey requires more technique than

meets the eye. Survey design takes a great deal of thoughtful planning, and often many rounds of revision, to get it just right, but it is worth the effort. As you will learn in this chapter, there are many benefits to choosing survey research as your method of data collection; specifically: what a survey is, what the benefits and drawbacks of this method are, how to construct a survey, and what to do with survey data once you have it in hand.

8.1 Survey Research: What Is It and When Should It Be Used?

Survey research is a quantitative method whereby a researcher poses a set of predetermined questions to an entire group or sample of individuals. Survey research is an especially useful approach when a researcher aims to describe or explain features of a very large group or groups. This method may also be used as a way of quickly gaining some general details about a population of interest, to help prepare for a more focused, in-depth study using time-intensive techniques such as in-depth interviews or field research. In this case, a survey may help a researcher identify specific individuals from whom or locations from which to collect additional data. As is true of all methods of data collection, survey research is better suited to answering some kinds of research question than others.

8.2 Understanding the Difference between a Survey and a Questionnaire

Before we move on to look at the strengths and weaknesses of survey research, we will take a step back to make sure you understand the difference between the concepts of surveys and questionnaires. Both surveys and questionnaires use a series of questions to gather information, however the purpose of the research and the treatment of the data after it is collected distinguish a questionnaire from a survey, e.g.:

- A questionnaire is a set of written questions used for collecting information for the benefit of one single individual.
- A survey is a process of gathering information for statistical analysis to the benefit of a group of individuals (a research method).
- A questionnaire does not aggregate data for statistical analysis after the data is collected, whereas survey responses are aggregated to draw conclusions.

A questionnaire is the set of questions that are used to gather the information, whereas a survey is a process of collecting and analyzing data. If the collected data will not be aggregated and is solely for the benefit of the respondent, then that is a questionnaire. If the data being collected with be aggregated and used for analytical purposes that is a survey (McKay, 2015). Sometimes questionnaire data is aggregated; it then becomes

a survey, sometimes without the participant's knowledge. For example, the bank where you filled in a loan application aggregates the data from all loan applications in the year 2017 and presents the information to shareholders in aggregated form at its 2018 annual general meeting. The bank has taken questionnaire data and aggregated it into survey data.

Understanding the difference between a survey and a questionnaire.

BASIS FOR COMPARISON	SURVEY	QUESTIONNAIRE
Meaning	Survey refers to the collection, recording and analysis of information on a particular subject, an area or a group of people.	Questionnaire implies a form containing a list of ready-made questions, delivered to people for obtaining statistical information.
What is it?	Process of collecting and analysing data	Instrument of data collection
Time	Time consuming process	Fast process
Use	It is conducted on the target audience.	It is distributed or delivered to the respondents.

Adapted from Surbhi, S. (2016). Difference between survey and questionnaire. Retrieved from https://keydifferences.com/difference-between-survey-and-questionnaire.html

8.3 Pros and Cons of Survey Research

Survey research, as with all methods of data collection, comes with both strengths and weaknesses. The following sections will examine both.

Strengths of survey method

Researchers employing survey methods to collect data enjoy a number of benefits. First, surveys are an excellent way to gather lots of information from many people, and they 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 7 "Sampling". Of all the data-collection methods described in this text, survey research is probably the best method to use when you hope to gain a representative picture of the attitudes and characteristics of a large group.

Survey research also tends to be a reliable method of inquiry. This is because surveys are standardized; the same questions, phrased in exactly the same way, are posed to participants. Other methods, such as qualitative interviewing, which you will learn about in Chapter 10 "Qualitative Data Collection Methods", do not offer the same level of consistency that a quantitative survey offers. One strength of survey methodology is its potential to produce reliable results. 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.

The versatility of survey research is also an asset. Surveys are used by all kinds of people in all kinds of professions. The versatility offered by survey research means that understanding how to construct and administer surveys is a useful skill to have for all kinds of jobs. For example, lawyers often use surveys in their efforts to select juries. Social service and other organizations (e.g., churches, clubs, fundraising groups, and activist groups) use them to evaluate the effectiveness of their efforts. Businesses use them to learn how to market their products. Governments use them to understand community opinions and needs, and politicians and media outlets use surveys to understand their constituencies.

The following are benefits of survey research:

1. Cost-effectiveness.
2. Generalizability.
3. Reliability.
4. Versatility.

Weaknesses of survey method

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 they can ask any number of questions on any number of topics, the fact that the survey researcher is generally stuck with a single instrument for collecting data (the questionnaire) means that surveys could also be described as inflexible. For example, suppose you mail a survey 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 is too

late to change the question for the respondents who have not yet returned their surveys (however, if you conduct a pilot study first, you should avoid such a situation). When conducting in-depth interviews, on the other hand, a researcher can provide respondents further explanation if they are confused by a question, and can tweak their questions as they learn more about how respondents seem to understand them.

Validity 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 be as valid as results obtained using methods of data collection that allow a researcher to more comprehensively examine the topic being studied.

Potential drawbacks to survey research include:

1. Inflexibility; and
2. Validity.

8.4 Types of Surveys

Surveys come in many varieties in terms of both *time*—when or with what frequency a survey is administered—and *administration*—how a survey is delivered to respondents. This section will examine types of surveys that exist in terms of both time and administration.

With regards to time, there are two main types of surveys: cross-sectional and longitudinal. ***Cross- sectional surveys*** are those that are administered at just one point in time. These surveys offer researchers a sort of snapshot in time, and give you an idea about how things are for your respondents at the particular point in time that the survey is administered. One problem with cross-sectional surveys is that the events, opinions, behaviours, and other phenomena that such surveys are designed to assess do not generally remain stagnant. Therefore, generalizing from a cross-sectional survey can be tricky; perhaps 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 afterwards. Cross-sectional surveys have many important uses; however, researchers must remember what they have captured by administering a cross-sectional survey: a snapshot of life at the time the survey was administered.

One way to overcome this occasional 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 will discuss all three types here, along with another type of survey called retrospective. Retrospective surveys fall somewhere in between cross-sectional and longitudinal surveys.

The first type of longitudinal survey is called a ***trend survey***. Researchers conducting trend surveys are interested in how people's inclinations change over time, i.e., trends. The Gallup opinion polls are an excellent example of trend surveys. You can read more about Gallup on their website: http://www.gallup.com/Home.aspx. To learn about how public opinion changes over time, Gallup administers the same questions to people at different points in time.

The second type of longitudinal study is called a ***panel survey***. Unlike in a trend survey, the same people participate in a panel 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 people live, when they move, and when they die, takes resources that researchers often do not have. When those resources are available, however, the results can be quite powerful.

Another type of longitudinal survey is a ***cohort survey***. In a cohort survey, a researcher identifies some category of people that are of interest and then regularly surveys people who fall into that category. The same people do not necessarily participate from year to year, but all participants must meet whatever categorical criteria fulfill the researcher's primary interest. Common cohorts that may be of interest to researchers include: people of particular generations or those who were 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 life experience in common.

All three types of longitudinal surveys permit a researcher to make observations over time. This means that if the behaviour or other phenomenon that interests the researcher changes, either because of some world event or because people age, the researcher will be able to capture those changes.

Table 8.1 Three 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 some category of people that are of interest and then regularly surveys people who fall into that category.

Finally, ***retrospective surveys*** are similar to other longitudinal studies in that they 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. By having respondents report past behaviours, 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.

When or with what frequency a survey is administered will determine whether your survey is cross-sectional or longitudinal. While longitudinal surveys are certainly preferable in terms of their ability to track changes over time, the time and cost required to administer a longitudinal survey can be prohibitive. As you may have guessed, the issues of time described here are not necessarily unique to survey research. Other methods of data collection can be cross-sectional or longitudinal—these are really issues of research design. We have placed our discussion of these terms here because they are most commonly used by survey researchers to describe the type of survey administered. Another aspect of survey

administration deals with how surveys are administered and we will examine that next.

8.5 Administration of Surveys

Surveys vary not just in terms of when, but also how they are. One common way to administer surveys is in the form of self-administered questionnaires, in which a research participant is given a set of questions, in writing, to which he or she is asked to respond.

Hard copy self-administered questionnaires may be delivered to participants in person or via regular mail. Perhaps you have taken a survey that was given to you in person. If you are ever again asked to complete a survey in a similar setting, it might be interesting to note how your perspective on the survey and its questions could be shaped by the knowledge you are gaining about survey research in this chapter.

Researchers may also deliver surveys in person by going from door to door and either asking people to fill them out right away or making arrangements for the researcher to return to pick up completed surveys. Though the advent of online survey tools has made door-to-door delivery of surveys less common.

If you are not able to visit each member of your sample personally to deliver a survey, you might consider sending your survey through the mail. While this mode of delivery may not be ideal (imagine how much less likely you would be to return a survey that did not come with the researcher standing on your doorstep waiting to take it from you), sometimes it is the only available or the most practical option. This may not be the most ideal way of administering a survey because it can be difficult to convince people to take the time to complete and return the survey.

Often survey researchers who deliver their surveys via mail provide some advance notice to respondents about the survey,

to get people thinking about 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).

Online surveys are pretty common today. They are relatively cheap, and may be quicker than knocking on doors or waiting for mailed surveys to be returned. To deliver a survey online, a researcher may subscribe to a service that offers online delivery, or use some free delivery. SurveyMonkey offers both free and paid online survey services (http://www.surveymonkey.com). One advantage to using a service like SurveyMonkey, aside from the already mentioned advantages of online delivery, is that results can be provided to you in formats that are readable by data analysis programs such as SPSS, Systat, and Excel. This saves you the step of having to manually enter data into your analysis program, as you would if you administered your survey in hard copy format.

Many of the suggestions provided for improving the response rate on a hard copy questionnaire apply to online questionnaires as well. One difference, of course, is that the sort of incentives one can provide in an online format differ from those that can be given in person or sent through the mail. But this does not mean that online survey researchers cannot offer completion incentives to their respondents. Incentives can include a gift card or having your name entered into a draw for prize.

Sometimes surveys are administered by having a researcher actually pose questions directly to respondents rather than having respondents read the questions on their own. These types of surveys are a form of interview. In Chapter 10 "Qualitative Data Collection Approaches" we will examine

interviews of the survey (or quantitative) type as well as qualitative interviews. Interview methodology differs from survey research in that data are collected via a personal interaction. Because asking people questions in person comes with guidelines and concerns that differ from those associated with asking questions on paper or online, we reserve our discussion of those guidelines and concerns for Chapter 10.

Whatever delivery mechanism you choose, keep in mind that there are pros and cons to each of the options described here. While online surveys may be faster and cheaper than mailed surveys, can you be certain that every person in your sample will have the necessary computer hardware, software, and internet access in order to complete your online survey? On the other hand, mailed surveys may be more likely to reach your entire sample, but also more likely to be lost and not returned. The choice of the best delivery mechanism depends upon a number of factors, including your resources, the resources of your study participants, and the time you have available to distribute surveys and wait for responses. Understanding the characteristics of your study's population is key to identifying the appropriate mechanism for delivering your survey.

8.6 Designing Effective Survey Questions

We have considered several general points about surveys, including some of their pros and cons, as well as when to use surveys, and how often and in what ways to administer them. In this section we will get more specific and take a look at how to pose understandable questions that will yield useable data and how to present those questions on your survey.

Asking Effective Survey Questions.

The first thing you need to do in order to write effective survey questions is to identify what exactly it is that you wish to know. While that should go without saying, we cannot stress enough how easy it is to forget to include important questions when designing a survey. For example, suppose you want to understand how students at your school made the transition from high school to college. You wish to identify which students were comparatively more or less successful in this transition and which factors contributed to students' success or lack thereof. To understand which factors shaped successful students' transitions to college, you will need to include questions in your survey about all the possible factors that could contribute. Consulting the literature on the topic will certainly help, but you should also take the time to do some brainstorming on your own and to talk with others about what they think may be important in the transition to college. Perhaps time or space limitations will not allow you to include every single item you have come up with, so you will need to

think about ranking your questions to be sure to include those that you view as most important.

Although we have stressed the importance of including questions on all topics you view as important to your overall research question, you do not want to take an everything-but-the-kitchen-sink approach by uncritically including every possible question that occurs to you. Doing so puts an unnecessary burden on your survey respondents. Remember that you have asked your respondents 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 view as important.

Once you have identified all the topics about which you would like to ask questions, you will need to actually write those questions. 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 succinct as possible. The best way to show your appreciation for your respondents´ time is to not waste it. Ensuring that your questions are clear and not overly wordy will go a long way toward showing your respondents the gratitude they deserve.

To properly value respondents' time, make sure that every question you pose will be ***relevant*** to every person you ask to complete your survey. This means two things: first, that respondents have ***knowledge*** about your survey topic, and second, that respondents have ***experience*** with the events, behaviours, or feelings you are asking them to report. In our example of the transition to college, heeding the criterion of relevance would mean that respondents must understand what exactly you mean by "transition to college" (if you are going to use that phrase in your survey) and have actually experienced the transition to college themselves.

When developing survey questions, a researcher must consider the following aspects:

Context effects: This can be a function of funneling or be inadvertent, but questions that are asked can prime (i.e., make more salient) certain views or thoughts that then impact the way respondents answer subsequent questions. For example, if we ask you a number of questions about harm reduction and the Insite Safe Injection Site, and then ask you whether you support the Safe Injection Site, you may be more likely to support the site than if I had asked you several questions about crime in the area of the site before asking you if you support the site.

Context appropriate wording: It is important that the wording you choose is appropriate for the people who are going to be answering your questions. You should not ask people questions they cannot understand due to their age, or language barriers (including jargon). Use vocabulary appropriate for the people who are answering your survey.

Minimizing bias: Questions with loaded terms (e.g., adjectives like disgusting, dangerous, or wonderful; and terms like always or never) and non-neutral wording should be avoided. These questions ultimately lead people to the "correct" answer. The tone of the question will also impact how people answer. People answering the questions should not feel judged for their response or their opinion. If they do, they are less likely to answer the question honestly; instead, they will answer the question the way they think you want them to respond.

Ambiguity: Questions can be ambiguous in many ways. This is one area that can benefit from pilot testing (or pre-testing) your questions to determine which questions can be interpreted differently from your intended meaning. In particular, use of words like "often" or "sometimes" can result in different interpretations. However, even words that appear to be clear to the researcher can be misinterpreted by the respondents and make the question difficult for them to answer. Acronyms can also make questions difficult to answer

if they are unknown to the respondents. As noted above, context appropriate wording to the audience responding to the questions should be considered; thus, acronyms are sometimes appropriate.

Meaningless responses: People can and do respond to questions about things about which they have no knowledge. As a researcher, you want responses by people who have some knowledge of the subject or ability to meaningfully answer the question.

Double-barreled questions: This type of question should be avoided at all costs – essentially this is a question where there is more than one question within it. For example: Do you enjoy biking and hiking in your free time? If a respondent enjoys biking but not hiking, how do they respond?

If you decide that you do wish to pose some questions about matters with which only a portion of respondents will have had experience, it may be appropriate to introduce a filter question into your survey. A ***filter question*** is designed to identify some subset of survey respondents who are asked additional questions that are not relevant to the entire sample.

There are some ways of asking questions that are bound to confuse survey respondents. Researchers should take great care to avoid these kinds of questions. These include: questions that pose double negatives, those that use confusing or culturally specific terms, and those that ask more than one question but are posed as a single question. Any time respondents are forced to decipher questions that utilize two forms of negation, confusion is bound to ensue. In general, avoiding negative terms in your question wording will help to increase respondent understanding. 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).

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 favourable light. 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. We all know that cheating on exams is wrong, so it may be difficult to get people to admit to cheating on an exam in 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 behaviour. Another way to avoid problems of social desirability is to try to phrase difficult questions in the most benign way possible. Babbie (2010) 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.

Finally, it is important to get feedback on your survey questions in a pre-test, 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 are 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 order to pose effective survey questions, researchers should do the following:

1. Identify what it is they wish to know.
2. Keep questions clear and succinct.
3. Make questions relevant to respondents.
4. Use filter questions when necessary.
5. Avoid questions that are likely to confuse respondents,

such as those that use double negatives or culturally specific terms, or pose more than one question in the form of a single question (double-barreled question).

6. Imagine how they would feel responding to these questions themselves.
7. Get feedback, especially from people who resemble those in the researcher's sample.

8.7 Response Options

While posing clear and understandable questions in your survey is certainly important, so is providing respondents with unambiguous response options. Response options are the potential answers that you provide to the people taking your survey. Generally, respondents will be asked to choose a single (or best) response to each question you pose, though certainly it makes sense in some cases to instruct respondents to choose multiple response options. One caution to keep in mind when accepting multiple responses to a single question, however, is that doing so may add complexity when it comes to tallying and analyzing your survey results.

Offering response options assumes that your questions will be ***closed-ended*** questions. In a quantitative written survey, which is the type of survey we have been discussing here, chances are good that most, if not all, your questions will be closed-ended. This means that you, the researcher, will provide respondents with a limited set of options for their responses. To write an effective closed-ended question, there are a couple of guidelines worth following. First, be sure that your response options are ***mutually exclusive***. For example, look at the age categories depicted in Examples 1 & 2.

Mutually Exclusive Example 1

How old are you?

- 19-29

- 29-39
- 39-49
- 49-59
- 59 or older

Mutually Exclusive Example 2

How old are you?

- 20-29
- 30-39
- 40-49
- 50-59
- 60 or older

What do you notice in Example #1? If I am 39 years old, do I choose option 2 or option 3? In other words, the options are not mutually exclusive. If you look at Example #2, you will see that the options are now mutually exclusive. Another thing to remember is to keep the span of numbers the same for each category. For example, with the exception of the last category, all other categories should represent the same number of years. In Example #2, all choices represent a span of 10 years.

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. Rather, 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 level of physical activity on a weekly basis, an open-ended question could ask respondents what physical activities they participate in. 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.

Other things to avoid when it comes to response options include fence-sitting and floating. ***Fence- sitters*** are respondents who choose neutral response options, even if they have an opinion. This can occur if respondents are given, e.g., five rank-ordered response options, such as strongly agree, agree, no opinion, disagree, and strongly disagree. Some people will be drawn to respond "no opinion" even if they have an opinion, particularly if their true opinion is the non-socially desirable opinion. ***Floaters***, on the other hand, are those that choose a substantive answer to a question when really they do not understand the question or do not have an opinion. If a respondent is only given four rank-ordered response options, such as strongly agree, agree, disagree, and strongly disagree, those who have no opinion have no choice but to select a response that suggests they 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 actually 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 all respondents will be familiar

with every topic in their survey. In this case, perhaps it is acceptable to force respondents to choose an opinion. There is no always-correct solution to either problem. Table 8.2 provides examples of the various types of research questions, including their content, structure and wording.

Table 8.2 Survey question examples: Content, Structure and Wording

Open Ended Question	Closed Ended Version	Type of Closed Ended Question
1. What do you like most about your job?	Rate the following statement: I like my job 1 strongly agree2 agree ☐Strongly agree ☐agree ☐neither agree nor disagree ☐disagree ☐strongly disagree	Rating Scale – Likert
2. What is your income?	How much did you earn in 2018? 1. **0-$20,000** 2. **$20,001 – $40,000** 3. **$40,001 – $60,000** 4. **$60,001 – 80,000** 5. **$80,001 or more** OR What was your income for 2018?	Categorical response Single Response
3. What do you think of the Vancouver Police Department?	How would you rate the Vancouver Police Department on the following dimensions? Fair_____ unfair Respectful _____ disrespectful Knowledgeable _____ Lacking Knowledge	Semantic Differential

Question Wording Examples

Question	Critique	Type of issue
1. Agree or Disagree: Hookers on the streets are a threat to public safety	The use of the term “hookers” is inflammatory and indicates to the respondent what the “expected” response should be.	Loaded terms
2. Agree or Disagree: I support the legalization of street drugs and their taxation	This question asks two questions (legalization and taxation). Respondents who feel differently about these issues will have difficulty answering the question. It also is ambiguous – what is a street drug, and what is meant by legalization and taxation? Not everyone knows what legalization is, and taxation may be applied in many ways and used in different ways.	Double Barreled Ambiguous language
3. Agree or Disagree: I believe that the VPD should increase the number of NCOs by increasing the number of Cpls.	This question assumes you know what VPD, NCO and Cpls stand for. It also asks two questions. You may believe the number of NCOs should increase but not by increasing the number of Cpls.	Use of Acronyms Double Barreled

4. Agree or Disagree: Canada has good immigration policies	This question could be answered by anyone, but does not indicate whether they have any knowledge of the topic. This might be a good question after asking a series of question to determine that the person has knowledge first. It is also somewhat ambiguous – what does “good” mean in this context?	Ambiguous language

8.8 Designing Effective Surveys

Designing surveys takes some thought. In addition to constructing quality questions and posing clear response options, you will also need to think about how to present your written questions and response options to survey respondents. In this section we will discuss the sorts of things you should think about as you prepare to present your well-constructed survey questions.

One of the first things to do once you feel confident about the set of survey questions you have developed is to group those questions thematically. In our example of the transition to college, perhaps we would have a few questions asking about study habits, others focused on friendships, and still others on exercise and eating habits. Those may be the themes around which we organize our questions. Or perhaps it would make more sense to present questions about precollege life

and habits, then a series of questions about life after beginning college. Be deliberate about how you present your questions to respondents.

Once you have grouped similar questions together, you will 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 encourage respondents continue (Babbie, 2010; Palys & Atchison, 2014), i.e., do not bore respondents, but do not scare them away either. There is 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 survey may lead respondents to think the survey is boring, unimportant, and not something they want to bother completing. They may also feel uncomfortable answering personal questions. On the other hand, if your survey deals with some very sensitive or difficult topic, such as child sexual abuse or other criminal activity, you do not want to scare respondents away or shock them by beginning with your most intrusive questions.

The order in which questions are presented on a survey is best determined by the unique characteristics of the research. The researcher, hopefully in consultation with people who are willing to provide you with feedback, can determine how best to order the questions. It helps to think about the unique characteristics of the topic, the questions, and, most importantly, the sample. Keeping in mind the characteristics and needs of the people who will be asked to complete the survey should help guide the researcher and determine the most appropriate order in which to present the questions.

Researchers also need to consider the time it will take respondents to complete the survey. 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 upon several factors. First, what

do 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 including many questions, do your best to keep the survey as brief as possible. Any hint that you have thrown in several useless questions just for the sake of throwing them in 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 survey? If you are studying college students, asking them to use their precious fun time away from studying to complete your survey may mean that they will not want to spend more than a few minutes on it. However, if you have the endorsement of a professor who is willing to allow you to administer your survey in class, students may be willing to give you a little more time (though perhaps the professor will not be willing). The time that survey researchers ask respondents to spend on surveys varies greatly.

As with question order, there is no clear-cut, always-correct answer about survey length, but the general rule is to try to keep the time allotted to complete it under 15 minutes (Babbie, 2010). Consider the unique characteristics of your study and your sample in order to determine how long to make your survey. A good way to estimate the time it will take respondents to complete your survey is through pre-testing. Pre-testing allows you to get feedback on your survey, so you can improve it before you actually administer it. Pre-testing can be expensive and time consuming if you wish to test your survey on a large sample of people who very much resemble the sample to whom you will eventually administer the finalized version of your survey. However, you can learn a lot

and make great improvements to your survey simply by pre-testing with a small number of people to whom you have easy access (perhaps you have a few friends you could ask). By pre-testing your survey you can find out how understandable your questions are, get feedback on question wording and order, find out whether any of your questions are exceptionally boring or offensive, and learn whether or not there are places where you should have included filter questions, to name just a few of the benefits. You can also time pre-testers as they take your survey. Ask them to complete the survey as though they were actually members of your sample. This will give you a good idea about what sort of time estimate to provide respondents when you administer your actual survey, and whether you have some wiggle room to add additional items or need to cut a few items.

Your survey should also be attractive. 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); leave a reasonable amount of space between items; and make sure all instructions are exceptionally clear. Think about books, documents, articles, or web pages that you have read yourself—which were relatively easy to read and why? Try to mimic those features in the presentation of your survey questions

Summary

Summary

As you can see, there are a lot of things to consider when putting together a survey or interview. The questions you ask as a researcher, and how you ask them, significantly impact the outcome of your survey. Ensuring that the content reflects the objectives of your study is only one aspect to consider. Researchers must also ensure that the wording of the questions they ask maximize the potential to collect information that accurately reflects the respondents' beliefs, attitudes or opinions, without biasing the responses..

It is also very important that, where possible, you pilot test your questions. It can be difficult for a researcher who designed the questions to identify ambiguities or context effects, etc., in the survey, so having other sets of eyes testing the survey can be very informative. It is very easy for a survey to end up with a "bad" question that must be thrown out of the analysis; any methods to minimize this should be utilized.

Though this module has focused on a very specific use of surveys/interviews, these are lessons that should be kept in mind constantly when working in your profession. Think about how the types of questions you ask and the way you ask them can lead you to different

conclusions. This might mean that you choose an ineffective treatment due to a wrong diagnosis, or identify the wrong suspect in an investigation. Focusing on the objective (i.e., treating the patient, identifying and arresting a suspect, identifying the cause of a fire) will keep you focused on the types of questions to ask and how to ask them.

Key Takeaways

Takeaways

- ***Survey research*** is a quantitative method whereby a researcher poses some set of predetermined questions to an entire group, or sample, of individuals; there are many types of surveys, including: cross-sectional, longitudinal, trend, panel, cohort, and retrospective.
- ***Cross-sectional surveys*** are those that are administered at just one point in time, whereas, ***longitudinal surveys*** are those that enable a researcher to make observations over an extended period of time. Three of the more common types include: trend, panel and cohort surveys. ***Retrospective surveys*** are similar to longitudinal surveys in that they deal with changes over time, but, like a cross-sectional study, they are administered only once.
- ***Administration of surveys*** can be produced in hard copy format and either mailed or administered in person. Surveys can also be sent through the internet.
- ***Survey questions*** are usually close-ended and should be designed so that they are relevant, and within the knowledge and experience of the participant.

- ***Close-ended questions*** provide respondents with a limited set of options for their responses and are the most common type of survey questions. However, surveys often include ***open-ended*** questions too. These types of questions do not include response options. Rather, respondents are asked to reply to the question in their own way, using their own words.
- Effective survey questions are not double-barreled, provide mutually exclusive choice options, and avoid negative language or regionally or culturally specific language.
- ***Social desirability*** refers to the idea that respondents will try to answer questions in a way that presents them in a favourable light.
- A ***filler question*** is designed to identify some subset of survey respondents who are asked additional questions that are not relevant to the entire sample.

References

References

Babbie, E. (2010). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.

McKay, S. (2015, April 13). *Are you using a questionnaire or survey to collect data?* Retrieved from https://www.surveygizmo.com/resources/blog/taking-the-question-out-of-questionnaires/

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Saylor Academy. (2012). *Principles of sociological inquiry; Qualitative and quantitative methods*. Washington, DC: Saylor Academy. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

CHAPTER 9: ANALYSIS OF SURVEY DATA

Learning Objectives

- Identify the different types of analysis for survey data.
- Define univariate analysis.
- Identify the three measures of central tendency.
- Define bivariate analysis.
- Explain what a contingency table is and how it is used.

This open source text is primarily focused on designing research, collecting data, and becoming a knowledgeable and responsible consumer of research. We will not spend as much time on data analysis, or what to do with our data once we have designed a study and collected it. However, we will spend some time in each of our data-collection chapters describing some important basics of data analysis that are unique to each method. Entire textbooks have been written entirely on data analysis. In fact, if you have ever taken a statistics class, you already know much about how to analyze quantitative survey data. For these purposes, we will go over a few basics that can get you started as you begin to think about turning all those completed surveys into findings that you can share.

9.1 From Completed Survey to Analyzable Data

It can be very exciting to receive those first few completed surveys back from respondents. Hopefully you will get more than a few back, however once you have a handful of completed questionnaires, your feelings may go from initial euphoria to dread. Data are fun and can also be overwhelming. The goal with data analysis is to be able to condense large amounts of information into usable and understandable chunks. Here we will describe just how that process works for survey researchers.

As mentioned, the hope is that you will receive a good portion of completed, readable and usable surveys. The number of completed surveys you receive divided by the number of surveys you distributed is your response rate. For example, suppose your sample included 100 people and you sent surveys to each of those people. It would be wonderful if all 100 returned fully completed surveys, but the chances of that happening are about zero. If you are lucky, perhaps 75 or so will return completed surveys. In this case, your response rate would be 75% (75 divided by 100). Though response rates vary, and researchers do not always agree about what makes a good response rate, having three-quarters of your surveys returned would be considered good, even excellent, by most survey researchers.

Lots of research has been done on how to improve a survey's response rate. We covered some of these previously, but suggestions include personalizing surveys by addressing them to specific respondents rather than to some generic recipient

such as “madam” or “sir”; enhancing the survey’s credibility by providing details about the study, contact information for the researcher, and perhaps partnering with agencies likely to be respected by respondents such as universities, hospitals, or other relevant organizations; sending out pre-survey notices and post-survey reminders; and including some token of appreciation with mailed surveys, even if small, such as one dollar.

The major concern with response rates is that a low rate of response may introduce ***non-response bias*** into a study’s findings. What if only those who have strong opinions about your study topic return their surveys? If that is the case, you may well find that your findings don’t at all represent how things really are or, at the very least, you are limited in the claims you can make about patterns found in your data.

Regardless of your survey’s response rate, the major concern of survey researchers, once they have their nice, big stack of completed surveys, is condensing their data into manageable and analyzable bits. One major advantage of quantitative methods such as survey research is that they enable researchers to describe large amounts of data because they can be represented by and condensed into numbers. In order to condense your completed surveys into analyzable numbers, you will first need to create a codebook. A codebook is a document that outlines how a survey researcher has translated her or his data from words into numbers. An excerpt from the codebook, related to a survey by Saylor Academy (2012) regarding older workers, can be seen in Table 9.1, “Codebook excerpt from survey of older workers”. As you will see in the table, in addition to converting response options into numerical values, a short variable name is given to each question. This shortened name comes in handy when entering data into a computer program for analysis.

Table 9.1 Codebook excerpt from survey of older workers

Variable #	Variable Name	Questions	Options
11	FINSEC	In general, how financially secure would you say you are?	1 = Not at all secure 2 = Between not at all and moderately secure 3 = Moderately secure 4 = Between moderately secure and very secure 5 = very secure.
12	FINFAM	Since age 62, have you ever received money from family members or friends to help make ends meet?	0 = No 1 = Yes
13	FINFAMT	If yes, how many times?	1 = 1 or 2 times 2 = 3 or 4 times 3 = 5 times or more
14	FINCHUR	Since age 62, have you ever received money from a church or other organization to help make ends meet?	0 = No 1= Yes

For those who will be conducting manual data entry, there probably is not much to be said about this task that will make you want to perform it other than pointing out the reward of having a database of your very own analyzable data. We will not get into too many of the details of data entry, but we will mention a few programs that survey researchers may use to analyze data once it has been entered. The first is SPSS, or the Statistical Package for the Social Sciences

(http://www.spss.com/). SPSS is a statistical analysis computer program designed to analyze just the sort of data quantitative survey researchers collect. It can perform everything from very basic descriptive statistical analysis to more complex inferential statistical analysis. SPSS is touted by many for being highly accessible and relatively easy to navigate (with practice). Excel, which is far less sophisticated in its statistical capabilities, is relatively easy to use and suits some researchers' purposes just fine.

In analyzing data, it is important to differentiate between aggregate data and disaggregating data.

Aggregate data refers to numerical or non-numerical information that is (1) collected from multiple sources and/or on multiple measures (variables or individuals) and (2) compiled into data summaries or summary reports to examine trends or statistical analysis. On the other hand, disaggregate data breaks down aggregated data into component parts or smaller units of data.

9.2 Identifying Patterns

Data analysis is about identifying, describing, and explaining patterns. ***Univariate analysis*** is the most basic form of analysis that quantitative researchers conduct. In this form, researchers describe patterns across just one variable. Univariate analysis includes frequency distributions and measures of central tendency. A frequency distribution is a way of summarizing the distribution of responses on a single survey question. Table 9.2 presents the frequency distribution for just one variable from the Saylor Academy (2012) older worker survey. Table 8.2 presents an analysis of the item mentioned first in the codebook excerpt given earlier, on respondents' self-reported financial security.

Table 9.2 Frequency distribution of older workers' financial security (Total valid cases = 180; no response = 3)

In general, how financially secure would you say you are?	**Value**	**Frequency**	**Percentage**
Not at all secure	1	46	25.6
Between not at all and moderately secure	2	43	23.9
Moderately secure	3	76	42.2
Between moderately and very secure	4	11	6.1
Very secure	5	4	2.2

As you can see in the frequency distribution on self-reported

financial security, more respondents reported feeling "moderately secure" than any other response category. We also learn from this single frequency distribution that fewer than 10% of respondents reported being in one of the two most secure categories.

Another form of univariate analysis that survey researchers can conduct on single variables is measures of ***central tendency***. Measures of central tendency tell us what the most common, or average, response is on a question. Measures of central tendency can be taken for any level variable for ordinal-level variables. Finally, the measure of central tendency used for interval- and ratio-level variables is the ***mean***. To obtain a mean, one must add the value of all responses on a given variable and then divide that number of the total number of responses.

In the previous example of older workers' self-reported levels of financial security, the appropriate measure of central tendency would be the median, as this is an ordinal-level variable. If we were to list all responses to the financial security question in order from lowest dollar value to highest dollar value, the middle point in that list is the median. For these purposes, we will pretend that there were only 10 responses to this question. Table9.3, Distribution of responses and median value on workers' financial security", the value of response to the financial security question is noted, and the middle point within that range of responses is highlighted. To find the middle point, we simply divide the number of valid cases by two. The number of valid cases, 10, divided by 2 is 5, so we are looking for the 5th value on our distribution to discover the median. As you will see in Figure9.3, Distribution of responses and median value on workers' financial security", that median value is $128,000.

What is your estimated financial worth in rounded dollars?	Value
	$23,000
	$54,000
	$63,000
	$78,000
	$128,000
	$129,000
	$134,000
	$144,000
	$145,000
	$152,000

Figure 9.3 Distribution of responses and median value of workers' financial security

We can learn a lot about our respondents simply by conducting univariate analysis of measures on our survey. We can learn even more, of course, when we begin to examine relationships among variables. Either we can analyze the relationships between two variables, called bivariate analysis, or we can examine relationships among more than two variables. This latter type of analysis is known as multivariate analysis.

Bivariate analysis allows us to assess co-variation among two variables. This means we can find out whether changes in one variable occur together with changes in another. If two variables do not co-vary, they are said to have independence. This means simply that there is no relationship between the two variables in question. To learn whether a relationship exists between two variables, a researcher may cross-tabulate the two variables and present their relationship in a contingency table. A ***contingency table*** shows how variation on one variable may be contingent on variation on the other. Let's take a look at a contingency table. In Table 9.4 "Financial security among men and women workers age 62 and up", two

questions have been cross-tabulated from the older worker survey: respondents' reported gender and their self-rated financial security.

Table 9.4 Financial security among men and women workers age 62 and up

	Men	Women
Not financially secure (%)	44.1	51.8
Moderately financially secure (%)	48.9	39.2
Financially secure (%)	7.0	9.0
Total	N=43	N=135

You will see in Table 9.4 that a couple of the financial security response categories have been collapsed from five to three (see Table 9.2). Researchers sometimes collapse response categories on items such as this in order to make it easier to read results in a table. You will also see that the variable "gender" was placed in columns and "financial security" is displayed in rows. Typically, values that are contingent on other values are placed in rows (a.k.a. dependent variables), while independent variables are placed in columns. This makes it pretty simple to compare independent variable across categories. Reading across the top row of our table, we can see that around 44% of men in the sample reported that they are not financially secure while almost 52% of women reported the same. In other words, more women than men reported that they are not financially secure. You will also see in the table that the total number of respondents for each category of the

independent variable is in the table's bottom row. This is also standard practice in a bivariate table, as is including a table heading describing what is presented in the table.

Researchers interested in simultaneously analyzing relationships among more than two variables conduct multivariate analysis. If we hypothesized that financial security declines for women as they age but increases for men as they age, we might consider adding age to the preceding analysis. To do so would require multivariate, rather than bivariate, analysis. We will not go into detail here about how to conduct multivariate analysis of quantitative survey items, but we will return to multivariate analysis in Chapter 16 "Reading and Understanding Social Research". In Chapter 16 we will discuss strategies for reading and understanding tables that present multivariate statistics.

Summary

Summary

Chapter 9 has focused on the analysis of quantitative data associated with survey data. It is not the intention of this introductory chapter to delve too deeply into quantitative analysis. As such, this chapter has focused briefly on univariate data analysis. If you are interested in learning more about the analysis of quantitative survey data, we encourage you to take some courses in statistics. The quantitative data analysis skills you will gain in a statistics class could serve you quite well, should you find yourself seeking employment one day.

Key Takeaways

Key Takeaways

- ***Non-response bias*** occurs when only those who have strong opinions about a study topic return the survey, consequently, the findings do not represent how things really are or, at the very least, are limited in the claims that can be made about patterns found in the data.
- ***Univariate analysis*** is the most basic form of analysis that quantitative researchers conduct. It includes frequency distributions and measures of central tendency.
- ***Measures of central tendency*** tell us what the most common, or average response, is to a question, and can be taken for any level variable: nominal, ordinal, interval, and ratio. There are three kinds of measures of central tendency: modes, medians, and means.
- ***Mode*** refers to the most common response given to a question. Modes are most appropriate for nominal level variables.
- ***Median*** is the appropriate measure of central tendency for ordinal-level variables.
- ***Mean*** is the appropriate measure of central tendency for interval- and ratio-level variables. To obtain a mean, one must add the value of all

responses on a given variable and then divide that number by the total number of responses.

- ***Bivariate analysis*** allows us to assess co-variation among two variables. This means we can identify changes in one variable and then divide them together with changes in another.
- ***Covariation*** means we can find out whether changes in one variable occur together with changes in another.
- ***Contingency tables*** are used to demonstrate how variation on one variable may be contingent on variation on the other.

References

Babbie, E. (2010). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.

McKay, S. (2015, April 13). *Are you using a questionnaire or survey to collect data?* Retrieved from https://www.surveygizmo.com/resources/blog/taking-the-question-out-of-questionnaires/

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Washington, DC: Saylor Academy. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

CHAPTER 10: QUALITATIVE DATA COLLECTION & ANALYSIS METHODS

Learning Objectives

- Describe the circumstances under which it is suitable to use the interview technique for data collection.
- Explain semi-structured interview
- Identify the characteristics of an open-ended question.
- Describe an interview guide.
- Identify the challenges associated with interviewing.
- Explain what a focus group is and identify the situations where conducting a focus group is valuable.
- Describe when it is appropriate to utilize videography as a data collection method.
- Identify the pros and cons of videography as a data collection method.
- Explain what a code is and describe the coding process.

- Describe the differences between inductive and deductive coding.
- Describe the two types of inductive coding (descriptive and interpretive) and compare those to the two deductive coding (open and focused/ axial coding) techniques.
- List the various steps involved in analyzing qualitative data.
- Describe an oral history.
- Identify the strengths and weaknesses of qualitative interviews.

10.1 Interview Research

Interviewing is a qualitative research technique and a valuable skill. Interviews are used by market researchers to learn how to sell their products; journalists use interviews to get information from a whole host of people, from VIPs to random people on the street. From the social scientific perspective, interviews are a method of data collection that involves two or more people exchanging information through a series of questions and answers. The questions are designed by a researcher to elicit information from interview participant(s) on a specific topic or set of topics. Typically interviews involve an in-person meeting between two people, an interviewer and an interviewee. But as you will discover in this chapter, interviews need not be limited to two people, nor must they occur in person.

10.2 When should qualitative data collection be used?

Interviews are an excellent way to gather detailed information. They also have an advantage over surveys. For example, with a survey, if a participant's response sparks some follow-up question in your mind, you generally do not have an opportunity to ask for more information. In an interview, however, because you are talking with your study participants in real time, you *can* ask that follow-up question. As such, interviews are a useful method to use when you want to know the story behind responses you might receive in a written survey.

Interviews are also useful when the topic you are studying is rather complex, when whatever you plan to ask requires lengthy explanation, or when your topic or answers to your questions may not be immediately clear to participants who may need some time or dialogue with others in order to work through their responses to your questions. Also, if your research topic is one about which people will likely have a lot to say or will want to provide some explanation or describe some process, interviews may be the best method for you.

Interview research is especially useful when the following are true:

1. You wish to gather very detailed information.
2. You anticipate wanting to ask respondents for more information about their responses.
3. You plan to ask questions that require lengthy explanation.

4. The topic you are studying is complex or may be confusing to respondents.
5. Your topic involves studying processes.

Qualitative interview techniques and considerations

Qualitative interviews are sometimes called intensive or in-depth interviews. These interviews are ***semi- structured***— the researcher has a particular topic about which he or she would like to hear from the respondent, but questions are open-ended and may not be asked in exactly the same way or in exactly the same order to each and every respondent. In in-depth interviews, the primary aim is to hear from respondents in their own words what ***they*** think is important about the topic at hand, . In this section, we will examine how to conduct interviews that are specifically qualitative in nature, analyze qualitative interview data, and use some of the strengths and weaknesses of this method.

10.3 Conducting Qualitative Interviews

Qualitative interviews might feel more like a conversation than an interview to respondents, however the researcher is usually guiding the conversation with the goal of gathering information from a respondent. A key difference between qualitative and quantitative interviewing is that qualitative interviews contain open-ended questions. ***Open-ended questions*** are questions for which a researcher does *not* provide answer options. Open-ended questions demand more of participants than closed-ended questions, because they require participants to come up with their own words, phrases, or sentences to respond.

In a qualitative interview, the researcher usually develops a guide in advance to which he or she then refers during the interview (or memorizes in advance of the interview). An ***interview guide*** is a list of topics or questions that the interviewer hopes to cover during the course of an interview. It is called a guide because it is used to guide the interviewer, but it is not inflexible. Think of an interview guide like your agenda for the day or your to-do list both probably contain all the items you hope to check off or accomplish, however, probably it is not mandatory for you to accomplish everything on the list or accomplish it in the exact order that you have written it down. Perhaps emerging events will influence you to rearrange your schedule, or perhaps you simply will not get to everything on the list.

Interview guides should outline issues that a researcher feels are likely to be important, but because participants are asked to provide answers in their own words, and to raise points that they believe are important, each interview is likely to flow a

little differently. While the opening question in an in- depth interview may be the same across all interviews, from that point on what the participant says will shape how the interview proceeds. This is what makes in-depth interviewing so exciting. It is also what makes in-depth interviewing rather challenging to conduct. It takes a skilled interviewer to be able to ask questions and actually *listen* to respondents; and pick up on cues about when to follow up, when to move on, and when to simply let the participant speak without guidance or interruption.

Interview guides can list topics or questions. The specific format of an interview guide might depend on your style, experience, and comfort level as an interviewer or with your topic, however, interview guides are the result of thoughtful and careful work on the part of a researcher. It is important to ensure that the topics and questions are organized thematically and in the order in which they are likely to proceed (keep in mind, however, that the flow of a qualitative interview is in part determined by what a respondent has to say).

Sometimes researchers may create two versions of the guide for a qualitative interview: one version contains a very brief outline of the interview (perhaps with just topic headings), and another version contains detailed questions underneath each topic heading. In this case, the researcher might use the detailed guide to prepare and practice in advance of actually conducting interviews, and then bring just the brief outline to the interview. Bringing an outline, as opposed to a very long list of detailed questions, to an interview encourages the researcher to actually listen to what a participant is telling her. An overly-detailed interview guide will be difficult to navigate through during an interview and could give respondents the incorrect impression that the interviewer is more interested in her questions than in the participant's answers.

Begin to construct your interview guide by brainstorming.

There are no rules at the brainstorming stage—simply list all the topics and questions that come to mind when you think about your research question. Once you have developed a pretty good list, you can begin to pare it down by cutting questions and topics that seem redundant, and grouping like questions and topics together. If you have not done so yet, you may also want to come up with question and topic headings for your grouped categories. You should also consult the scholarly literature to find out what kinds of questions other interviewers have asked in studies of similar topics. As with quantitative survey research, it is best not to place very sensitive or potentially controversial questions at the very beginning of your qualitative interview guide. You need to give participants the opportunity to warm up to the interview and to feel comfortable talking with you. Finally, get some feedback on your interview guide. Ask your friends, family members, and your professors for some guidance and suggestions once you have come up with what you think is a pretty strong guide. Chances are they will catch a few things you had not noticed.

In terms of the specific questions you include on your guide, there are a few guidelines worth noting. First, try to avoid questions that can be answered with a simple yes or no, or, if you do choose to include such questions, be sure to include follow-up questions. Remember, one of the benefits of qualitative interviews is that you *can* ask participants for more information; be sure to do so. While it is a good idea to ask follow-up questions, try to avoid asking "why" as your follow-up question, since "why" questions can appear to be confrontational, even if that is not your intention. Often people will not know how to respond to "why." This may be the case because they do not know why themselves. Instead of "why," it is recommended that you say something like, "could you tell me a little more about that?" This allows participants to explain themselves further without feeling that they are being doubted or questioned in a hostile way.

Also, try to avoid phrasing your questions in a leading way. For example, rather than asking, “What do you think about people who drink and drive?” you could ask, “How do you feel about drinking and driving?” Finally, as noted earlier in this section, remember to keep most, if not all, of your questions open-ended. The key to a successful qualitative interview is giving participants the opportunity to share information in their own words and in their own way.

Even after the interview guide is constructed, the interviewer is not yet ready to begin conducting interviews. The researcher next has to decide how to collect and maintain the information that is provided by participants. It is probably most common for qualitative interviewers to take audio recordings of the interviews they conduct. Recording interviews allows the researcher to focus on her or his interaction with the interview participant rather than being distracted by trying to take notes. Of course, not all participants will feel comfortable being recorded and sometimes even the interviewer may feel that the subject is so sensitive that recording would be inappropriate. If this is the case, it is up to the researcher to balance excellent note-taking with exceptional question-asking and even better listening. It can be quite challenging to do all three at the same time. Recording is best, if you can do so. Whether you will be recording your interviews or not (and *especially* if not), it is crucial to practice the interview in advance. Ideally, try to find a friend or two willing to participate in a couple of trial runs with you. Even better, try and find a friend or two who are similar in at least some ways to your sample. They can give you the best feedback on your questions and your interview demeanor.

All interviewers should be aware of, give some thought to, and plan for, several additional factors, such as where to conduct an interview and how to make participants as comfortable as possible during an interview. Because these factors should be considered by both qualitative and

quantitative interviewers, we will return to them in Chapter 11 "Issues to Consider for AllInterview Types."

10.4 Other Qualitative Data Collection Methods

In the following sections we will look at some traditional (e.g., focus groups) and not-so-traditional (oral & research histories, and videography) data collection techniques often associated with interviews and qualitative research methods.

Focus groups

When multiple respondents participate in an interview at the same time, this is referred to as a ***focus group*** interview. Occasionally more than one interviewer may be present as well. Focus groups can be an excellent way to gather information because topics or questions that had not occurred to the researcher may be brought up by other participants in the group. Having respondents talk with and ask questions of one another can be an excellent way of learning about a topic; not only might respondents ask questions that had not occurred to the researcher, but the researcher can also learn from respondents' body language around and interactions with one another. There are some unique ethical concerns associated with collecting data in a group setting.

Oral histories

An oral history is a less traditional form of data collection that

can take the form of an interview. Its purpose is to record, in writing, material that might otherwise be forgotten by those who are unlikely to create a written record or produce archival materials (Fontana & Frey, 2003; Reinharz, 1992). It involves interviewing people about their past to ensure that their history is not lost and is therefore available to future generations (Palys & Atchison, 2014).

History is broadly defined as everything that happened before this moment in time (Palys & Atchison, 2014). The fact that we do not know everything about history has not prevented historians from studying what has happened in the past. Indeed, the only way to study history is to examine the artifacts that remain. When we speak about artifacts, it is not just those we can tangibly see, touch and/or taste. It also includes other types of artifacts, such as oral histories. Generally, there are two types of oral histories: Aboriginal oral histories and oral history in research. In the following sections we will briefly examine both of these methods (Palys & Atchison, 2014).

Palys and Atchison (2014) attempt to explain oral history in research by an analogy to a box that contains historical facts. As they explain, the box is filled with items that have been placed there by historians who have taken the time to document them and place them in the box. However, it is the selection of some items and not others that Palys and Atchison refer to as "one of the tragedies of history." They say this because interesting and important facts will remain outside our realm of knowledge, due to the fact that someone did not place those facts into the box (p. 156).

In addition to what issues go into the box, there is also the issue of power and access to the box. As Palys and Atchison (2014) observe, some people have better access to the box than others. For example, governments, the wealthy, the powerful, the upper classes of society, and the educated all have more ease of access to the box than others. Similarly, throughout the

course of history, men have had better access to the box than women. Consequently, when we read historical accounts from, e.g., 17th century England, we are reading historical accounts from the points of view of the wealthy, the upper classes, the powerful, the educated, and the males of that time period. The historical accounts of the poor, the lower classes, females, those without power, and the uneducated often did not make it into the box.

The University of Toronto has an excellent website with an emphasis on primary sources and more than 2,700 collections of oral histories in English from around the world (see https://guides.library.utoronto.ca/c.php?g=250737&p=2676118).

Aboriginal oral histories

Figure 10.1: NEyēʔ Sqâ'lewen staff at pit cook, Camosun College, 2016.

Fig 10.1: Camas Pit Cook Oct 27 2016-071 by Camosun College AV Services © CC BY-NC (Attribution NonCommercial)

European and non-Aboriginal peoples' reliance on written documentation and written archival material has led to the

assumption that the lack of written documentary evidence related to the history of Aboriginal people means there is "no history" (see Wolfe, 1982). On the contrary, Aboriginal cultures have been quite successful in preserving their history, despite their reliance upon oral histories. Indeed, each new generation was tasked with accurately remembering and preserving the historical stories passed down from previous generations (Palys & Atchison, 2014). The accuracy of the oral history rests on two facts. First, the memories were not merely recollections of stories. Rather, they were the lived memorialization and verbatim accounts that were repeated throughout the ages. Second, the stories are shared in the context of the potlatch (feast) system, where each speaker provides a recounting of the history of his or her clan, including the clan´s territories and the way its crests and songs were acquired. As Palys and Atchison (2014) note, anyone attending these feasts could challenge the presented oral history, and, as such, this public sharing of a clan´s history helped to preserve the histories. Consequently, it is not uncommon to find that the oral histories told today are much the same as those recorded by anthropologists at the turn of the 20th century (Palys & Atchison, 2014).

Videography

Like an interview, videography can be an effective means for collecting data, both during researcher/ participant interviews and during focus groups. However, videography can also be employed to collect data in more natural settings and, therefore, is a popular tool for those undertaking ethnographic studies (Asan & Montangue). While videography has been under-utilized, mainly due to confidentiality and privacy issues, it has many benefits as a data collection tool (Asan & Montangue, 2015). It can accurately record events, enable researchers to verify their observations through multiple raters,

and permit the researcher to repeatedly review the video record. It is particularly valuable for measuring performance (Seagull & Guerlain, 2003) and verifying self-reported behaviours against observed behaviours (Asan & Montangue, 2015). Researchers have also used videography to capture more detailed data, such as body language and gazing direction (see Kumarapeli & Lusignan, 2013; Leong, Koczan, de Lusignan & Sheeler, 2006).

Effectively using videography to collect data requires the careful construction of effective research questions, and the identification of the type of data required. Both of these steps will inform the study design (Asan & Montangue, 2015) and are primary considerations at the outset of any study. Choosing to employ videography to collect data also requires knowledge of cameras, including the various types of cameras, the various levels of quality and functions, and positioning of cameras–things that appear easy but are crucial to ensuring that the video has captured what you wanted (see Asan & Montangue, 2015).

Asan and Montangue (2015) developed a series of helpful steps to ensure a successful video study. See Table 10.1

Table 10.1 Steps for a successful video study (adapted from Asan & Montangue, 2015

Conceptualizing the study

1. Choose an appropriate research question that can be answered by video data.
2. Identify the potential time frame of the study.
3. Decide on the scope of the data collection.
4. Decide on any additional data collection instruments, such as interviews and surveys.
5. Decide on the required number of personnel for data collection.
6. Decide how to link the data from video recording with other interview and survey data.

7. Choose method to analyze the data (quantitative, qualitative, or mixed methods).

Legal and Ethical issues

1. Ensure that the study meets with ethical guidelines for human participant's research.
2. Describe all details of the procedure of the study.
3. Comply with all legal requirements for recording in real environments.
4. Obtain legal consent for video recording.
5. Ensure all privacy and confidentiality issues related to the preservation of participants' identification, and identifiable video data storage are addressed.
6. Complete and comply with all local regulations regarding eligibility for human subject research.
7. Submit IRB application and gain final approval in order to start the project.

Participants and Sampling

1. Determine the number of participants you need.
2. Determine the unit of analysis and sampling frame that will most effectively help answer your research question (e.g.:, Do you need a certain number of participants? How will you recruit your participants? Will you randomly recruit the participants or will they have certain eligibility requirements, such as people within a certain age range? Will participants be paid?).
3. Inform all participants about the benefits and risks of your study.
4. Conduct the recruitment as planned in the IRB.
5. Get informed consent from all people who agree to participate in the study

Data Collection and Management

1. Decide on all technical specifications of the equipment you need.
2. Choose an appropriate high-quality camera or cameras.
3. Choose the best audio recording style (built into camera or separate).
4. Determine the camera layout of the room; get the best angle to ensure a clear view of the participants.
5. Establish a protocol for recording the interactions.
6. Maximize the captured area by adjusting the camera angle.
7. Create protocols to link the data.
8. Sync the audio and video data for the analysis.
9. Determine protocols for storing video recordings.
10. Secure the hard drives for privacy protection.
11. Back up the data.
12. Train all researchers, camera persons, interviewers, and other members of the research team.

Data analysis

1. Review the quality of all data.
2. Identify the software you will be using to analyze the data.
3. Clearly distinguish the research questions and analyze accordingly.
4. Create coding schemes to analyze the video based on the variable of interest.
5. Conduct a pilot run/trial analysis after collecting the data from a smaller sample to prevent potential mismatch.

One of the most significant concerns related to collecting data via video is confidentiality of the participants. Most institutional research ethics boards require that researchers outline how they will ensure participant confidentiality. Outlining how video data will be collected, how it will be stored, who will have access to it, and at what point and how it will be destroyed,

are important considerations for all researchers. Assan and Montangue (2015) outline a variety of pros and cons for those wishing to collect data via video. See Table 10.2.

Table 10.2 The pros and cons of collecting data via video (adapted from Assan & Montangue, 2015)

Traditional Observational Method	Enables rich data Can capture events before and after the consultations Allows researcher to ask follow up questions during the observation More effective while shadowing a specific person in multiple locations Researcher is able to see all space in the room Gives opportunity to concentrate on one individual continuously Effective for medical students for training purposes Allows researchers to capture activities in much of their complexity in their natural settings over an extended period of time Allows for scientific rigor when conducted by trained researchers Can be reviewed by both researchers and participants, increasing the scope of interpretation	Researcher may be intrusive Aspects of interactions may be missed Does not allow for data validation through cross-coding Prior work is necessary to prepare organized and standard observation tools Hard to catch nonverbal cues during the encounter Cannot capture all interactions in a complex clinical environment such as a surgical room Possibility of Hawthorne effect Prior training of observers necessary Cognitive workload for observers Low inter-rater reliability

Video Method	Less intrusive method for data collection (avoiding the observer effect) Provides enough detail to analyze the work environment and human interactions qualitatively and quantitatively Allows researchers to analyze events retrospectively Allows researchers to capture simultaneous complex interactions Allows researchers to review consultations repeatedly Creates a permanent and complete record Potential for multiple viewing/ reviewing Higher inter-rater reliability (with the help of practice coding) Can be used to establish connections between perceptions and the observed activities during the visit Retains the captured data with no loss of its richness for reviewing Enables self-evaluation and reflection Generates a large amount of data Allows researchers to capture activities in much of their complexity in their natural settings over an extended period of time Allows for scientific rigor when conducted by trained researchers Can be reviewed by both researchers and participants, increasing the scope of interpretation	Reviewing and coding video data is labor intensive Requires additional IRB procedures Raises concerns about the discoverability and confidentiality of participants Additional equipment cost Additional data management concerns Aggregation can be difficult and intrusive It can limit range of settings Possibility of Hawthorne effect1 Higher overall cost

To learn more about the use of video for research, here is the

link to an excellent resource produced by Jewitt (2012) for the National Centre for research methods:

http://eprints.ncrm.ac.uk/2259/4/NCRM_workingpaper_0312.pdf

The Hawthorne effect describes the tendency of people to modify their behaviour because they know they are being studied. This is a particular challenge of social experiments and such behaviour changes can distort a study´s findings (Payne & Payne, 2004).

10.5 Analysis of Qualitative Interview Data

Analysis of qualitative interview data typically begins with a set of transcripts of the interviews conducted. Obtaining said transcripts requires either having taken exceptionally good notes during an interview or, preferably, recorded the interview and then transcribed it. To transcribe an interview means to create a complete, written copy of the recorded interview by playing the recording back and typing in each word that is spoken on the recording, noting who spoke which words. In general, it is best to aim for a verbatim transcription, i.e., one that reports word for word exactly what was said in the recorded interview. If possible, it is also best to include nonverbal responses in the written transcription of an interview (if the interview is completed face-to-face, or some other form of visual contact is maintained, such as with Skype). Gestures made by respondents should be noted, as should the tone of voice and notes about when, where, and how spoken words may have been emphasized by respondents.

If you have the time, it is best to transcribe your interviews yourself. If the researcher who conducted the interviews transcribes them herself, that person will also be able to record associated nonverbal behaviors and interactions that may be relevant to analysis but that could not be picked up by audio recording. Interviewees may roll their eyes, wipe tears from their face, and even make obscene gestures that speak volumes about their feelings; however, such non-verbal gestures cannot be recorded, and being able to remember and

record in writing these details as it relates to the transcribing of interviews is invaluable.

Overall, the goal of analysis is to reach some inferences, lessons, or conclusions by condensing large amounts of data into relatively smaller, more manageable bits of understandable information. Analysis of qualitative interview data often works inductively (Glaser & Strauss, 1967; Patton, 2001). To move from the specific observations an interviewer collects to identifying patterns across those observations, qualitative interviewers will often begin by reading through transcripts of their interviews and trying to identify codes. A ***code*** is a shorthand representation of some more complex set of issues or ideas. The process of identifying codes in one's qualitative data is often referred to as ***coding***. Coding involves identifying themes across interview data by reading and re-reading (and re-reading again) interview transcripts, until the researcher has a clear idea about what sorts of themes come up across the interviews. Coding helps to achieve the goal of data management and data reduction (Palys & Atchison, 2014, p. 304).

Coding can be inductive or deductive. ***Deductive coding*** is the approach used by research analysts who have a well-specified or pre-defined set of interests (Palys & Atchison, 2014, P. 304). The process of deductive coding begins with the analyst utilizing those specific or pre-defined interests to identify "relevant" passages, quotes, images, scenes, etc., to develop a set of preliminary codes (often referred to as ***descriptive coding***). From there, the analyst elaborates on these preliminary codes, making finer distinctions within each coding category (known as ***interpretative coding***). ***Pattern coding*** is another step an analyst might take as different associations become apparent. For example, if you are studying at-risk behaviours in youth, and you discover that the various behaviours have different characteristics and meanings depending upon the social context (e.g., school, family, work)

in which the various behaviours occur, you have identified a pattern (Palys & Atchison, 2014, p. 304).

In contrast, ***inductive coding*** begins with the identification of general themes and ideas that emerge as the researcher reads through the data. This process is also referred to as ***open coding*** (Palys & Atchison, 2014, p. 305), because it will probably require multiple analyses. As you read through your transcripts, it is likely that you will begin to see some commonalities across the categories or themes that you've jotted down (Saylor Academy, 2012). The open coding process can go one of two ways: either the researcher elaborates on a category by making finer, and then even finer distinctions, or the researcher starts with a very specific descriptive category that is subsequently collapsed into another category (Palys & Atchison, 2014, p. 305). In other words, the development and elaboration of codes arise out of the material that is being examined.

The next step for the research analyst is to begin more specific coding, which is known as ***focused*** or***axial coding***. Focused coding involves collapsing or narrowing themes and categories identified in open coding by reading through the notes you made while conducting open coding, identifying themes or categories that seem to be related, and perhaps merging some. Then give each collapsed/merged theme or category a name (or code) and identify passages of data that fit each named category or theme. To identify passages of data that represent your emerging codes, you will need to read through your transcripts several times. You might also write up brief definitions or descriptions of each code. Defining codes is a way of giving meaning to your data, and developing a way to talk about your findings and what your data means (Saylor Academy, 2012).

As tedious and laborious as it might seem to read through hundreds of pages of transcripts multiple times, sometimes getting started with the coding process is actually the hardest part. If you find yourself struggling to identify themes at the

open coding stage, ask yourself some questions about your data. The answers should give you a clue about what sorts of themes or categories you are reading (Saylor Academy, 2012). (Lofland and Lofland,1995, p. 2001) identify a set of questions that are useful when coding qualitative data. They suggest asking the following:

1. Of what topic, unit, or aspect is this an instance?
2. What question about a topic does this item of data suggest?
3. What sort of answer to a question about a topic does this item of data suggest (i.e., what proposition is suggested)?

Asking yourself these questions about the passages of data that you are reading can help you begin to identify and name potential themes and categories.

Table 10.3 "**Interview coding"** example is drawn from research undertaken by Saylor Academy (Saylor Academy, 2012) where she presents two codes that emerged from her inductive analysis of transcripts from her interviews with child-free adults. Table 10.3 also includes a brief description of each code and a few (of many) interview excerpts from which each code was developed.

Table 10.3 Interview coding

Code	Code Description	Interview Excerpts
Reinforce Gender	Participants reinforce heteronormative ideals in two ways: (a) by calling up stereotypical images of gender and family and (b) by citing their own "failure" to achieve those ideals.	The woman is more involved with taking care of the child. [As a woman] I'd be the one waking up more often to feed the baby and more involved in the personal care of the child, much more involved. I would have more responsibilities than my partner. I know I would feel that burden more than if I were a man.""I don't have that maternal instinct.""I look at all my high school friends on Facebook, and I'm the only one who isn't married and doesn't have kids. I question myself, like if there's something wrong with me that I don't have that.""I feel badly that I'm not providing my parents with grandchildren

Resist Gender	Participants resist gender norms in two ways: (a) by pushing back against negative social responses and (b) by redefining family for themselves in a way that challenges normative notions of family.	"Am I less of a woman because I don't have kids? I don't think so!" "I think if they're gonna put their thoughts on me, I'm putting it back on them. When they tell me, 'Oh, Janet, you won't have lived until you've had children. It's the most fulfilling thing a woman can do!' then I just name off the 10 fulfilling things I did in the past week that they didn't get to do because they have kids." "Family is the group of people that you want to be with. That's it." "The whole institution of marriage as a transfer of property from one family to another and the supposition that the whole purpose of life is to create babies is pretty ugly. My definition of family has nothing to do with that. It's about creating a better life for ourselves."

Just as quantitative researchers rely on the assistance of special computer programs designed to help sort through and analyze their data, so, do qualitative researchers. Where quantitative researchers have SPSS and MicroCase (and many others), qualitative researchers have programs such as NVivo (http://www.qsrinternational.com) and Atlasti (http://www.atlasti.com). These are programs specifically designed to assist qualitative researchers to organize, manage, sort, and analyze large amounts of qualitative data. The programs allow researchers to import interview transcripts contained in an electronic file and then label or code passages, cut and paste passages, search for various words or phrases, and organize complex interrelationships among passages and codes

10.6 Qualitative Coding, Analysis, and Write-up: The How to Guide

This section provides an abbreviated set of steps and directions for coding, analyzing, and writing up qualitative data, taking an inductive approach. The following material is adapted from Research Rundowns, retrieved from https://researchrundowns.com/qual/qualitative-coding-analysis/.

Step1: Open coding

At this first level of coding, the researcher is looking for distinct concepts and categories in the data, which will form the basic units of the analysis. In other words, the researcher is breaking down the data into first level concepts, or master headings, and second-level categories, or subheadings.

Researchers often use highlighters to distinguish concepts and categories. For example, if interviewees consistently talk about teaching methods, each time an interviewee mentions teaching methods, or something related to a teaching method, the researcher uses the same colour highlight. Teaching methods would become a concept, and other things related (types, etc.) would become categories – all highlighted in the same colour. It is valuable to use different coloured highlights to distinguish each broad concept and category. At the end of this stage, the transcripts contain many different colours of highlighted text. The next step is to transfer these into a brief

outline, with main headings for concepts and subheadings for categories.

Step 2: Axial (focused) coding

In open coding, the researcher is focused primarily on the text from the interviews to define concepts and categories. In axial coding, the researcher is using the concepts and categories developed in the open coding process, while re-reading the text from the interviews. This step is undertaken to confirm that the concepts and categories accurately represent interview responses.

In axial coding, the researcher explores how the concepts and categories are related. To examine the latter, you might ask: What conditions caused or influenced concepts and categories? What is/was the social/political context? What are the associated effects or consequences? For example, let us suppose that one of the concepts is *Adaptive Teaching*, and two of the categories are *tutoring* and *group projects*. The researcher would then ask: *What conditions caused or influenced tutoring and group projects to occur?* From the interview transcripts, it is apparent that participants linked this condition (being able to offer tutoring and group projects) with being enabled by a supportive principle. Consequently, an axial code might be a phrase like *our principal encourages different teaching methods*. This discusses the context of the concept and/or categories and suggests that the researcher may need a new category labeled "supportive environment." Axial coding is merely a more directed approach to looking at the data, to help make sure that the researcher has identified all important aspects.

Step 3: Build a data table

Table 10.4 illustrates how to transfer the final concepts and categories into a data table. This is a very effective way to organize results and/or discussion in a research paper. While this appears to be a quick process, it requires a lot of time to do it well.

Table 10.4 Major categories and associated concept

Step 1	Open Coding	• Major category or concept: Adaptive teaching. • Associated concepts: Tutoring; group projects.
Step 2	Axial Coding Themes	Our principal encourages different teaching methods.
Step 3	New Category	Supportive environment.
Step 4		Add concepts that relate to supportive environment.
Step 5		Continue on until you have undertaken an exhaustive analysis of the data.

Step 4: Analysis & write-up

Not only is Table 10.4 an effective way to organize the analysis, it is also a good approach for assisting with the data analysis write-up. The first step in the analysis process is to discuss the various categories and describe the associated concepts. As part of this process, the researcher will describe the themes created in the axial coding process (the second step).

There are a variety of ways to present the data in the write-up,

including: 1) telling a story; 2) using a metaphor; 3) comparing and contrasting; 4) examining relations among concepts/ variables; and 5) counting. Please note that counting should not be a stand-alone qualitative data analysis process to use when writing up the results, because it cannot convey the richness of the data that has been collected. One can certainly use counting for stating the number of participants, or how many participants spoke about a specific theme or category; however, the researcher must present a much deeper level of analysis by drawing out the words of the participants, including the use of direct quotes from the participants´ interviews to demonstrate the validity of the various themes.

Here are some links to demonstrations on other methods for coding qualitative data:

- https://www.youtube.com/watch?reload=9&v=phXssQBCDls
- https://www.youtube.com/watch?v=lYzhgMZii3o
- http://qualisresearch.com/DownLoads/qda.pdf

When writing up the analysis, it is best to "identify" participants through a number, alphabetical letter, or pseudonym in the write-up (e.g. Participant #3 stated ...). This demonstrates that you drawing data from all of the participants. Think of it this way, if you were doing quantitative analysis on data from 400 participants, you would present the data for all 400 participants, assuming they all answered a specific question. You will often see in a table of quantitative results (n=400), indicating that 400 people answered the question. This is the researcher's way of confirming, to the reader, how many participants answered a particular research question. Assigning participant numbers, letters, or pseudonyms serves the same purpose in qualitative analysis.

10.7 Strengths and Weaknesses of Qualitative Interviews

As the preceding sections have suggested, qualitative interviews are an excellent way to gather detailed information. Whatever topic is of interest to the researcher can be explored in much more depth by employing this method than with almost any other method. Not only are participants given the opportunity to elaborate in a way that is not possible with other methods, such as survey research, but, in addition, they are able share information with researchers in their own words and from their own perspectives, rather than attempting to fit those perspectives into the perhaps limited response options provided by the researcher. Because qualitative interviews are designed to elicit detailed information, they are especially useful when a researcher's aim is to study social processes, or the "how" of various phenomena. Yet another, and sometimes overlooked, benefit of qualitative interviews that occurs in person is that researchers can make observations beyond those that a respondent is orally reporting. A respondent's body language, and even her or his choice of time and location for the interview, might provide a researcher with useful data.

As with quantitative survey research, qualitative interviews rely on respondents' ability to accurately and honestly recall whatever details about their lives, circumstances, thoughts, opinions, or behaviors are being examined. Qualitative interviewing is also time-intensive and can be quite expensive. Creating an interview guide, identifying a sample, and conducting interviews are just the beginning of the process. Transcribing interviews is labor-intensive, even before coding

begins. It is also not uncommon to offer respondents some monetary incentive or thank-you for participating, because you are asking for more of the participants' time than if you had mailed them a questionnaire containing closed-ended questions. Conducting qualitative interviews is not only labor intensive but also emotionally taxing. Researchers embarking on a qualitative interview project with a subject that is sensitive in nature should keep in mind their own abilities to listen to stories that may be difficult to hear.

Summary

Summary

This chapter has focused on collecting and analyzing qualitative data. We explored some of the more traditional methods, such as interviews and focus groups, for collecting qualitative data. We also explored less popular methods such as oral histories and videography. Analyzing qualitative data requires time and commitment. If possible, the researcher who undertakes the analysis and write-up of the data should complete the transcription, in order to be totally immersed in the data. Time spent in these processes should result in a study that produces valuable, in-depth data that numbers alone (i.e., quantitative methods) cannot explain.

Key Takeaways

Key Takeaways

- ***In-depth interviews*** are ***semi-structured interviews*** in which the researcher has topics and questions in mind to ask, but questions are open-ended and flow according to the participant's response.
- An ***interview guide*** is a list of topics or questions that the interviewer hopes to cover during the course of an interview.
- ***Open-ended questions*** are questions that a researcher poses but for which he or she does not provide answer options.
- A ***code*** is a shorthand representation of some more complex set of issues or ideas. The process of identifying codes in one's qualitative data is more often referred to as ***coding***.
- An ***oral history*** is a less traditional form of data collection that can take the form of an interview.

  Its purpose is to make a written record of material that might otherwise be forgotten by those who are unlikely to themselves create a written record of material or produce archival materials.

- ***A focus group*** interview consists of multiple

respondents participating in an interview at the same time.

- ***Videography*** can be an effective means for collecting data, during both researcher/participant interviews and focus groups. It can also be employed to collect data in more natural settings and therefore is a popular tool for those undertaking ethnographic studies.
- ***Deductive coding*** is the approach used by research analysts who have a well-specified or pre-defined set of interests. It includes ***descriptive and interpretive*** coding approaches.
- ***Inductive coding*** begins with the identification of general themes and ideas that emerge as the researcher reads through the data. It includes ***open and focused/axial*** coding approaches.
- ***NVivo and Atlas.ti*** are computer programs that qualitative researchers use to help them organize, sort, and analyze their data.
- ***Qualitative interviews*** allow respondents to share information in their own words and are useful for gathering detailed information and understanding social processes. However, they rely upon respondents' accuracy and are intense in terms of time, expense, and possible emotional strain

References

Assan, O. & Montague, E. (2015). Using video-based observation research methods in care health encounters to evaluate complex interactions. *Inform Primary Care*, 21(4), 161-170. doi:10.14236/jhi.v21i4.72.

Babbie, E. (2010). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.

Fontana, A., & Frey, J. H. (2003). The interview: From structured questions to negotiated text. In N. Denzin & Y. S. Lincoln (Eds.). *Collecting and interpreting qualitative materials* (2nd ed.), (pp. 61- 106). Thousand Oaks, CA: SAGE.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* London, England: Aldine Transaction.

Jewitt, C. (2012). An introduction to using video for research. *NCRM Working paper* 03/12. Retrieved from http://eprints.ncrm.ac.uk/2259/4/ NCRM_workingpaper_0312.pdf.

Kumarapeli, P., & de Lusignan, S. (2013). Using the computer in the clinical consultation: Setting the stage reviewing, recording, and taking actions: Multi-channel video study. *Journal of the American Medical Informatics Association*, 20(e1), e67-e75. doi: 10.1136/amiajnl-2012-001081.

Leong, A., Koczan, P., de Lusignan, & Sheeler, I. (2006). A framework for comparing video methods used to assess the clinical consultation: A qualitative study. *Medical Informatics and the Internet in Medicine*, 31(4), 255-265. doi:10.1080/ 14639230600991668.

Lofland, J., & Lofland, L. H. (1995). *Analyzing social settings: A guide to qualitative observation and analysis* (3rd ed.). Belmont, CA: Wadsworth.

Palys, T., & Atchison, C. (2014). *Research decisions:*

Quantitative, qualitative, and mixed methods approaches (5th ed.). Toronto, Canada: Nelson Education.

Patton, M. Q. (2001). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage Publications.

Payne, G., & Payne, J. (2004). *Hawthorne effect. Key concepts in social research*. doi: http://dx.doi.org/10.4135/9781849209397.n22.

Reinharz, S. (1992). *Feminist methods in social research*. London, England: Sage Publications.

Saylor Academy. (2012). *Principles of sociological inquiry; Qualitative and quantitative methods*. Washington, DC: Saylor Academy. Retrieved from https://resources.saylor.org/wwwresources/archived/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

Seagull, F. J., & Guerlain, S. (2003). Observational measures of team process and performance in healthcare. P*roceedings of the Human Factors and Ergonomics Society 47th Meeting*. Retrieved from https://www.academia.edu/2768331/Observational_Measures_of_Team_Process_and_Performance_in_Healthcare

Wolfe, E. R. (1982). *Europe and the people without history.* Los Angeles, CA: University of California Press.

CHAPTER 11: QUANTITATIVE INTERVIEW TECHNIQUES & CONSIDERATIONS

Learning Objectives

- Describe a standardized interview.
- Explain how quantitative interviews differ from qualitative interviews.
- Explain how to analyze quantitative interview data.
- Identify the main issues that qualitative and quantitative interviewers should consider.
- Describe the options that interviewers have for balancing power between themselves and interview participants.
- Describe and define rapport.
- Define the term, "probe", and describe how probing differs in qualitative and quantitative interviewing.

Quantitative interviews are similar to qualitative interviews in

that they involve some researcher/respondent interaction; however, the process of conducting and analyzing findings from quantitative interviews differs in several ways from that of qualitative interviews. Each approach comes with its own unique set of strengths and weaknesses. We will explore these differences in the following sections.

11.1 Conducting Quantitative Interviews

Much of what we learned in the previous chapter on survey research applies to quantitative interviews as well. In fact, quantitative interviews are sometimes referred to as survey interviews because they resemble survey-style question-and-answer formats. They might also be called ***standardized interviews***. The difference between surveys and standardized interviews is that questions and answer options are read to respondents in a standardized interview, rather than having respondents complete a survey on their own. As with surveys, the questions posed in a standardized interview tend to be closed-ended. There are instances in which a quantitative interviewer might pose a few open-ended questions as well. In these cases, the coding process works somewhat differently than coding in-depth interview data. We will describe this process in the following section.

In quantitative interviews, an ***interview schedule*** is used to guide the researcher as he or she poses questions and answer options to respondents. An interview schedule is usually more rigid than an interview guide. It contains the list of questions and answer options that the researcher will read to respondents. Whereas qualitative researchers emphasize respondents' roles in helping to determine how an interview progresses, in a quantitative interview, consistency in the way that questions and answer options are presented is very important. The aim is to pose every question-and-answer option in the very same way to every respondent. This is done to minimize interviewer effect, or possible changes in the way an interviewee responds based on how or when questions and answer options are presented by the interviewer.

Quantitative interviews may be recorded, but because questions tend to be closed-ended, taking notes during the interview is less disruptive than it can be during a qualitative interview. If a quantitative interview contains open-ended questions, recording the interview is advised. It may also be helpful to record quantitative interviews if a researcher wishes to assess possible interview effect. Noticeable differences in responses might be more attributable to interviewer effect than to any real respondent differences. Having a recording of the interview can help a researcher make such determinations.

Quantitative interviewers are usually more concerned with gathering data from a large, representative sample. Collecting data from many people via interviews can be quite laborious. In the past, telephone interviewing was quite common; however, growth in the use of mobile phones has raised concern regarding whether or not traditional landline telephone interviews and surveys are now representative of the general population (Busse & Fuchs, 2012). Indeed, there are other drawbacks to telephone interviews. Aside from the obvious problem that not everyone has a phone (mobile or landline), research shows that phone interview respondents were less cooperative, less engaged in the interview, and more likely to express dissatisfaction with the length of the interview than were face-to-face respondents (Holbrook, Green, & Krosnick, 2003, p. 79). Holbrook et al.'s research also demonstrated that telephone respondents were more suspicious of the interview process and more likely than face-to-face respondents to present themselves in a socially desirable manner.

11.2 Analysis of Quantitative Interview Data

As with the analysis of survey data, analysis of quantitative interview data usually involves coding response options numerically, entering numeric responses into a data analysis computer program, and then running various statistical commands to identify patterns across responses. Chapter 10 describes the coding process for quantitative data. But what happens when quantitative interviews ask open-ended questions? In this case, responses are typically numerically coded, just as closed-ended questions are, but the process is a little more complex than simply giving a "no" a label of 0 and a "yes" a label of 1.

In some cases, quantitatively coding open-ended interview questions may work inductively, as described in Chapter 10. If this is the case, rather than ending with codes, descriptions of codes, and interview excerpts, the researcher will assign a numerical value to codes and may not utilize verbatim excerpts from interviews in later reports of results. With quantitative methods the aim is to be able to represent and condense data into numbers. The quantitative coding of open-ended interview questions is often a deductive process. The researcher may begin with an idea about likely responses to his or her open-ended questions and assign a numerical value to each likely response. Then the researcher will review participants' open-ended responses and assign the numerical value that most closely matches the value of his or her expected response.

11.3 Strengths and Weaknesses of Quantitative Interviews

Quantitative interviews offer several benefits. The strengths and weakness of quantitative interviews tend to be couched in comparisons to those of administering hard copy questionnaires. For example, response rates tend to be higher with interviews than with mailed questionnaires (Babbie, 2010). Quantitative interviews can also help reduce respondent confusion. If a respondent is unsure about the meaning of a question or answer option on a questionnaire, he or she probably will not have the opportunity to get clarification from the researcher. An interview, on the other hand, gives the researcher an opportunity to clarify or explain any items that may be confusing.

As with every method of data collection we have discussed, there are also drawbacks to conducting quantitative interviews. Perhaps the largest, and of most concern to quantitative researchers, is interviewer effect. While questions on hard copy questionnaires may create an impression based on the way they are presented, having a person administer questions introduces many additional variables that might influence a respondent. However, the interviewer's best efforts to be as consistent as possible with quantitative data collection are key. Interviewing respondents is also much more time consuming and expensive than mailing questionnaires. Consequently, quantitative researchers may opt for written questionnaires over interviews on the grounds that they will be able to reach a large sample at a much lower cost than were they to interact personally with each and every respondent.

11.4 Issues to Consider for All Interview Types

While quantitative interviews resemble survey research in their question/answer formats, similarly to qualitative interviews, the researcher actually interacts with her or his subjects. The fact that the researcher interacts with his or her subjects creates a few complexities that deserve attention. We will examine some of those in the following sections.

Power

First and foremost, interviewers must be aware of and attentive to the power ***differential*** between themselves and interview participants. The interviewer sets the agenda and leads the conversation. While qualitative interviewers aim to allow participants to have some control over which or to what extent various topics are discussed, the researcher is in charge (at least that will be the perception of most respondents). As the researcher, you are asking someone to reveal things about themselves that they may not typically share with others. Also, you are generally not reciprocating by revealing much or anything about yourself. All these factors shape the power dynamics of an interview.

A number of excellent pieces have been written dealing with issues of power in research and data collection. An interesting paper by Karniell-Miller, Strier, and Pessach (2009) examines the power relationship from an ethics perspective. As demonstrated in Table 11.1, they draw from decades of research to describe a variety of ways to balance power in research in the three phases of research: before, during and after.

Table 11.1 Balancing the power relationship in research (adapted from Karniell et al., 2009).

Before the Research	During the Research	After the Research
Examine goals & reasons behind study.	Ensure language is tailored to the interviewee's capabilities & life experiences.	Check & recheck your obligation to ensure study population will not be hurt or negatively impacted by what you publish.
Examine personal commitment to ensure no harm to the population under study.	Show awareness of developing power relationship during interview, provide opportunities for feedback or objection from participants regarding research methods, etc.	Do not distort the meaning the participants intend. Make sure that you do not only present the voice of the participant, in addition to your own.
Clarify roles, responsibilities & rights of both participant and researcher at the various stages of the research project.	Provide reminders about the nature of the study & publication if an interviewee begins discussing intimate or sensitive issue.	Protect anonymity of participants.
Provide information about expected distribution of knowledge derived from study.	Commit to the principle of justice, ensuring the burden of participating does not outweigh the benefits.	Use participants´ own language in writing to best reflect what they wanted to share.
Commit to protecting privacy & anonymity.	Research should ensure the right to collect & use the collected data.	Provide thick description of the context, your own (and institutional) experience, values and pressures that play a role in how you interpret & present the data.
		Use reflexology to be transparent & accountable for the limitations of your methodology.

However, Karniell-Miller et al., (2009) warn that permitting participants to play a significant role in the research can lead to a variety of ethical challenges, such as the loss of the researcher´s right to intellectual and academic freedom, and/or the oversimplification of theoretical constructs that may arise from the research.

Another way to balance the power differential between yourself and your interview participants is to make the intent of your research very clear to the subjects. Share with them your rationale for conducting the research and the research question(s) that frame your work. Be sure that you also share with subjects how the data you gather will be used and stored. Also, be sure that participants understand how their privacy will be protected including who will have access to the data you gather from them and what procedures, such as using pseudonyms, you will take to protect their identities. Many of these details will be covered by your institutional review board's informed consent procedures and requirements, but even if they are not, as researchers, we should be attentive to the ways in which sharing information with participants can help balance the power differences between ourselves and those who participate in our research.

As Saylor Academy (2012) observes, when it comes to handling the power differential between the researcher and participants, there are no easy answers and no general agreement as to the best approach for handling the power differential. It is nevertheless an issue for researchers to note when conducting any form of research, particularly those that involve interpersonal interactions and relationships with research participants.

Location, location, location

One way to balance the power between researcher and

respondent is to conduct the interview in a location of participants' choosing, where they will feel most comfortable answering questions. Interviews can take place in any number of locations: respondents' homes or offices, researchers' homes or offices, coffee shops, restaurants, public parks, or hotel lobbies, to name just a few possibilities. While it is important to allow respondents to choose the location that is most convenient and comfortable for them, it is also important to identify a location where there will be few distractions. For example, some coffee shops and restaurants are so loud that recording the interview can be a challenge. Other locations may present different sorts of distractions. For example, the presence of children during an interview can be distracting for both the interviewer and the interviewee. On the other hand, the opportunity to observe such interactions could be invaluable to your research (depending upon the topic). As an interviewer, you may want to suggest a few possible locations, and note the goal of avoiding distractions, when you ask your respondents to choose a location.

Of course, the extent to which a respondent should be given complete control over choosing a location must also be balanced by accessibility of the location to you, the interviewer, and by safety and comfort level with the location. While it is important to conduct interviews in a location that is comfortable for respondents, doing so should never come at the expense of your safety.

Researcher-respondent relationship

Finally, a unique feature of interviews is that they require some social interaction, which means that, to at least some extent, a relationship is formed between interviewer and interviewee. While there may be some differences in how the researcher/

respondent relationship works, depending on whether your interviews are qualitative or quantitative, one essential relationship element is the same: respect. A good rapport between you and the person you interview is crucial to successful interviewing. Rapport is the sense of connection you establish with a participant. Palys and Atchison (2014) define rapport as the development of a bond of mutual trust between the researcher and the participant. They add that it is the basis upon which access is given to the researcher and valid data are collected.

Saylor Academy (2012) draws attention to the fact that some misguided researchers have attempted to develop rapport with their participants to a level that the participant believes the relationship is closer than it is. She warns against this and suggests that the key is respect. At its core, the interview interaction should not differ from any other social interaction in which you show gratitude for a person's time and respect for a person's humanity. It is crucial that you, as the interviewer, conduct the interview in a way that is culturally sensitive. In some cases, this might mean educating yourself about your study population and even receiving some training to help you learn to communicate effectively with your research participants. Do not judge your research participants; you are there to listen to them, and they have been kind enough to give you their time and attention. Even if you disagree strongly with what a participant shares in an interview, your job as the researcher is to gather the information being shared with you, not to make personal judgments about it. A research paper by Ryan and Dundon (2008) provides a variety of strategies for building rapport with the research participants in a respectful manner. Case Research Interviews- Eliciting Superior Quality Data.

The questions you ask respondents should indicate that you have actually heard what they have said. Active listening means that you will probe the respondent for more

information from time to time throughout the interview. A ***probe*** is a request for more information. Both qualitative and quantitative interviewers probe respondents, though the way they probe usually differs. In quantitative interviews, probing should be uniform. Often quantitative interviewers will predetermine what sorts of probes they will use.

In some ways qualitative interviews better lend themselves to following up with respondents and asking them to explain, describe, or otherwise provide more information. This is because qualitative interviewing techniques are designed to go with the flow and take whatever direction the respondent establishes during the interview. Nevertheless, it is worth your time to come up with helpful probes in advance of an interview, even in the case of a qualitative interview. You certainly do not want to find yourself stumped or speechless after a respondent has just said something about which you'd like to hear more. This is another reason that practicing your interview in advance with people who are similar to those in your sample is a good idea.

Summary

Summary

Many of the considerations related to quantitative interviews are similar to those of qualitative interviews. While both types of interviews involve some researcher/respondent interaction, the process of conducting the interview, and collecting and analyzing the findings, differ in a few key ways.

Key Takeaways

Key Takeaways

- The difference between surveys and ***standardized interviews*** is that questions and answer options are read to respondents in a standardized interview, rather than having respondents complete a questionnaire on their own. As with questionnaires, the questions posed in a standardized interview tend to be closed-ended.
- An ***interview schedule*** contains the list of questions and answer options that the researcher will read to respondents. In a quantitative interview, consistency in the way that the questions and answer options are presented is very important. The aim is to pose every question-and-answer option in the very same way to every respondent.
- Researchers must be aware of the ***power*** researchers can hold over respondents, particularly in standardized interviews, where the respondent has less control during the interview process. There are techniques to rebalance the power.
- ***Rapport*** is the sense of connection a researcher establishes with a participant. A good rapport

between interviewer and interviewee is crucial to successful interviewing.

- A ***probe*** is a request for more information. Active listening means the researcher will probe the respondent for more information from time to time throughout the interview. Both qualitative and quantitative interviewers probe respondents, though the way they probe usually differs. In quantitative interviews, probing should be uniform.

References

Babbie, E. (2010). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.

Busse, B., & Fuchs, M. (2012). The components of landline telephone survey coverage bias: The relative importance of no-phone and mobile-only populations. *Quality & Quantity*, *46*(4), 1209-1225. doi:10.1007/ s11135-011-9431-3.

Holbrook, A. L., Green, M. C., & Krosnick, J. A. (2003). Telephone versus face-to-face interviewing of national probability samples with long questionnaires. *Public Opinion Quarterly*, *67*, 79-125. Retrieved from http://www.business.illinois.edu/shavitt/BA_531/ Holbrook%20Green%20and%20Krosnick%202003.pdf

Karnieli-Miller, O., & Strier, R., & Pessach, L. (2009). Power relations in qualitative research. *Qualitative Health Research*, *19*(2), 279-289. doi:10.1177/1049732308329306

Ryan, P., & Dundon, T. (2008). Case research interviews: Eliciting superior quality data. I*nternational Journal of Case Method Research & Application*, xx(4), 443-450. Retrieved from https://pdfs.semanticscholar.org/7bb1/f3e62f354c06d917ccbe79f09061ed7cbb27.pdf?

Saylor Academy. (2012). Principles of sociological inquiry; *Qualitative and quantitative methods*. Washington, DC: Saylor Academy. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

CHAPTER 12: FIELD RESEARCH: A QUALITATIVE RESEARCH TECHNIQUE

Learning Objectives

- Define field research.
- Define ethnography.
- Explain the conditions under which it is appropriate to undertake field research.
- Identify the pros and cons of field research.
- Explain what is meant by "getting in" in the context of field research

If we wanted to know who conducts more of the housework in households, how could we find the answer? One way might be to interview people and simply ask them. That is exactly what Arlie Hochschild did in her study of "the second shift", her term for the work that goes on in the home after the day's work for pay is completed. Hochschild (1989) interviewed 50 heterosexual, married couples with children to learn about how they did, or did not, share the work of the second shift. Many of these couples reported to her that they shared the load of the second shift equally, sometimes dividing the house into

areas that were “her” responsibility and those that were “his.” Hochschild was not satisfied with just people’s personal accounts of second-shift work. She chose to observe 12 of these couples in their homes as well, to see for herself just how the second shift was shared.

What Hochschild discovered was that even those couples who claimed to share the second shift did not have as equitable a division of duties as they had professed. For example, one couple who told Hochschild during their interview that they shared the household work equally had explained that the wife was responsible for the upstairs portion of the house and the husband took responsibility for the downstairs portion. Upon conducting observations in this couple’s home, however, Hochschild discovered that the upstairs portion of the house contained all the bedrooms and bathrooms, the kitchen, the dining room, and the living room, while the downstairs included a storage space and the garage. This division of labour meant that the woman actually carried the weight of responsibility for the second shift. Without a field research component to her study, Hochschild might never have uncovered these and other truths about couples’ behaviours and sharing (or not sharing) of household duties.

Overall, there are two reasons for doing research in the field. The first is that from a qualitative perspective, behaviour only has meaning in the context in which it occurs. Therefore “in context” is the only place where the behaviour can accurately be observed (Palys & Atchison, 2014). The second is that, if the reason we undertake field research is to understand behaviour, then field research is the most relevant and valid option because it enables the duplication of “in context” conditions that influence behaviour, and provides the behaviour with its meaning (Palys & Atchison, p. 11).

12.1 Field Research: What it is?

Field research is a qualitative method of data collection aimed at understanding, observing, and interacting with people in their natural settings. In the context of research, observation is more than *just looking*. It involves *looking in a planned and strategic way with a purpose* (Palys & Atchison, 2014, p. 189). As such, when social scientists talk about being in "the field," they are talking about being out in the real world and involved in the everyday lives of the people they are studying. Sometimes researchers use the terms ***ethnography*** or ***participant observation*** to refer to this method of data collection; the former is most commonly used in anthropology, while the latter is used commonly in sociology. For our purposes, we will use two main terms: *field research* and *participant observation*. You might think of field research as an umbrella term that includes the myriad activities that field researchers engage in when they collect data: they participate; they observe; they usually interview some of the people they observe; and they typically analyze documents or artifacts created by the people they observe.

Researchers conducting participant observation vary in the extent to which they participate or observe. Palys and Atchison (2014, p. 198) refer to this as the "participant-observer continuum," ranging from complete participant to complete observer. This continuum is demonstrated in Figure 12.1. However, these researchers, as to do other researchers, question whether a researcher can be at the "complete observer" end of the continuum. Rather, they contend, it is increasingly acknowledged that, even as an observer, the

researcher is participating in what is being studied and therefore cannot really be a complete observer.

Figure 12.1 (Palys & Atchison, 2014)

Indeed, it is important to acknowledge that there are pros and cons associated with both aspects of the participant/observer's role. For example, depending upon how fully researchers observer their subjects (as opposed to participating), they may miss important aspects of group interaction and may not have the opportunity to *fully* grasp what life is like for the people they observe. At the same time, sitting back and observing may grant researchers opportunities to see interactions that they would miss, were they more involved.

Ethnography is not to be confused with ethnomethodology. Ethnomethodology will be defined and described in Chapter13

Participation has the benefit of allowing researchers a real taste of life in the group that they study. Some argue that participation is the only way to understand what it is that is being investigated. On the other hand, fully immersed participants may find themselves in situations that they would rather not face but from which cannot excuse themselves *because* they have adopted the role of a fully immersed participant. Further, participants who do not reveal themselves as researchers must face the ethical quandary of possibly deceiving their subjects. In reality, much field research lies somewhere near the middle of the observer/participant continuum. Field researchers typically participate to at least some extent in their field sites, but there are also times when they may strictly observe.

12.2 Field Research: When is it Appropriate?

Field research is well equipped to answer "how" questions. Whereas survey researchers often aim to answer "why" questions, field researchers ask how the processes they study occur, how the people they spend time with in the field interact, and how events unfold. Table 12.1 "Field Research Examples" presents a few examples of the kinds of questions field researchers have asked in past projects along with a brief summary of where and what role those researchers took in the field. The examples presented in Table 12.1 "Field Research Examples" by no means represent an exhaustive list of the variations of questions field researchers have asked, or of the range of field research projects that have been conducted over the years, but they do provide a snapshot of the kinds of work win which sociological field researchers engage.

Table 12.1 Field research examples

Question	Researcher Role	Author (Year)
What are the prospects for cross-cultural, interdisciplinary and methodologically plural approach to well-being?	Over 2 years (August to November 2010 & 2012) of interviews in Chiawa, Zambia	White & Jha (2018)
What are the novel and innovative solutions to critical limitations in existing police research?	Undefined	Birch, Vickers, Kennedy & Galovic (2017)
What visions of the law do policewomen and popular legal advocates mobilize when they construct their responses to victims? How is evidence constructed in each specific setting?	Between 2012 and 2013	Lorenzo, R. A. Lins, B. A. (2018)
How do firefighters perceive their risk as part of the "cancer"?	"Over several months ..."	Harrrison, et al. (2017)
What is the nature of the encounters police have with persons affected by mental illness, and the ways in which such encounters are resolved by policy?	Eighteen months	Wood, Watson, Fulambarker (2017)

Are students engaging in social medial and other non-study behaviours more often than they are studying?	"Several weeks in one semester" at two universities.	Paretta & Catalano (2013)

Note: Many of the above studies had more than one research question. Only one research question per study has been listed for demonstration purposes.

12.3 The Pros and Cons of Field Research

Field research allows researchers to gain firsthand experience and knowledge about the people, events, and processes that they study. No other method offers quite the same kind of close-up lens on everyday life. This close-up on everyday life means that field researchers can obtain very detailed data about people and processes, perhaps more detailed than they can obtain using any other method.

Additionally, field research is an excellent method for understanding the role of social context in shaping people's lives and experiences. It enables a greater understanding of the intricacies and complexities of daily life. Field research may also uncover elements of people's experiences or of group interactions of which we were not previously aware. This, in particular, is a unique strength of field research. With other methods, such as interviews and surveys, we certainly cannot expect a respondent to answer a question to which they do not know the answer or to provide us with information of which they are not aware. And because field research typically occurs over an extended period of time, social facts that may not be immediately revealed to a researcher, but that are discovered over time, can be uncovered during the course of a field research project.

The major benefits of field research are:

1. It yields very detailed data.
2. It emphasizes the role and relevance of social context.
3. It can uncover social facts that may not be immediately obvious, or of which research participants may be unaware.

On the other hand, the fact that field researchers collect very detailed data does come at a cost. Because a field researcher's focus is so detailed, it is, by necessity, also somewhat narrow. Field researchers simply are not able to gather data from as many individuals as, say, a survey researcher can reach. Indeed, field researchers generally sacrifice breadth in exchange for depth. Related to this point is the fact that field research is extremely time intensive.

Field research can also be emotionally taxing. It requires, to a certain extent, the development of a relationship between a researcher and her participants. However, if interviews and field research both require relationship development, you might say that interviews are more like casual dating while field research is more like a full-blown, committed marriage.

The relationships you develop as a field researcher are sustained over a much longer period than the hour or two it might take you to conduct an interview. Not only do the relationships last longer, but they are also more intimate. On the plus side, these relationships can be very rewarding (and yield the rich, detailed data noted as a strength in the preceding discussion). But, as in any relationship, field researchers experience not just the highs but also the lows of daily life and interactions. And participating in day-to-day life with one's research subjects can result in some tricky ethical quandaries (see Chapter 2 "Ethics in Research" for a discussion of some of these quandaries). It can also be a challenge if your aim is to observe as "objectively" as possible.

Finally, documentation can be challenging for field researchers. Whereas survey researchers provide questionnaires for research participants to complete, and interviewers have recordings, field researchers generally have only themselves to rely on for documenting what they observe. This challenge becomes immediately apparent upon entering the field. It may not be possible to take field notes as you observe, nor will you necessarily know which details to

document or which will become the most important details to have noted. And when you take notes after some observation, you may not recall everything exactly as you saw it when you were there. The weaknesses of field research include that:

1. it may lack breadth; gathering very detailed information means being unable to gather data from a very large number of people or groups;
2. it may be emotionally taxing; and
3. documenting observations may be more challenging than with other methods.

12.4 Getting In and Choosing a Site

When embarking on a field research project, there are two major aspects to consider. The first is where to observe and the second is what role you will take in your field site. Your decision about each of these will be shaped by a number of factors, over some of which you will have control and others you will not. Your decision about where to observe and what role to play will also have consequences for the data you are able to gather and how you analyze and share those data with others. We will examine each of these contingencies in the following subsections.

Your research question might determine where you observe, by, but because field research often works inductively, you may not have a totally focused question before you begin your observations. In some cases, field researchers choose their final research question once they embark on data collection. Other times, they begin with a research question but remain open to the possibility that their focus may shift as they gather data. In either case, when you choose a site, there are a number of factors to consider. These questions include:

1. What do you hope to accomplish with your field research?
2. What is your topical/substantive interest?
3. Where are you likely to observe behaviour that has something to do with that topic?
4. How likely is it that you will actually have access to the locations that are of interest to you?
5. How much time do you have to conduct your participant observations?
6. Will your participant observations be limited to a single

location, or will you observe in multiple locations?

Perhaps the best place to start, as you work to identify a site or sites for your field research, is to think about your ***limitations***. One limitation that could shape where you conduct participant observation is time. Field researchers typically immerse themselves in their research sites for many months, sometimes even years. As demonstrated in Table 12.1 "Field Research Examples", other field researchers have spent as much or even more time in the field. Do you have several years available to conduct research, or are you seeking a smaller-scale field research experience? How much time do you have to participate and observe per day? Per week? Identifying how available you'll be in terms of time will help you determine where and what sort of research sites to choose. Also think about where you live and whether travel is an option for you. Some field researchers move to live with or near their population of interest. Is this something you might consider? How you answer these questions will shape how you identify your research site. Where might your field research questions take you?

In choosing a site, also consider how your social location might limit what or where you can study. The ***ascribed*** aspects of our locations are those that are involuntary, such as our age or race or mobility. For example, how might your ascribed status as an adult shape your ability to conduct complete participation in a study of children's birthday parties? The ***achieved*** aspects of our locations, on the other hand, are those about which we have some choice. In field research, we may also have some choice about whether, or the extent to which, we reveal the achieved aspects of our identities.

Finally, in choosing a research site, consider whether your research will be a collaborative project or whether you are on your own. Collaborating with others has many benefits; you can cover more ground, and therefore collect more data, than

you can on your own. Having collaborators in any research project, but especially field research, means having others with whom to share your trials and tribulations in the field. However, collaborative research comes with its own set of challenges, such as possible personality conflicts among researchers, competing commitments in terms of time and contributions to the project, and differences in methodological or theoretical perspectives (Shaffir, Marshall, & Haas, 1979). When considering something that is of interest to you, consider also whether you have possible collaborators. How might having collaborators shape the decisions you make about where to conduct participant observation?

This section began by asking you to think about limitations that might shape your field site decisions. But it makes sense to also think about the *opportunities*—social, geographic, and otherwise—that your location affords. Perhaps you are already a member of an organization where you would like to conduct research. Maybe you know someone who knows someone else who might be able to help you access a site. Perhaps you have a friend you could stay with, enabling you to conduct participant observations away from home. Choosing a site for participation is shaped by all these factors—your research question and area of interest, a few limitations, some opportunities, and sometimes a bit of being in the right place at the right time.

Choosing a role

As with choosing a research site, some limitations and opportunities beyond your control might shape the role you take once you begin your participant observation. You will also need to make some deliberate decisions about how you enter the field and who you will be once you are in.

In terms of entering the field, one of the earliest decisions you will need to make is whether to be overt or covert. As an overt

researcher, you enter the field with your research participants having some awareness about the fact that they are the subjects of social scientific research. Covert researchers, on the other hand, enter the field as though they are full participants, opting not to reveal that they are also researchers or that the group they've joined is being studied. As you might imagine, there are pros and cons to both approaches. A critical point to keep in mind is that whatever decision you make about how you enter the field will affect many of your subsequent experiences in the field.

As an overt researcher, you may experience some trouble establishing rapport at first. Having an insider at the site who can vouch for you will certainly help, but the knowledge that subjects are being watched will inevitably (and understandably) make some people uncomfortable and possibly cause them to behave differently than they would, were they not aware of being research subjects. Because field research is typically a sustained activity that occurs over several months or years, it is likely that participants will become more comfortable with your presence over time. Overt researchers also avoid a variety of moral and ethical dilemmas that they might otherwise face.

As a covert researcher, "getting in" your site might be quite easy; however, once you are in, you may face other issues. Some questions to consider are:

1. How long would you plan to conceal your identity?
2. How might participants respond once they discover you've been studying them?
3. How will you respond if asked to engage in activities you find unsettling or unsafe?

Researcher, Jun Li (2008) struggled with the ethical challenges of "getting in" to interview female gamblers as a covert researcher. Her research was part of a post-doctoral fellowship

from the Ontario Problem Gambling Research Centre to study female gambling culture. In response to these ethical aspects, she changed her research role to overt; however, in her overt role female gamblers were reluctant to "speak their minds" to her (p. 100). As such, she once again adjusted her level of involvement in the study to one who participated in female gambling culture as an insider and observed as an outsider. You can read her interesting story at the following link: https://nsuworks.nova.edu/tqr/vol13/iss1/8.

Beyond your own personal level of comfort with deceiving participants and willingness to take risks, it is possible that the decision about whether or not to enter the field covertly will be made for you. If you are conducting research while associated with any federally funded agency (and even many private entities), your institutional review board (IRB) probably will have something to say about any planned deception of research subjects. Some IRBs approve deception, but others look warily upon a field researcher engaging in covert participation. The extent to which your research site is a public location, where people may not have an expectation of privacy, might also play a role in helping you decide whether covert research is a reasonable approach.

Having an insider at your site who can vouch for you is helpful. Such insiders, with whom a researcher may have some prior connection or a closer relationship than with other site participants, are called key informants. A key informant can provide a framework for your observations, help translate what you observe, and give you important insight into a group's culture. If possible, having more than one key informant at a site is ideal, as one informant's perspective may vary from another's.

Once you have made a decision about how to enter your field site, you will need to think about the role you will adopt while there. Aside from being overt or covert, how close will you be to participants? In the words of Fred Davis (1973), [12]

who coined these terms in reference to researchers' roles, "will you be a Martian, a Convert, or a bit of both"? Davis describes the Martian role as one in which a field researcher stands back a bit, not fully immersed in the lives of his subjects, in order to better problematize, categorize, and see with the eyes of a newcomer what's being observed. From the Martian perspective, a researcher should remain disentangled from too much engagement with participants. The Convert, on the other hand, intentionally dives right into life as a participant. From this perspective, it is through total immersion that understanding is gained. Which approach do you feel best suits you?

In the preceding section we examined how ascribed and achieved statuses might shape how or which sites are chosen for field research. They also shape the role the researcher adopts in the field site. The fact that the authors of this textbook are professors, for example, is an achieved status. We can choose the extent to which we share this aspect of our identities with field study participants. In some situations, sharing that we are professors may enhance our ability to establish rapport; in other field sites it might stifle conversation and rapport-building. As you have seen from the examples provided throughout this chapter, different field researchers have taken different approaches when it comes to using their social locations to help establish rapport and dealing with ascribed statuses that differ from those of their "subjects

Whatever role a researcher chooses, many of the points made in Chapter 11 "Quantitative Interview Techniques" regarding power and relationships with participants apply to field research as well. In fact, the researcher/researched relationship is even more complex in field studies, where interactions with participants last far longer than the hour or two it might take to interview someone. Moreover, the potential for exploitation on the part of the researcher is even greater in field studies, since relationships are usually closer

and lines between research and personal or off-the-record interaction may be blurred. These precautions should be seriously considered before deciding to embark upon a field research project

Field notes

The aim with field notes is to record your observations as straightforwardly and, while in the field, as quickly as possible, in a way that makes sense to *you*. Field notes are the first—and a necessary—step toward developing quality analysis. They are also the record that affirms what you observed. In other words, field notes are not to be taken lightly or overlooked as unimportant; however, they are not usually intended for anything other than the researcher's own purposes as they relate to recollections of people, places and things related to the research project.

Some say that there are two different kinds of field notes: descriptive and analytic. Though the lines between what counts as description and what counts as analysis can become blurred, the distinction is nevertheless useful when thinking about how to write and how to interpret field notes. In this section, we will focus on descriptive field notes. ***Descriptive field*** notes are notes that simply describe a field researcher's observations as straightforwardly as possible. These notes typically do not contain explanations of, or comments about, those observations. Instead, the observations are presented on their own, as clearly as possible. In the following section, we will define and examine the uses and writing of ***analytic field*** notes more closely.

Analysis of field research data

Field notes are data. But moving from having pages of data to presenting findings from a field study in a way that will make sense to others requires that those data be analyzed. Analysis of field research data is the focus in this final section of the chapter.

From description to analysis

Writing and analyzing field notes involves moving from description to analysis. In Section 12.4 "Field Notes", we considered field notes that are mostly descriptive in nature. In this section we will consider analytic field notes. Analytic field notes are notes that include the researcher's impressions about his observations. Analyzing field note data is a process that occurs over time, beginning at the moment a field researcher enters the field and continuing as interactions happen in the field, as the researcher writes up descriptive notes, and as the researcher considers what those interactions and descriptive notes mean.

Often field notes will develop from a more descriptive state to an analytic state when the field researcher exits a given observation period, with messy jotted notes or recordings in hand (or in some cases, literally on hand), and sits at a computer to type up those notes into a more readable format. We have already noted that carefully paying attention while in the field is important; so is what goes on immediately upon exiting the field. Field researchers typically spend several hours typing up field notes after each observation has occurred. This is often where the analysis of field research data begins. Having time outside of the field to reflect upon your thoughts about

what you have seen and the meaning of those observations is crucial to developing analysis in field research studies.

Once the analytic field notes have been written or typed up, the field researcher can begin to look for patterns across the notes by coding the data. This will involve the iterative process of open and focused coding that is outlined in Chapter 10, "Qualitative Data Collection & Analysis Methods." As mentioned in Section 12.4 "Field Notes", it is important to note as much as you possibly can while in the field and as much as you can recall after leaving the field because you never know what might become important. Things that seem decidedly unimportant at the time may later reveal themselves to have some relevance.

As mentioned in Chapter 10, analysis of qualitative data often works inductively. The analytic process of field researchers and others who conduct inductive analysis is referred to as grounded theory (Glaser & Strauss, 1967; Charmaz, 2006). The goal when employing a grounded theory approach is to generate theory. Its name not only implies that discoveries are made from the ground up but also that theoretical developments are grounded in a researcher's empirical observations and a group's tangible experiences. Grounded theory requires that one begin with an open-ended and open-minded desire to understand a social situation or setting and involves a systematic process whereby the researcher lets the data guide her rather than guiding the data by preset hypotheses.

As exciting as it might sound to generate theory from the ground up, the experience can also be quite intimidating and anxiety-producing, since the open nature of the process can sometimes feel a little out of control. Without hypotheses to guide their analysis, researchers engaged in grounded theory work may experience some feelings of frustration or angst. The good news is that the process of developing a coherent theory that is grounded in empirical observations can be quite

rewarding, not only to researchers, but also to their peers, who can contribute to the further development of new theories through additional research, and to research participants who may appreciate getting a bird's-eye view of their every day.

Summary

Summary

This chapter focused on a qualitative research method known as field research. It involves participant observation, interviewing, and document or artifact analysis. Field research can gather very detailed data; however, as such, field researchers often sacrifice breadth for depth as it relates to their findings.

Key Takeaways

Key Takeaways

- ***Ethnography*** or ***participant observation*** is a method of data collection; the former is most commonly used in anthropology, while the latter is used commonly in sociology.
- ***Field research*** typically involves a combination of participant observation, interviewing, and document or artifact analysis. It is a method used in qualitative research.
- The level to which a researcher undertakes ***participant observation*** lies on a continuum from complete observer to complete participant; however, most examples lie near the middle of the continuum.
- ***Strengths of field research*** include the fact that it yields very detailed data; it can uncover social facts that are not immediately obvious.
- ***Weaknesses of the field research*** include: researchers may have to sacrifice breadth for depth; the research may be emotionally taxing; and documenting observations can be challenging.
- The ***ascribed*** aspects of our infield locations are those that are involuntary, such as our age or race or mobility. The ***achieved*** aspects of our infield

locations, on the other hand, are those that we have some choice about.

- ***Overt researchers*** enter the field with the research participants' awareness of the fact that they are the subjects of social scientific research. ***Covert researchers***, on the other hand, enter the field as though they are full participants, opting not to reveal that they are also researchers or that the group they have joined is being studied.
- ***Descriptive field*** notes are notes that simply describe a field researcher's observation as straightforwardly as possible. These notes typically do not contain explanations of, or comments about, those observations.
- In field research ***observation*** is deliberate, not haphazard.
- ***Handwritten notes*** must be typed up immediately upon leaving the field so that researchers can fill the blanks in their brief notes taken while in the field.
- ***Analytic field notes*** are notes that include the researcher's impressions about his observation.
- ***Grounded theory*** involves generating theory from the ground up. In analyzing their data, many field researchers conduct grounded theory.

References

Birch, P., Vickers, M. H., Kennedy, M., & Galovic, S. (2017). Wellbeing, occupational justice and police practice: An ´affirming environment´? *Police Practice & Research*, *18*(1), 26-36. http://dx.doi.org/10.1080/ 15614263.2016.1205985

Harrison, T. R., Yang, F., Anderson, D., Morgan, S. E., Muhamad, J. W., Solle, N.S., ...Kobetz, E. (20017). Resilience, culture change, and cancer risk reduction in a fire rescue organization: Clean gear as the new badge of honor. *Journal of Contingencies and Crisis Management*, *25*, 171-181. doi:10.1111/1468-5973.12182

Hochschild, A. (1989). *The second shift: Working parents and the revolution at home* (1st ed.). New York, NY: Viking.

Humphreys, L. (1970). *Tearoom trade: Impersonal sex in public places*. London, UK: Duckworth.

Li, J. (2008). Ethical challenges in participant observation: A reflection on ethnographic fieldwork. *The Qualitative Report*, *13*(1), 100-115. Retrieved from https://nsuworks.nova.edu/tqr/vol13/iss1/8

Lorenzo, R. A., & Lins, B. A. (2018). The act of listening to "battered" women: An ethnographic comparison of police and emergency responses in Sao Paulo, Brazil. *Latin American Research Review*, *53*(1), 96-110. doi: https://doi.org/10.25222/larr.348

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Paretta, L. T., Catalano, A. (2013). What students really do in the library: An observational study. *The Reference Library*, *54*(2), 157-167. doi:10.1080/02763877.2013.755033

Saylor Academy. (2012). *Principles of sociological inquiry; Qualitative and quantitative methods*. Washington, DC: Saylor

Academy. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

Shaffir, W., Marshall, V., & Haas, J. (1980). Competing commitments: Unanticipated problems of field research. *Qualitative Sociology*, *2*(3), 56-71.

White, C. & Jha, S. (2018). Towards an interdisciplinary approach to wellbeing: Life histories and self- determination theory in rural Zambia. *Social Science & Medicine*, 212, 153-160. doi:10.1016/ j.socscimed.2018.07.026

Wood, J. D., Watson, A. C., & Fulambarker, A. J. (2017). The "gray zone" of police work during mental health encounters: Findings from an observational study in Chicago. *Police Quarterly*, *20*(1), 81-105. doi:10.1177/1098611116658875

CHAPTER 13: UNOBTRUSIVE RESEARCH: QUALITATIVE AND QUANTITATIVE APPROACHES

Learning Objectives

- Define unobtrusive research methods and explain when it is suitable to employ this type of research method.
- Outline the benefits and the drawbacks of using unobtrusive research methods.
- Define the Hawthorne effect.
- Explain the difference between primary and secondary data sources.
- Explain the various methods for conducting unobtrusive research.
- Describe some of the advantages and disadvantages of analyzing other people's data.
- Describe three measures of reliability in unobtrusive research.

- Define ethnomethodology and conversation analysis.

Unobtrusive research refers to methods of collecting data that do not interfere with the subjects under study (because these methods are not *obtrusive*). Both qualitative and quantitative researchers use unobtrusive research methods. Unobtrusive methods share the unique quality that they do not require the researcher to interact with the people he or she is studying. It may seem strange that sociology, a discipline dedicated to understanding human social behaviour, would employ a methodology that requires no interaction with human beings. However, humans create plenty of evidence of their behaviours: they write letters to the editor of their local paper; they create various sources of entertainment for themselves, such as movies and televisions shows; they consume goods; they walk on sidewalks; and they lie on the grass in public parks. All these activities leave something behind: printed papers, recorded shows, trash, and worn paths. These are all potential sources of data for the unobtrusive researcher.

Sociologists interested in history are likely to use unobtrusive methods, which are also well suited to comparative research. Historical comparative research is "research that focuses either on one or more cases over time (the historical part) or on more than one nation or society at one point in time (the comparative part)" (Esterberg, 2002, p. 129). While not all unobtrusive researchers necessarily conduct historical, comparative, or even some combination of historical and comparative work, unobtrusive methods are well suited to such work.

In this chapter, we will examine content analysis as well as analysis of data collected by others. Both types of analysis use

data that do not require direct interaction with human subjects, but the particular type and source of data for each type of analysis differs. We will explore these similarities and differences in the following sections, after we look at some of the pros and cons of unobtrusive research methods.

As is true of the other research types we have examined thus far, unobtrusive research has both strengths and weaknesses.

13.1 Strengths of Unobtrusive Research

Researchers who seek evidence of what people actually do, as opposed to what they say they do in survey and interview research, might wish to consider using unobtrusive methods. Field researchers may also claim this advantage over interview and survey research, but field researchers cannot be certain about what effect their presence in the field may have on the people and the interactions that they observe. While unobtrusive research projects, like all research projects, face the risk of introducing researcher bias into the work, researchers employing unobtrusive methods do not need to be concerned about the effect of the research *on their subjects*. This effect, known as the ***Hawthorne effect***, is not a concern for unobtrusive researchers because they do not interact directly with their research participants. In fact, this is one of the major strengths of unobtrusive research.

Another benefit of unobtrusive research is that it can be relatively low-cost compared to some of the other methods we have discussed. Because participants are generally inanimate objects as opposed to human beings, researchers may be able to access data without having to worry about paying participants for their time (though certainly travel to or access to some documents and archives can be costly).

Unobtrusive research is also forgiving. What this means is that it is far easier to correct mistakes made in data collection when conducting unobtrusive research than when using any of the other methods described in this text. Imagine what you would do, for example, if you realized at the end of conducting 50 in-depth interviews that you had accidentally omitted two critical questions from your interview guide. What are your

options? Re-interview all 50 participants? Try to figure out what they might have said based on their other responses? Reframe your research question? Scratch the project entirely? Obviously none of these options is ideal. The same problems arise if a mistake is made in survey research. For field researchers, the consequences of "messing up" during data collection can be even more disastrous. Imagine discovering after tagging along on a political candidate's campaign that you needed to re-do aspects of the field research. In many cases, such as this one, that simply is not an option. The campaign is over, and you would need to find a new source of data. Fortunately for unobtrusive researchers, going back to the source of the data to gather more information or correct some problem in the original data collection is a relatively straightforward prospect.

Finally, unobtrusive research is well suited to studies that focus on processes that occur over time. While longitudinal surveys and long-term field observations are also suitable ways of gathering such information, they cannot examine processes that occurred decades before data collection began, nor are they the most cost-effective ways to examine long-ranging processes. Unobtrusive methods, on the other hand, enable researchers to investigate events and processes that have long since passed. They also do not rely on retrospective accounts, which may be subject to errors in memory, as some longitudinal surveys do.

13.2 Weaknesses of Unobtrusive Research

While there are many benefits to unobtrusive research, this method also comes with a unique set of drawbacks. Because unobtrusive researchers analyze data that may have been created or gathered for purposes entirely different from the researcher's aim, problems of validity sometimes arise in such projects. It may also be the case that data sources measuring whatever a researcher wishes to examine simply do not exist. This means that unobtrusive researchers may be forced to tweak their original research interests or questions to better suit the data that are available to them. Finally, it can be difficult in unobtrusive research projects to account for context. In a field research project, for example, the researcher is able to see what events lead up to some occurrence and observe how people respond to that occurrence. What this means for unobtrusive research is that while it can be difficult to ascertain *why* something occurred, we can gain a good understanding of *what* has occurred.

The ***weaknesses*** of unobtrusive research include the following:

1. There may be potential problems with validity.
2. The topics or questions that can be investigated are limited by data availability.
3. It can be difficult to see or account for social context.

The ***strengths*** of unobtrusive research include the following:

1. There is no possibility for the Hawthorne effect.
2. The method is cost effective.

3. It is easier in unobtrusive research than with other methods to correct mistakes.
4. Unobtrusive methods are conducive to examining processes that occur over time or in the past.

13.3 Unobtrusive Methods

This section focuses on how to gather data unobtrusively and what to do with those data once they have been collected. A variety of ways exist for gathering data unobtrusively. For these purposes we will focus on three: content analysis, physical trace, and archival methods.

Content analysis

One way of conducting unobtrusive research is to analyze texts. Texts come in all formats. At its core, content analysis addresses the questions of "Who says what, to whom, why, how, and with what effect?" (Babbie, 2010, pp. 328–329). Content analysis is a type of unobtrusive research that involves the study of human communications. Another way to think of content analysis is as a way of studying texts and their meaning. Here we use a more liberal definition of text than you might find in your dictionary. The text that content analysts investigate includes such things as actual written copy (e.g., newspapers, letters, and communiques) and content that we might see or hear (e.g., speeches or other performances). Content analysts might also investigate more visual representations of human communication, such as television shows, advertisements, or movies. Content analysis can also be an effective way to investigate policy change over time. For example, Sheppard and Fennell (2019) utilized a content analysis approach to examine public sector tourism policies from around the world over a time span of approximately 30 years. In their research, they were looking for evidence of growing concern for the

environment and welfare of animals used in the tourism experience (e.g., beasts of burden, racing, fighting, competitions, hunting, guides, captivity/entertainment, etc.).

Figure 13.3 Soragrit Wongsa on Unsplash. Assorted photos on beige wooden table monitoring environmental changes.

One important point of note is that content analysis is usually concerned with analyzing ***primary sources of data.*** In other words, the data is original. In contrast, ***secondary sources***, are those that have already been analyzed. The distinction between primary and secondary sources is important for many aspects of social science, but it is *especially* important to understand when conducting content analysis. Less frequently, a content analysis can involve the analysis of secondary sources. In those instances where secondary sources are analyzed, the researcher's focus is usually on the process by which the original analyst or presenter of data reached his conclusions, or the choices that were made in terms of how and in what ways to present the data.

Sometimes students new to research methods struggle to grasp the difference between a content analysis of secondary sources and a review of literature, which was discussed in Chapter 5 "The Literature Review". With a review of literature,

researchers analyze secondary materials to try to understand what we know and what we do not know about a particular topic. The sources used to conduct a scholarly review of the literature are typically peer-reviewed sources, written by trained scholars, published in some academic journal or press, and based on empirical research that has been conducted using accepted techniques of data collection for the discipline (scholarly theoretical pieces are included in literature reviews as well). These sources are reviewed in order to arrive at some conclusion about our overall knowledge about a topic. Findings are generally taken at face value

A content analysis of scholarly literature would raise questions not raised in a literature review. A content analyst might examine scholarly articles to learn something about the authors (e.g., who publishes what, and where?); publication outlets (e.g., how well do different journals represent the diversity of the discipline?); or topics (e.g., how has the popularity of topics shifted over time?). A content analysis of scholarly articles would be a study of the studies, as opposed to a review of the studies. For example, Sheppard and Fennell wanted to understand whether tourism policy demonstrated a growing concern over time for animal welfare. The researchers conducted their content analysis of different policies from around the world, looking for words that were associated with concern for animal welfare. Occurrences of these words were counted. In this example, the researchers were not aiming to summarize the content of the tourism policies; rather, they were attempting to learn something about how the policies had evolved over time to demonstrate concern for animals, if at all.

Content analysis can be qualitative or quantitative, and often researchers will use both strategies to strengthen their investigations. In qualitative content analysis the aim is to identify themes in the text being analyzed, and to identify the underlying meaning of those themes. Quantitative content

analysis, on the other hand, involves assigning numerical values to raw data so that it can be analyzed using various statistical procedures. Sheppard and Fennell used both qualitative and quantitative approaches in their content analysis. They utilized quantitative approaches by counting the occurrences of words that they considered to be associated with concern for the welfare of animals impacted by tourism. They also used qualitative approaches by drawing blocks of text or sentences into their analysis of the various policies to demonstrate how the policies indicated or did not indicate concern for animal welfare. We will elaborate on how qualitative and quantitative researchers collect, code, and analyze unobtrusive data in the final portion of this section.

One of the most significant challenges related to content analysis is the potential to reproduce the data (Krippendorff, 2004a, p. 215). Krippendorff (2004b) suggests that an agreement coefficient can be utilized as an indicator of reliability. He explains the relationship between agreement and reliability, stating that agreement is what we measure, while reliability is what we wish to inform from the measurement. While beyond our purposes here, Krippendorff (2004b) compares seven different agreement coefficients and makes recommendations for testing reliability in content analysis. See Section 13.4 below for suggestions on improving reliability in content analysis.

Physical trace

Content is not the only sort of data that researchers can collect unobtrusively. Unobtrusive researchers might also be interested in analyzing the evidence that humans leave behind that tells us something about who they are or what they do. This kind evidence includes the ***physical traces*** left by humans and the ***material artifacts*** that tell us something about their

beliefs, values, or norms. Fire and police will examine scenes for "trace" evidence such as fingerprints, fire starter or retardant, DNA etc. to help solve the mystery of what happened. From a medical point of view, trace evidence can be used to assist paramedics and doctors to determine what has happened – whether there is bruising, cuts, pupil dilation, etc.

There are two types of physical traces: erosion and accretion. ***Erosion*** refers to the wearing away, or removal, of material because of a physical activity (e.g., a worn foot path). On the other hand, ***accretion*** is the building up of material because of physical activity (e.g., a pile of garbage) (Palys & Atchison, 2014).

One challenge with analyzing physical traces and material artifacts is that you generally do not have access to the people who left the traces or created the artifacts that you are analyzing. (And if you did find a way to contact them, in so doing, your research would no longer qualify as unobtrusive!) It can be especially tricky to analyze the meanings of these materials if they come from a historical or cultural context other than your own. Situating the traces or artifacts you wish to analyze both in their original contexts and in your own is not always easy, and can lead to problems related to validity and reliability. How do you know that you are viewing an object or physical trace in the way that it was intended to be viewed? Do you have the necessary understanding or knowledge about the background of its original creators or users to understand where they were coming from when they created it?

While physical traces and material artifacts make excellent sources of data, analyzing their meaning takes more than simply trying to understand them from your own contextual position. You must also be aware of who caused the physical trace or created the artifact, when they created it, why they created it, and for whom they created it. Answering these questions will require accessing materials in addition to the traces or artifacts themselves. It may require accessing historical documents or, if it is a contemporary trace or artifact,

perhaps another method of data collection such as interviews with its creators.

Archival measures

Archival measures are hard copy documents or records, including written or tape-recorded material, photographs, newspapers, books, magazines, diaries, and letters. Webpages are also a source of archival measures and can include documents, images, videos, and audio files, in addition to written materials (Palys & Atichison, 2014). While one might state that archival measures are just another form of accretion measure, because they are the products of human activity; however, they are defined separately due to significant differences and also the vast quantity of materials that are classified as archival measures.

There are many benefits to using archival measures. For example, they enable a researcher to look at historical evidence, providing an indication of social processes. As such, archival measures gel well with longitudinal studies. However, one thing to consider is that the sources one may be interested in as it relates to archival measures were not created with the goal in mind for a researcher to review them. As a result, the reasons for the documents' creation, and what may have influenced the content of the document, should be given consideration and critical thought. In some cases, researchers will use data from previous studies to assess the material from another angle. Survey data are frequently used in this way by researchers. Issues like memory fade, telescoping and the like, which influence how people respond to questions in a survey, remain an issue for researchers doing secondary analysis, regardless of how good the questions are.

Another advantage of archival methods is that the researcher can look at all relevant records, or the entire "population,"

assuming the records have been digitized. In such cases, the researcher does not need to worry about choosing a representative sample. Rather, the researcher can analyse all of the relevant records (the entire population) with the use of a computer.

13.4 Analyzing Others' Data

One advantage (or disadvantage, depending on which parts of the research process you most enjoy) of unobtrusive research is that you may be able to skip the data collection phase altogether. Whether you wish to analyze qualitative or quantitative data sources, there are a number of free data sets available to social researchers. This section introduces you to several of those sources.

Many sources of quantitative data are publicly available in Canada from Statistics Canada (Stats Can) (see: https://www.statcan.gc.ca). For example, the General Social Survey (GSS) covers a broad range of topics. The website for the GSS can be found at https://www.statcan.gc.ca/eng/survey/household/4501. Stats Can also provides workshops, training, webinars, and conferences across Canada, that are available to interested Canadians for a fee.

Unfortunately for qualitative researchers, far fewer sources of free, publicly available qualitative data exist. This is slowly changing, however, as technical sophistication grows and it becomes easier to digitize and share qualitative data. Despite comparatively fewer sources than for quantitative data, there are still a number of data sources available to qualitative researchers whose interests or resources limit their ability to collect data on their own.

The Murray Research Archive Harvard, housed at the Institute for Quantitative Social Science at Harvard University, offers case histories and qualitative interview data (https://murray.harvard.edu/). The Global Feminisms project at the University of Michigan offers interview transcripts and videotaped oral histories focused on feminist activism;

women's movements; and academic women's studies in Brazil, China, India, Nicaragua, Poland, Russia and the United States (see https://globalfeminisms.umich.edu/).

Keep in mind that the resources mentioned here represent just a snapshot of the many sources of publicly available data that can be accessed easily via the web. Table 13.1 "Sources of Publicly Available Data" summarizes the data sources discussed in this section.

Table 13.1 Sources of publicly available data

Organization	Focus/topic	Data type	Web address
Statistics Canada	National Household Survey complements census data and provides information on Canadian demographics, including social & economic characteristics and household unit information.	Quantitative	http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS
National Opinion Research Center	General Social Survey; demographic, behavioural, attitudinal, and special interest questions; national sample.	Quantitative	http://www.norc.org/About/Pages/default.aspx
Add Health	Longitudinal social, economic, psychological, and physical well-being of cohort in grades 7–12 in 1994, next data collection to occur in 2010.	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	http://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 Program	International data similar to GSS.	Quantitative	http://www.issp.org/
The Institute for Quantitative Social Science a Harvard	Large archive of written data, audio, and video focused on.	Quantitative and Qualitative	http://dvn.iq.harvard.edu/dvn/dv/mr

13.5 Reliability in Unobtrusive Research

This final section of the chapter investigates a few particulars related to reliability in unobtrusive research projects, especially as it relates to stability, reproducibility, and accuracy that warrant our attention. These particulars have to do with how and by whom the coding of data occurs.

Stability refers to the extent to which the results of coding vary across different time periods. If stability is a problem, it will reveal itself when the same person codes the same content at different times and comes up with different results. Coding is said to be stable when the same content has been coded multiple times by the same person with the same result each time. If you discover problems of instability in your coding procedures, it is possible that your coding rules are ambiguous and need to be clarified. Ambiguities in the text itself might also contribute to problems of stability. While you cannot alter your original textual data sources, simply being aware of possible ambiguities in the data as you code may help reduce the likelihood of problems with stability. It is also possible that problems with stability may result from a simple coding error, such as inadvertently jotting a *1* instead of a *10* on your code sheet.

Reproducibility, sometimes referred to as intercoder reliability (Lombard, Snyder-Duch, & Campanella Bracken, 2010), is the extent to which one's coding procedures will result in the same results when the same text is coded by different people. Cognitive differences among the individuals coding data may result in problems with reproducibility, as could ambiguous coding instructions. Random coding errors might also cause problems. One way of overcoming problems of

reproducibility is to have coders code together, at the same time.

Finally, ***accuracy*** refers to the extent to which one's coding procedures correspond to some pre-existing standard. This presumes that a standard coding strategy has already been established for whatever text you are analyzing. It may not be the case that official standards have been set; however, perusing the prior literature for the collective wisdom on coding in your particular area is time well spent. Scholarship focused on similar data or coding procedures will no doubt help you to clarify and improve your own coding procedures.

13.6 Ethnomethodology and Conversation Analysis

Though not unique methods of data *collection* per se, ethnomethodology and conversation analysis are unique enough, and prominent enough in sociology, that they warrant some dedicated attention in this text.

Ethnomethodology

Ethnomethodology is a term that was developed by the sociologist Harold Garfinkel in his 1967 publication, *Studies in Ethnomethodology*. According to Heritage (1984, p. 4), Garfinkel developed the term to encompass a range of phenomena that are associated with how members of society utilize mundane knowledge and reasoning. Today, ethnomethodology is defined as the study of the ordinary: the routine and the details of everyday reality (Patton, 2015; Saylor Academy, 2012). It is different from ethnography (see Chapter12) in that ethnography is a research method, while ethnomethodology is an alternative approach that seeks to describe the methods humans utilize to create social order (Heritage, 1984). An ethnomethodologist investigates how people construct, prolong, and maintain their realities (Saylor Academy, 2012). It asks the question, how do people make sense of their everyday activities in order to behave in socially

acceptable ways (Patton, 2015)? Ethnomethodology's emphasis on the everyday, and on ordinary people's methods for producing order in their social worlds, is perhaps its most distinctive characteristic (Saylor Academy, 2012).

Conversation analysis

Conversation analysis is a more formal approach to ethnomethodology (Schutt, 2012). It arose from the fact that some categories (i.e., the meaning of gender), are socially constructed terms that lead to verbal interaction (Schutt, 2006). Specifically, it is a qualitative method for organizing and analyzing the details of conversation (Schutte, 2006). Similar to ethnomethodology, conversation analysis focuses on how reality is constructed, as opposed to what it is.

Conversation analysis is premised on three points:

1. Interaction is sequentially organized, and talk can be analyzed in terms of the process of social interaction rather than motives or social status.
2. Contributions to action are contextually oriented. Interaction both shapes and is shaped by the social context of that interaction.

The preceding processes are inherent in the details of the interaction, and therefore, no details can be dismissed as being disorderly, accidental or irrelevant (Gubrium & Holstein, 2000; Heritage, 1984, p. 241).

Summary

Summary

Chapter 13 focused on unobtrusive research, which enables researchers to gather data without interfering or interacting with the research subjects. Unobtrusive methods can be utilized in both qualitative and quantitative research methodologies. Overall, it is a cost-effective manner of undertaking research, however, it can suffer from validity issues, data availability, and the challenge of accounting for the social context in which the data was produced.

Key Takeaways

Key Takeaways

- ***Unobtrusive research*** refers to methods of collecting data that do not interfere with the subjects under study (because these methods are not obtrusive). It is a cost-effective way to do research and more forgiving of mistakes; however, there can be potential problems with validity, limitations in the data availability, and difficulty in accounting for social context.
- The ***Hawthorne effect***, which is the effect of the researchers on the participants, is not a concern with unobtrusive measures because researchers do not interact directly with their research participants.
- ***Primary data sources*** are original data sources, whereas ***secondary data sources*** are those that have already been analyzed.
- ***Physical traces*** are those materials that are left by humans and the material artifacts that tell us something about their beliefs, values, or norms.
- There are two types of physical trace materials. ***Erosion*** refers to the wearing away or removal of material because of a physical activity (e.g. a worn foot path). On the other hand, ***accretion*** is the building up of material because of physical

activity (e.g., a pile of garbage).

- ***Archival measures*** are hard copy documents or records, including written or taped-recorded material, photographs, newspaper, books, magazines, diaries, and letters. Webpages are also a source of archival measures and can include documents, images, videos, and audio files in addition to written materials.
- ***Stability*** is an issue in unobtrusive research when the results of coding by the same person vary across different time period.
- ***Reproducibility*** means that one coder's results are the same as other coders' results for the same text.
- ***Accuracy*** refers to the extent to which one's coding procedures correspond to some pre-existing standard.
- ***Ethnomethodologists*** study everyday reality and how people produce those realities through their presentations of self and interactions with others.
- ***Conversation analysis*** is considered a more formal ethnomethodological approach. It focuses specifically on the dynamics of talk.

References

Babbie, E. (2010). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.

Esterberg, K. G. (2002). *Qualitative methods in social research*. Boston, MA: McGraw-Hill.

Garfinkle, H. (1967). *Studies in ethnomethodology*. Englewood Cliffs, NJ: Prentice Hall.

Gubrium, J. F., & Holstein, J. A. (2000). Analyzing interpretative practice. In N. Denzin & Y.S. Lincoln (Eds.), *The handbook of qualitative research* (2nd ed.), (pp. 487-508). Thousand Oaks, CA: SAGE Publications.

Heritage, J. C. (1984). *Garfinkel & ethnomethodology*. Cambridge: UK. Polity Press.

Krippendorff, K. (2004a). Content analysis: An introduction to its methodology (2nd ed.). Thousand Oaks, CA: Sage.

Krippendorf, K. (2004b). Reliability in content analysis: Some common misconceptions and recommendations. *Human Communication Research, 30*(3), 411-433. https://doi.org/10.1111/j.1468-2958.2004.tb00738.x

Lombard, M., Snyder-Duch, J., & Campenella Bracken, C. (2010). Practical resources for assessing and reporting intercoder reliability in content analysis research projects. Retrieved from http://matthewlombard.com/reliability/#How%20should%20researchers%20calculate%20intercoder%20reliability%20What%20software%20is%20available

Palys, T., & Atchison, C. (2014). *Research decisions: Quantitative, qualitative, and mixed methods approaches* (5th ed.). Toronto, Canada: Nelson Education.

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA: SAGE Publications.

Saylor Academy. (2012). *Principles of sociological inquiry:*

Qualitative and quantitative methods. Washington, DC: Saylor Academy. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

Schutt, R. K. (2012). *Investigating the social world: The process and practice of research*. Thousand Oaks, CA: SAGE Publications.

Sheppard, V. A., & Fennell, D. A. (2019, August). Progress in public sector tourism policy: Toward an ethic for non-human animals. *Tourism Management, 73*, 134-142. doi: https://doi.org/10.1016/j.tourman.2018.11.017

CHAPTER 14: THE RESEARCH PROPOSAL

Learning Objectives

- Describe what a research proposal is.
- Discuss the goals of a research proposal.
- List the various components of a research proposal.
- Identify the 15 steps of writing a research proposal.

In this chapter, we will focus on the components of writing an effective research proposal. We will begin by discussing what a research proposal is, what its goals are, and the various components of a research proposal. We will also examine a 15-step approach to writing a research proposal.

14.1 What are the Goals of a Research Proposal?

The research proposal has a set of specific goals:

1. To present and justify the need to study a research problem.
2. To present a practical way in which the proposed research study should be undertaken.
3. To demonstrate that the design elements and procedures being set forth to study the research problem meet with the governed standards within the predominant discipline in which the problem resides.

Regardless of the research problem being investigated and the methods chosen to study that problem, all research proposals must address the following questions:

1. ***What do you plan to accomplish?*** Be clear and succinct in defining the research problem and what it is you are proposing to research.
2. ***Why do you want to do it?*** In addition to detailing your research design, you must also conduct a thorough review of the literature and provide convincing evidence that the topic is worthy of study. Be sure you answer the ***"so what?"*** question.
3. ***How are you going to do it?*** Make sure that what you propose to do is doable. In other words, make sure you have the time, the resources and, most importantly, the stamina to undertake what you are proposing to do.

14.2 Writing the Research Proposal

As with writing any academic paper, research proposals are generally organized in the same manner across most social science disciplines. The length of a research proposal depends upon the audience for whom the research proposal is being prepared. For example, research proposals being prepared for a doctoral degree will have higher expectations and will likely run approximately 25 pages, excluding appendices and references. On the other hand, a research proposal being prepared for undergraduate level research might run approximately 10 pages, excluding appendices and references.

Before starting the writing process, a good place to start is to ask yourself a series of questions:

1. What do I want to study?
2. Why is the topic important?
3. In what ways is this topic significant within my particular field of study?
4. What problems will this research help to solve (i.e., social, cultural, safety, environmental, economic, business, and/or governance issues)?
5. How does it build upon and go beyond previous research on this topic?
6. What exactly should I plan to do?
7. Can I get it done in the time and with the resources available to me?

14.3 Components of a Research Proposal

Krathwohl (2005) suggests and describes a variety of components to include in a research proposal. The following sections – Introductions, Background and significance, Literature Review; Research design and methods, Preliminary suppositions and implications; and Conclusion present these components in a suggested template for you to follow in the preparation of your research proposal.

Introduction

The introduction sets the tone for what follows in your research proposal – treat it as the initial pitch of your idea. After reading the introduction your reader should:

- understand what it is you want to do;
- have a sense of your passion for the topic; and
- be excited about the study's possible outcomes.

As you begin writing your research proposal, it is helpful to think of the introduction as a narrative of what it is you want to do, written in one to three paragraphs. Within those one to three paragraphs, it is important to briefly answer the following questions:

1. What is the central research problem?
2. How is the topic of your research proposal related to the problem?
3. What methods will you utilize to analyze the research

problem?

4. Why is it important to undertake this research? What is the significance of your proposed research? Why are the outcomes of your proposed research important? Whom are they important?

Note: You may be asked by your instructor to include an abstract with your research proposal. In such cases, an abstract should provide an overview of what it is you plan to study, your main research question, a brief explanation of your methods to answer the research question, and your expected findings. All of this information must be carefully crafted in 150 to 250 words. A word of advice is to save the writing of your abstract until the very end of your research proposal preparation. If you are asked to provide an abstract, you should include 5 to 7 key words that are of most relevance to your study. List these in order of relevance.

Background and significance

The purpose of this section is to explain the context of your proposal and to describe, in detail, why it is important to undertake this research. Assume that the person or people who will read your research proposal know nothing or very little about the research problem. While you do not need to include all knowledge you have learned about your topic in this section, it is important to ensure that you include the most relevant material that will help to explain the goals of your research.

While there are no hard and fast rules, you should attempt to address some or all of the following key points:

1. State the research problem and provide a more thorough explanation about the purpose of the study than what you stated in the introduction.

2. Present the rationale for the proposed research study. Clearly indicate why this research is worth doing. Answer the “so what?” question.
3. Describe the major issues or problems to be addressed by your research. Do not forget to explain how and in what ways your proposed research builds upon previous related research.
4. Explain how you plan to go about conducting your research.
5. Clearly identify the **key** or **most relevant** sources of research you intend to use and explain how they will contribute to your analysis of the topic.
6. Set the boundaries of your proposed research, in order to provide a clear focus. Where appropriate, state not only what you will study, but what will be excluded from your study.
7. Provide clear definitions of key concepts and terms. Since key concepts and terms often have numerous definitions, make sure you state which definition you will be utilizing in your research.

Tip: Conceptual categories generally reveal themselves only after one has read most of the pertinent literature on the topic at hand. It is not uncommon to find that one is continually adding new themes or revising themes already discovered

Literature review

This key component of the research proposal is the most time-

consuming aspect in the preparation of your research proposal. As described in Chapter 5, the literature review provides the background to your study and demonstrates the significance of the proposed research. Specifically, it is a review and synthesis of prior research that is related to the problem you are setting forth to investigate. Essentially, your goal in the literature review is to place your research study within the larger whole of what has been studied in the past, while demonstrating to your reader that your work is original, innovative, and adds to the larger whole.

As the literature review is information dense, it is essential that this section be intelligently structured to enable your reader to grasp the key arguments underpinning your study. However, this can be easier to state and harder to do, simply due to the fact there is usually a plethora of related research to sift through. Consequently, a good strategy for writing the literature review is to break the literature into *conceptual categories* or *themes,* rather than attempting to describe various groups of literature you reviewed. Chapter 5 describes a variety of methods to help you organize the themes.

Here are some suggestions on how to approach the writing of your literature review:

1. Think about what questions other researchers have asked, what methods they used, what they found, and what they recommended based upon their findings.
2. Do not be afraid to challenge previous related research findings and/or conclusions.
3. Assess what you believe to be missing from previous research and explain how your research fills in this gap and/or extends previous research.

It is important to note that a significant challenge related to undertaking a literature review is knowing when to stop. As such, it is important to know when you have uncovered the

key conceptual categories underlying your research topic. Generally, when you start to see repetition in the conclusions or recommendations, you can have confidence that you have covered all of the significant conceptual categories in your literature review. However, it is also important to acknowledge that researchers often find themselves returning to the literature as they collect and analyze their data. For example, an unexpected finding may develop as you collect and/or analyze the data; in this case, it is important to take the time to step back and review the literature again, to ensure that no other researchers have found a similar finding. This may include looking to research outside your field.

This situation occurred with one of this textbook's authors' research related to community resilience. During the interviews, the researchers heard many participants discuss individual resilience factors and how they believed these individual factors helped make the community more resilient, overall. Sheppard and Williams (2016) had not discovered these individual factors in their original literature review on community and environmental resilience. However, when they returned to the literature to search for individual resilience factors, they discovered a small body of literature in the child and youth psychology field. Consequently, Sheppard and Williams had to go back and add a new section to their literature review on individual resilience factors. Interestingly, their research appeared to be the first research to link individual resilience factors with community resilience factors.

Research design and methods

The objective of this section of the research proposal is to convince the reader that your overall research design and methods of analysis will enable you to solve the research problem you have identified and also enable you to accurately

and effectively interpret the results of your research. Consequently, it is critical that the research design and methods section is well-written, clear, and logically organized. This demonstrates to your reader that you know what you are going to do and how you are going to do it. Overall, you want to leave your reader feeling confident that you have what it takes to get this research study completed in a timely fashion.

Essentially, this section of the research proposal should be clearly tied to the specific objectives of your study; however, it is also important to draw upon and include examples from the literature review that relate to your design and intended methods. In other words, you must clearly demonstrate how your study utilizes and builds upon past studies, as it relates to the research design and intended methods. For example, what methods have been used by other researchers in similar studies?

While it is important to consider the methods that other researchers have employed, it is equally, if not more, important to consider what methods have not been but could be employed. Remember, the methods section is not simply a list of tasks to be undertaken. It is also an argument as to why and how the tasks you have outlined will help you investigate the research problem and answer your research question(s).

Tips for writing the research design and methods section:

Specify the methodological approaches you intend to employ to obtain information and the techniques you will use to analyze the data.

Specify the research operations you will undertake

and the way you will interpret the results of those operations in relation to the research problem.

Go beyond stating what you hope to achieve through the methods you have chosen. State how you will actually implement the methods (i.e., coding interview text, running regression analysis, etc.).

Anticipate and acknowledge any potential barriers you may encounter when undertaking your research, and describe how you will address these barriers.

Explain where you believe you will find challenges related to data collection, including access to participants and information.

Preliminary suppositions and implications

The purpose of this section is to argue how you anticipate that your research will refine, revise, or extend existing knowledge in the area of your study. Depending upon the aims and objectives of your study, you should also discuss how your anticipated findings may impact future research. For example, is it possible that your research may lead to a new policy, theoretical understanding, or method for analyzing data? How might your study influence future studies? What might your study mean for future practitioners working in the field? Who or what might benefit from your study? How might your study contribute to social, economic or environmental issues? While it is important to think about and discuss possibilities such

as these, it is equally important to be realistic in stating your anticipated findings. In other words, you do not want to delve into idle speculation. Rather, the purpose here is to reflect upon gaps in the current body of literature and to describe how you anticipate your research will begin to fill in some or all of those gaps.

Conclusion

The conclusion reiterates the importance and significance of your research proposal, and provides a brief summary of the entire proposed study. Essentially, this section should only be one or two paragraphs in length. Here is a potential outline for your conclusion:

Discuss why the study should be done. Specifically discuss how you expect your study will advance existing knowledge and how your study is unique.

Explain the specific purpose of the study and the research questions that the study will answer.

Explain why the research design and methods chosen for this study are appropriate, and why other designs and methods were not chosen.

State the potential implications you expect to emerge from your proposed study,

Provide a sense of how your study fits within the broader scholarship currently in existence, related to the research problem.

Citations and references

As with any scholarly research paper, you must cite the sources you used in composing your research proposal. In a research

proposal, this can take two forms: a reference list or a bibliography. A ***reference list*** lists the literature you referenced in the body of your research proposal. All references in the reference list **must appear** in the body of the research proposal. Remember, it is not acceptable to say "as cited in ..." As a researcher you must always go to the original source and check it for yourself. Many errors are made in referencing, even by top researchers, and so it is important not to perpetuate an error made by someone else. While this can be time consuming, it is the proper way to undertake a literature review.

In contrast, a ***bibliography***, is a list of everything you used or cited in your research proposal, with additional citations to any key sources relevant to understanding the research problem. In other words, sources cited in your bibliography may not necessarily appear in the body of your research proposal. Make sure you check with your instructor to see which of the two you are expected to produce.

Overall, your list of citations should be a testament to the fact that you have done a sufficient level of preliminary research to ensure that your project will complement, but not duplicate, previous research efforts. For social sciences, the reference list or bibliography should be prepared in American Psychological Association (APA) referencing format. Usually, the reference list (or bibliography) is not included in the word count of the research proposal. Again, make sure you check with your instructor to confirm.

Summary

Research proposals take a lot of time to prepare, even after one has undertaken the literature review. As the research proposal serves as the map for your research study, it is critical to take your time in researching, thinking, and writing your research proposal. At the end of the day, you want to leave the readers of your research proposal feeling, "Wow, this is an exciting idea and I cannot wait to see how it turns out!"

To help you make sure your research proposal is clearly and logically written, here are some common mistakes to avoid:

- Failure to develop a coherent and persuasive argument for undertaking the proposed research.
- Failure to be concise; not making the purpose clear and being "all over the map."
- Failure to cite landmark (significant) pieces of work in your literature review.
- Failure to set forth the contextual boundaries of your research (i.e., time, place, people, etc.).
- Failure to stay focused on the research problem (i.e., going off on unrelated tangents).
- Sloppy or imprecise writing, including grammatical mistakes.
- Too much detail on minor issues, and not enough detail on major issues.

Key Takeaways

Key Takeaways

A research proposal provides persuasive evidence of the need and the rationale for the proposed research. Research proposals can take a variety of formats. Make sure you check with your instructor as to the contents of your research proposals.

References

Martin, C. H., & Fleming, V. A. (2010). 15-step model for writing a research proposal. *British Journal of Midwifery, 18*(2), 791-798. doi:10.12968/bjom.2010.18.12.791

Krathwohl, D. R. (2005). *How to prepare a dissertation proposal: Suggestions for students in education and the social and behavioral sciences*. Syracuse, NY: Syracuse University Press. Retrieved from http://libguides.usc.edu/writingguide/researchproposal

Sheppard, V. A., & Williams, P. W. (2016, September). Factors strengthening tourism resort resilience. *Journal of Hospitality and Tourism Management, 28*, 20-30. doi:1 0.1016/j.jhtm.2016.04.006

Whitmore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing, 52*(5), 546-553. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.465.9393&rep=rep1&type=pdf

15- Step Approach to Writing a Research Proposal

Step 1: Give the research proposal a title.

Step 2: Provide relevant personal and professional details below the title.

Step 3: Provide a short abstract or summary of around 300 words. (Some proposals do not include an abstract. Ask if you are unsure whether or not one is required.)

Step 4: Supply five keywords to describe the research proposal.

Step 5: Construct an introduction that contains the rationale and overview of a relevant literature review.

Step 6: State the aim, research question, sub-questions and hypotheses/null hypotheses (if applicable) of the proposed research study.

Step 7: Outline the research methods.

Step 8: Select the setting, participants, sampling method, inclusion/exclusion criteria, and method of recruitment.

Step 9: Describe the data collection instruments to be utilized.

Step 10: Detail the intended data processing and analysis methods to be utilized.

Step 11. Declare any ethical considerations and outline data protection procedures to be followed.

Step 12: Produce a timetable. Consider potential problems that may occur and describe the limitations of the study.

Step 13: Estimate the resources that may be required.

Step 14: Create a reference list or bibliography (depending upon the assignment instructions).

Step 15: Append relevant additional material.

CHAPTER 15: SHARING YOUR RESEARCH

Learning Objectives

- Explain how to decide what research to share and with whom one should share it.
- Identify three types of presentation format.
- Describe the differences between reports for scholarly consumption and reports for public consumption.
- Define plagiarism and explain why it should be taken seriously.
- Define dissemination and describe three considerations to keep in mind in order to successfully disseminate your findings.

Most sociologists who conduct research hope that their work will have relevance to others. As such, research is in some ways a public activity. While the work may be conducted by an individual in a private setting, the knowledge gained from that work should be shared with one's peers and other parties who may have an interest in the findings. Understanding how to share one's work is an important aspect of the research process.

15.1 Deciding What to Share and With Whom to Share it

When preparing to share our work with others we must decide what to share, with whom to share it, and in what format(s) to share it. In this section, we will consider the former two aspects of sharing our work. In the sections that follow, we will consider the various formats and mechanisms through which social scientists might share their work.

Sharing it all: the good, the bad, and the ugly

Because conducting sociological research is a scholarly pursuit, and sociological 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 to ensure that others will understand, be able to build upon, and effectively critique, our work. It is important to share all aspects of our work for ethical reasons, and for the purpose of replication. In preparing to share your work with others, and in order to meet your ethical obligations as a sociological researcher, challenge yourself to answer the following questions:

1. Why did I conduct this research?
2. How did I conduct this research?
3. For whom did I conduct this research?

4. What conclusions can I reasonably draw from this research?
5. Knowing what I know now, what would I do differently?
6. How could this research be improved?
7. What questions, if any, was I unable to answer fully, partially, or not at all?

Understanding *why* you conducted your research will help you to be honest with yourself and your readers about your own personal interest, investments, or biases with respect to the work. This means being honest about your data collection methods, sample and sampling strategy, and analytic strategy. The third question in the list above 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 a community where you conducted research, or members of the same social group, such as parents or athletes, upon whom you conducted your research). Professors for whom you conducted research as part of a class project might be stakeholders, as might employers for whom you conducted research. We'll revisit the concept of stakeholders in Chapter 17 "Research Methods in the Real World".

The fourth question should help you think about the major strengths of your work. Finally, the last three 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.

Knowing your audience

Once you are able to articulate what to share, you must decide with whom to share it. Certainly, the most obvious candidates

with whom you will 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 will also share your work with other students in the class. Other potential audiences include stakeholders, reporters and other media representatives, policy makers, and members of the public more generally. 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.

Presenting your research

Presenting your research is an excellent way to get feedback on your work. Professional sociologists often make presentations to their peers, as a way to prepare for more formally writing up and eventually publishing their work. Presentations might be formal talks, either as part of a panel

at a professional conference or to some other group of peers or other interested parties; less formal roundtable discussions (another common professional conference format); or posters that are displayed in some specially designated area. We'll look at all three presentation formats here.

When preparing a ***formal talk*** or ***presentation***, it is very important to get details well in advance about how long your presentation is expected to last and whether any visual aids such as video or PowerPoint slides are expected by your audience. At conferences, the typical formal talk is usually expected to last between 15 and 20 minutes. While this may sound like a torturously lengthy amount of time, you will be amazed the first time you present formally by how easily time can fly. Once a researcher gets into the groove of talking about something for which they have a passion, they commonly become so engrossed in it that they forget to watch the clock and end up going over the allotted time. To avoid this all-too-common occurrence, it is crucial that you repeatedly practice your presentation in advance, and time yourself. Another tip is to keep a watch or other means of checking the time at your fingertips to keep an eye on the time.

One stumbling block in formal presentations of research work is setting up the study or problem the research addresses. Keep in mind that with limited time, audience members will be more interested to hear about your original work than to hear you cite a long list of previous studies to introduce your own research. While in scholarly written reports of your work 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* work. Whatever you do in your formal presentation, *do not read your paper verbatim*. Nothing will bore an audience more quickly than that. Highlight only the key points of your study. These generally include your research question, your methodological approach, your major findings, and a few final takeaways.

In less formal ***roundtable presentations*** of your work, the aim is usually to help stimulate a *conversation* about a topic. The time you are given to present may be slightly shorter than for a formal presentation, and you will also be expected to participate in the conversation that follows all presenters' talks. Roundtables can be especially useful when your research is in the earlier stages of development.

Perhaps you have conducted a pilot study and you would 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 some suggestions and also get a preview of the objections reviewers may raise with respect to your conclusions or your approach to the work. Roundtables are also great places to network and meet other scholars who share a common interest with you.

Finally, in a ***poster presentation*** you visually represent your work. Just as you would not 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 is not so wordy that it would be difficult for someone walking by very slowly to grasp your major argument and findings. 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. Do not 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.

15.2 Writing up Research Results

Reports of findings that will be read by other scholars generally follow the format outlined in the discussion of reviewing the literature in Chapter 5. As you may recall from that chapter, most scholarly reports of research include an abstract, an introduction, a literature review, a discussion of research methodology, a presentation of findings, and some concluding remarks and discussion about implications of the work. Reports written for scholarly consumption also contain a list of references, and many include tables or charts that visually represent some component of the findings. Reading prior literature in your area of interest is an excellent way to develop an understanding of the core components of scholarly research reports and to begin to learn how to write those components yourself. There also are many excellent resources to help guide students as they prepare to write scholarly reports of research (Becker, 2007; Johnson, Rettig, Scott, & Garrison, 2009; Justice Institute of British Columbia, 2018; Sociology Writing Group, 2007).

Reports written for public consumption differ from those written for scholarly consumption. As noted elsewhere in this chapter, knowing your audience is crucial when preparing a report of your research. 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? 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 is, do not 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; pay appropriate homage to the scholars who have come before you, 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 will not ever meet your readers face-to-face, imagine what they might ask you upon reading your report, imagine your response, and provide some of those details in your written report.

Finally, take extraordinary care *not* to commit ***plagiarism***. Presenting someone else's words or ideas as if they are your own is among the most egregious transgressions a scholar can commit. Indeed, plagiarism has ended many careers, even many years down the road (see https://www.nytimes.com/2014/10/11/us/politics/plagiarism-costs-degree-for-senator-john-walsh.html). Take this very, very seriously. If you feel a little afraid and paranoid after reading this warning, consider it a good thing—and let it motivate you to take extra care to ensure that you are *not* plagiarizing the work of others.

15.3 Disseminating Findings

Presenting your work, as discussed in Section "Presenting Your Research", is one way of disseminating your research findings. In this section, we will focus on disseminating the *written* results of your research. ***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. 93). 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 help and encourage them to do so. To paraphrase the classic line from the film *Field of Dreams*, just because you build it does not mean they will come.

Disseminating your findings successfully requires determining *who* your audience is, *where* they are, 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 policy makers 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.

The location of your audience should be fairly obvious once you have determined who you would like your audience to be. You know where your research participants are because you have studied them. You can find interested scholars on your campus (e.g., perhaps you could offer to present your findings at some 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 are already aware of organizations that 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, including a letter to the editor of the local newspaper, or a blog.

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 of the audience. For example, 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, again, a simple web search should tell you how to do that.

Whether or not you act on all these suggestions is ultimately

your decision. But if you have conducted high-quality research, and you have findings that are likely to be of interest to any constituents besides yourself, it is your duty as a scholar and a sociologist to share those findings. Disseminating findings involves the following three steps:

1. Determine *who* your audience is.
2. Identify *where* your audience is.
3. Discover *how* best to reach them.

Summary

Summary

Sharing one's research is a very important part of undertaking research. After all, the findings often have –and researchers hope they have– value to society, in some form. While sometimes researchers tend not to want to share negative findings, it is essential that researchers present their findings in an unbiased manner and approach the distribution of their findings with ethical integrity.

Key Takeaways

Key Takeaways

- ***Sharing one's research*** requires researchers to keep in mind their ethical obligations to their peers, their research participants, and the public.
- ***Audience peculiarities*** shape how much and in what ways the various details of one's research are reported.
- In a ***formal presentation***, include your research question, methodological approach, major findings, and a few final takeaways. ***Roundtable presentations*** emphasize discussion among participants. ***Poster presentations*** are visual representations of research findings.
- Reports for ***public consumption*** usually contain fewer details than reports for ***scholarly consumption***. Keep your role and obligations as a social scientist in mind as you write up research reports.
- ***Plagiarism*** is the presentation of someone else's words or ideas as if they are your own.
- ***Disseminating findings*** takes planning and careful consideration of one's audiences. It includes determining the "who", "where", and "how" of reaching one's audiences.

References

Becker, H. S. (2007). *Writing for social scientists: How to start and finish your thesis, book, or article* (2nd ed.). Retrieved from https://www.press.uchicago.edu/ucp/books/book/chicago/W/bo5620950.html

Johnson, W. A., Rettig, R. P., Scott, G. M., & Garrison, S. M. (2009). *The sociology student writer's manual* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Justice Institute of British Columbia. (2018). *APA guide. Retrieved from* https://libguides.jibc.ca/ld.php?content_id=33914154

Saylor Academy. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Washington, DC: Saylor Academy. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

Sociology Writing Group. (2007). *A guide to writing sociology papers*. New York, NY: Worth.

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,* 91-107. Retrieved from https://implementationscience.biomedcentral.com/track/pdf/10.1186/1748-5908-5-91

CHAPTER 16: READING AND UNDERSTANDING SOCIAL RESEARCH

Learning Objectives

- Identify what can be learned from an article simply by reading its abstract and its acknowledgments.
- Describe how tables presenting causal relationships are typically presented.
- Identify several key questions to ask when reading research reports.
- Identify what one needs to do to be a responsible consumer of research.
- Identify the major differences between scholarly and media reports of sociological research.
- Identify locations where one might find examples of sociology and sociological research.
- Describe how having a background in sociological research methods is useful for one's everyday encounters with sociology.

You might think that sociological research plays a very small role in our day-to-day lives, but once you know what to look for,

you will soon discover that it is more a part of our everyday lives than you might have imagined. This is even truer now that you have taken a class in sociological research methods. Having some background in and understanding of the scientific method means that you are now better equipped to understand, question, and critique all kinds of scientific research, since many of the basic tenets of good research are similar across disciplines that employ the scientific method. Those tenets include having a well-designed and carefully planned study, having some theoretical grounding and understanding of research that has come before one's own work, and engaging in peer review, to name just a few. In this chapter, we will consider how to responsibly read research findings and examine areas of everyday life where sociological research may be present, even if it is not immediately visible. The aim in these final chapters is to remind you of the relevance of sociological research and why one might care to know something about it. These chapters are also designed to encourage you to think critically about how sociology shapes your everyday life, both in ways you might choose and in ways of which you might not be aware.

16.1 Reading Reports of Sociological Research

By now, you should have a good idea about the basic components of sociological research projects. You know how sociological research is designed, and you are familiar with how to frame a review of sociological literature. In Chapter 5 "Literature Review" and Chapter 14 "Research Proposals," we discussed the various components of a literature review for research projects, and presented some tips on how to review literature as you design your own research project. We hope that you will find the sociological literature to be of interest and relevance to you beyond figuring out how to summarize and critique it in relation to your research plans. Sociologists like to think their research matters, but it cannot matter if our research reports go unread or are not understandable. In this section we will review some previous material regarding sociological literature, and consider some additional tips for reading and understanding reports of sociological research.

As mentioned previously, reading the abstract that appears in most reports of scholarly research will provide you with an excellent, easily digestible review of a study's major findings and the framework the author is using to position her findings. Abstracts typically contain just a few hundred words, so reading them is a nice way to quickly familiarize yourself with a study. Another thing to look for as you set out to read and comprehend a research report is the author's acknowledgments. Who supported the work by providing feedback or other assistance? If relevant, are you familiar with the research of those who provided feedback on the report you are about to read? Are any organizations mentioned as having supported the research in some way, either through funding or

by providing other resources to the researcher? Familiarizing yourself with an author's acknowledgments will give you additional contextual information within which to frame and understand what you are about to read.

Once you have read the abstract and acknowledgments, you could next peruse the discussion section near the end of the report. You might also look at any tables that are included in the article. A ***table*** provides a quick, condensed summary of the report's key findings. The use of tables is not limited to one form or type of data, though they are used most commonly in quantitative research. Tables are a concise way to report large amounts of data. Some tables present descriptive information about a researcher's sample. 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 women, and how many/what percent are men. 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, 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 across a table's rows to see how values on the dependent variable attributes change as the independent variable attribute values change. Tables displaying results of quantitative analysis will also likely include some information about the strength and statistical significance of the relationships presented in the table. These details tell the reader how likely it is that the relationships presented will have occurred simply by chance.

Of course, we cannot assume that these patterns did not simply occur by chance. How confident can we be that the findings presented in the table did not occur by chance? This is where tests of statistical significance come in handy.

Statistical significance tells us the likelihood that the relationships we observe could be caused by something other than chance. While your statistics class will give you more specific details on tests of statistical significance and reading quantitative tables, the important thing to be aware of as a non-expert reader of tables is that some of the relationships presented will be statistically significant and others may not be. Tables should provide information about the statistical significance of the relationships presented. When reading a researcher's conclusions, be sure to pay attention to which relationships are statistically significant and which are not.

In Table 16.1 "Percentage Reporting Harassing Behaviours at Work" from Saylor Academy´s gender research, you will see that a *p* value is noted in the last very column of the table. *A* is a statistical measure of the probability that there is no relationship between the variables under study. Another way of putting this is that the *p* value provides guidance on whether or not we should reject the null hypothesis. The **null hypothesis** is simply the assumption that no relationship exists between the variables in question. In Table 16.1 "Percentage Reporting Harassing Behaviours at Work", we see that for the first behaviour listed, the *p* value is 0.623. This means that there is a 62.3% chance that the null hypothesis is correct in this case. In other words, it seems likely that any relationship between observed gender and experiencing threats to safety at work in this sample is simply due to chance.

In the final row of the table, however, we see that the *p* value is 0.039. In other words, there is a 3.9% chance that the null hypothesis is correct. Thus, we can be somewhat more confident than in the preceding example that there may be some relationship between a person's gender and his experiencing the behaviour noted in this row. We might say that this finding is significant at the .05 level. This means that the probability that the relationship between gender and

experiencing staring or invasion of personal space at work is due to sampling error alone is less than 5 in 100.

When testing hypotheses, social scientists generally state their findings in terms of rejecting the null hypothesis rather than making bold statements about the relationships observed in their tables. You can learn more about creating tables, reading tables, and tests of statistical significance in a class focused exclusively on statistical analysis.

Table 16.1 Percentage Reporting Harassing Behaviours at Work

Behaviour 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 behaviours that demean your gender.	6.5%	2.3%	0.184
Comments or behaviours 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*

Having read the tables in a research report, along with the abstract, acknowledgments, and discussion in the report, you are finally ready to read the report in its entirety. As you read a research report, there are several questions you can ask yourself about each section, from abstract to conclusion. Those questions are summarized in Table 16.2 "Questions Worth Asking While Reading Research Reports". Keep in mind that

the questions covered here are designed to help you, the reader, to think critically about the research you come across and to get a general understanding of the strengths, weaknesses, and key takeaways from a given study. We hope that by considering how you might respond to the following questions while reading research reports, you will feel confident that you could describe the report to others and discuss its meaning and impact with them.

Table 16.2 Questions Worth Asking While Reading Research Reports

Report Section	Questions Worth Asking
Abstract	What are the key findings? How were those findings reached? What framework does the researcher employ? Who are this study's major stakeholders? Who provided feedback? Who provided support in the form of funding or other resources?
Introduction	How does the author frame his or her 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	How selective does the researcher appear to have been in identifying relevant literature to discuss? Does the review of literature appear appropriately extensive? Does the researcher provide a critical review?
Sample	Was probability sampling or nonprobability sampling employed? What is the researcher's sample? What is the researcher's population? What claims will the researcher be able to make based on the sample? What are the sample's major strengths and major weaknesses?
Data collection	How were the data collected? What do you know about the relative strengths and weaknesses of the method 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?
Data analysis	How were the data analyzed? Is there enough information provided that you feel confident that the proper analytic procedures were employed accurately?
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 in order to support conclusions drawn? Are tables readable?

Discussion and conclusion	Does the author generalize to some population beyond her or his sample? How are these claims presented? Are claims made 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?

16.2 Being a Responsible Consumer of Research

Being a responsible consumer of research requires that you take seriously your identity as a social scientist. Now that you are familiar with how to conduct research and how to read the results of others' research, you have some responsibility to put your knowledge and skills to use. Doing so is in part a matter of being able to distinguish what you do know, based on the information provided by 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 as you encounter research findings.

When assessing social scientific findings, think about what information has been provided to you. In a scholarly journal article, you will presumably be given a great deal of information about the researcher's method of data collection, the sample, and information about how the researcher identified and recruited research participants. All these details provide important contextual information that can help you assess 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. In this case, what you do and do not know is more limited than in the case of a scholarly journal article.

Also 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. But

more popular press may leave out a funding source. In this internet age, it can be relatively easy to obtain information about how a study was funded. 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 web to see if you can learn more about a researcher's funding. Findings that seem to support a particular political agenda, for example, might have more or less weight once you know whether and by whom a study was funded.

There is some information that even the most responsible consumer of research cannot know. For example, because researchers are ethically bound to protect the identities of their subjects, we will never know exactly who participated in a given study. Researchers may also choose not to reveal any personal stakes they hold in the research they conduct. We cannot know for certain whether or how researchers are personally connected to their work unless they choose to share such details. Neither of these "unknowables" is necessarily problematic; however, having some awareness of what you may never know about a study does provide important contextual information from which to assess what one can take away from a given report of findings.

16.3 Sociological Research: It is everywhere?

It is amazing where and how often you might discover sociology rearing its head when you begin to pay attention, look for it, and listen for it. The benefit of having knowledge about sociological research methods is that when sociology does appear in your everyday life, you will be better equipped to understand those brief mentions than you would be without some background in research methods.

Sometimes we might come across sociological research and not even realize it. As you have seen in the examples described throughout this chapter, there are opportunities every day to encounter sociological research or, at the very least, its effects. Sociologists have participated as expert witnesses in numerous other cases. In addition to offering their expert testimony in court cases and law suits, sociologists also play a role in shaping social policy.

Another way that we might inadvertently come across sociology is when we encounter the ubiquitous armchair sociologist. Perhaps you have met some of these folks or even played the role yourself a time or two. Armchair sociologists tend to wax poetic about how society "is" or how various groups of people "are" without having anything more than anecdotal evidence (or perhaps no evidence at all) to support their sweeping claims. Now that you are equipped with a better understanding of how we know what we know, and in particular how sociologists know what they know, you are well prepared to question the assumptions of the armchair sociologists you meet. And by sharing with others what *you*

know about how we “know” things, perhaps you will even help others break the habit of making unfounded assumptions. Understanding sociological research methods is excellent preparation for questioning the everyday assumptions that others make; however, it is important to acknowledge that we probably have all made some unfounded assumptions about the way the world works or about what other people are like at one time or another.

Summary

Summary

An important skill for researchers is the ability to read and understand social research. With the plethora of information available to researchers in today´s globally interconnected environment, a researcher not only requires reading and comprehension skills, but also the ability to not get lost in the research i.e., be able to quickly scan abstracts, conclusions, acknowledgements, and reference lists in such as manner as to garner a general understanding of the presented study.

Key Takeaways

Key Takeaways

- A ***table*** provides a quick, condensed summary of the report's key findings.
- ***Statistical significance*** tells us the likelihood that the relationships we observe could be caused by something other than chance.
- The ***null hypothesis*** is simply the assumption that no relationship exists between the variables in question.
- Being a ***responsible consumer of research*** means giving serious thought to and understanding what you do know, what you do not know, what you can know, and what you cannot know.
- ***Sociological research*** appears in many areas of our lives and sometimes can be of benefit in areas of your life outside of the classroom.

References

Saylor Academy. (2012). *Principles of sociological inquiry; Qualitative and quantitative methods*. Washington,DC: Saylor Academy. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

CHAPTER 17: RESEARCH METHODS IN THE REAL WORLD

Learning Objectives

- Identify the areas outside of academia where sociologists are most commonly employed.
- Define evaluation research and provide an example.
- Define and provide at least one example of action research.
- Define stakeholders.
- Describe what is meant by public sociology.
- Define transferable skills and identify several of the transferable skills you have gained from your understanding of sociological research methods.

The examples of sociological research provided throughout this text come from a variety of positions on the basic-public-applied continuum. Some examples came from scholarly, peer-reviewed journal articles, others from public-interest magazines, and others from applied settings. Nevertheless, students sometimes walk away from a research course wondering how any of what they have learned applies to their

lives today and to their future plans. In the final sections of this text, we explore that question.

Specifically, we will consider the variety of locations where research might crop up in your "real- world" life. For some, research might be a career. For others, perhaps research will provide a means to become engaged in social change efforts. All of us hope that public sociology will present itself from time to time, perhaps in our reading, our web surfing, our television viewing, or our conversations with others. At the end of this chapter, we will remind ourselves of some of the answers to the "why should I care" question that we addressed at the beginning of this text. We hope that by now you have your own ideas about how you might answer that question but we will nevertheless remind you of the answers that we have already covered and provide a few others that perhaps had not occurred to you.

17.1 Doing Research for a Living

A variety of employers hire social researchers. These include, but are not necessarily limited to, market research firms, corporations, public relations and communications firms, academic institutions, think tanks and other private research firms, public research firms and policy groups, and all levels of government. Some businesses hire social researchers to assist with personnel selection; many universities hire social researchers for their research institutes; and other firms, such as Gallup (http://www.gallup.com/home.aspx) and Nielsen (http://www.nielsen.com/us/en.html), hire social researchers to examine societal trends. The areas where sociologists holding undergraduate degrees in research are most likely to find employment as researchers are in evaluation research, market research, and government research. Each of these represents a particular use of research rather than a research method per se. Evaluation, market, and government researchers may use any of the data collection or analysis strategies we described in previous chapters, but their purpose and aims may differ. We will explore each of these different uses of social scientific research methods.

Evaluation research is research that is conducted to assess the effects of specific programs or policies. Evaluation research is often used when some form of social intervention is planned, such as welfare reform or school curriculum change. It might be used to assess the extent to which intervention is necessary by attempting to define and diagnose social problems, and to understand whether applied interventions have had their intended consequences. There are many instances of applied evaluation research conducted by social scientists who are

employed by firms for their skills as researchers. Just google the phrase *evaluation research firm* and you will find scores of examples. Different firms may specialize in different areas of research.

Market research is another way that you might engage in social scientific research to make a living. Just as with evaluation research, market research is not a particular research method per se. Instead, it is a particular way of utilizing research methodology for a particular purpose. ***Market research*** is research that is conducted for the purpose of guiding businesses and other organizations as they make decisions about how best to sell, improve, or promote a product or service. This sort of research might involve gathering data from and about one's core market and customers, about competitors, or about an industry more generally. Market research occurs in a variety of settings and institutions. Some firms that specialize in market research are hired by others who wish to learn more about how to best promote or sell a product or service. Market research might also be conducted in-house, perhaps by large businesses that sell products, or by non-profits that wish to better understand how best to meet the needs of their clientele or promote their services.

Market researchers assess how best to sell, improve, or promote a product by gathering data about that product's consumers. Understanding consumers' preferences, tastes, attitudes, and behaviours can help point an organization in the right direction in its effort to reach and appeal to consumers. There are many ways to do this. You could observe customers in a store to watch which displays draw them in and which they ignore. You could administer a survey to assess consumers' satisfaction with goods or services. You could conduct covert observations by being a secret shopper or dining somewhere as though you, the researcher, are a real customer. You could conduct focus groups with consumers. As you already know from reading this text, social scientific research is an excellent

way to gauge people's preferences, tastes, attitudes, and behaviours. Each of these market research methods requires knowledge and skills in collecting data from human subjects—the very thing that sociological researchers do. Many firms that exist for the sole purpose of carrying out market research hire individuals who have a background in or knowledge about social scientific research methodology. Market research firms specialize in all kinds of areas.

Policy and other government research is another way for many social science researchers to be involved in policy and other government-research related work. In fact, the governments are one of the largest employers of applied social science researchers. Government and policy research could be in any number of areas.

17.2 Doing Research for a Cause

While many researchers, such as academics, undertake their activities as part of their paid employment duties, others do research voluntarily for a cause. These latter researchers are often involved in what is known as action research. If you have an interest in sociological research but would rather not pursue a career in research, perhaps some volunteer involvement in action research will interest you.

Action research

Action research is defined as research that is conducted for the purpose of creating some form of social change. Action research is also known as *action learning, community of practice inquiry, developmental evaluation, interactive evaluation practice, participatory action research, reflective practice,* and *team learning* (Patton, 2015). When conducting action research, scholars collaborate with community ***stakeholders*** at all stages of the research process, with the aim of producing results that will be usable in the community and by scientists. On the continuum of basic to applied research, action research is very far on the applied end of the spectrum. Sociologists who engage in this form of research never work alone; instead, they collaborate with the people who are affected by the research. Paulo Freire is credited with first developing the notion of *action* research in the 1960s and 70s. His book *Pedagogy of the Oppressed* drew from his lived experiences as a child in Brazil. Since then, action research has become increasingly popular among scholars who wish for

their work to have tangible outcomes that benefit the groups that they study.

There are many excellent examples of action research, some of which focuses solely on arriving at useful outcomes for the communities upon which and with whom research is conducted. Other action research projects result in some new knowledge that has a practical application and purpose *in addition to* the creation of knowledge for basic scientific purposes. A search using the key term *action research* in sociological abstracts will yield a number of examples of the latter type.

The Canadian Journal of Action Research (CJAR) is a full-text, peer-reviewed electronic journal focused on educational knowledge through action research. The journal´s goal is to mend "the rift between researcher and practitioner" in educational research. They publish a range of action research projects in education, across a variety of professions, with the following aims: 1) to make research outcomes "widely available;" 2) to provide "models of effective action research;" and 3) to enable "educators to share their experiences" (see https://journals.nipissingu.ca/index.php/cjar).

Perhaps one of the most unique and rewarding aspects of engaging in action research is that it is often interdisciplinary. Action research projects might bring together researchers from any number of disciplines, including: the social sciences, such as sociology, political science, and psychology; an assortment of physical and natural sciences, such as biology and chemistry; engineering; philosophy; and history (to name just a few). Interdisciplinary action research is a focus of the University of Maine's Sustainability Solutions Initiative (SSI) (http://www.umaine.edu/sustainabilitysolutions/index.htm). This initiative unites researchers from across campus together with local community members to connect knowledge with action in ways that promote strong economies, vibrant communities, and healthy ecosystems in

and beyond Maine." The knowledge/action connection is essential to SSI's mission, and the collaboration between community stakeholders and researchers is crucial to maintaining that connection. SSI is a relatively new effort; stay tuned to the SSI website to follow how this collaborative action research initiative develops.

Anyone interested in social change can benefit from having some understanding of social scientific research methods. The knowledge you have gained from this textbook and enrolling in research methods courses can be put to good use even if you do not have an interest in pursuing a career in research. As a member of a community, perhaps you will find that the opportunity to engage in action research presents itself to you one day. Your background in research methodology will no doubt assist you and your collaborators in your effort to make life better for yourself and those who share your interests, circumstances, or geographic region.

Public sociology

One of the most important consequences of the trend toward public sociology is that the discipline has become more visible and more accessible to much broader audiences than perhaps ever before. The Canadian Sociological Association (CSA) is a professional association that promotes research, publication and teaching in sociology in Canada (see https://www.csa-scs.ca/). The CSA´s journal, the *Canadian Review of Sociology* (CRS), has been in existence since 1964 (originally known as the *Canadian Review of Sociology and Anthropology*). The CRS disseminates innovative ideas and research findings related to sociology.

17.3 Revisiting an Earlier Question: Why Should We Care?

I hope that by now we have managed to convince you that developing an understanding of how sociologists conduct research has many benefits. On the chance that we have not done so, or in case you simply want a refresher, we will spend this final section of the final chapter reviewing some of the reasons you might care about research methods.

Transferable skills

As we have mentioned, one reason to care about research methods is that knowing how to conduct social science research could lead to a variety of job opportunities. The skills and knowledge you have gained from this text will situate you well for a number of research-oriented positions. Moreover, your background in social science research methodology provides you with a number of ***transferable skills*** that will serve you well in any profession you choose. Transferable skills are the conglomeration of tasks in which a person develops proficiency from one realm that can be applied in another realm. Whether you realize it or not, you have gained a host of transferable skills from taking a course in social scientific research methods. Those skills can assist you in your search for employment in a variety of arenas.

Perhaps the primary transferable skill you have developed by learning how to conduct social scientific research is an ability

to solve problems. Not only that, you are now also better equipped to *identify* problems. What do social researchers do if not identify social problems and then seek to gain knowledge aimed at understanding and eradicating those problems? Having the ability to seek out problems and the requisite knowledge and tools to begin to solve those problems is crucial in many areas of employment. The investigative skills you have developed as a result of learning how to conduct social scientific research can be put to use in just about any job where assumptions are called into question. These might include jobs such as journalism; however, work in criminal justice also requires investigative skills, as does just about any position that requires one to solve problems, ask questions, and learn new ways of doing things.

A talent for asking good questions is another important ability related to the problem-identification and problem-solving skills that you have developed by learning how to conduct social scientific research. . Not only is the ability to ask good questions essential in many areas of employment (and in most areas of life as well), but also this skill is linked to another key area that comes up in research methods courses and is appreciated in many realms: ***critical thinking***. Thinking critically does not mean that someone sits backs and criticizes every idea or person that comes her way. Critical thinking is a skill that takes practice to develop. It involves the careful evaluation of assumptions, actions, values, and other factors that influence a particular way of being or doing. It requires an ability to identify both weaknesses *and* strengths in taken-for-granted ways of doing things. A person who thinks critically should be able to demonstrate some level of understanding of the varying positions one might take on any given issue, even if he or she does not agree with those positions.

Understanding sociological research methods also means having some understanding of how to analyze, synthesize, and interpret information. And having a well-developed ability to

carefully take in, think about, and understand the meaning of new information with which you are confronted will serve you well in all varieties of life circumstances and employment. In addition, the ability to communicate and clearly express oneself, both in writing and orally, is crucial in all professions. As you practice the tasks described throughout this text, you will attain and improve the oral and written communication skills that so many employers value. Finally, related to the ability to communicate effectively is the ability to effectively frame an argument or presentation. Successfully framing an argument requires not only good communication skills but also strength in the area of listening to others.

The transferable skills you have gained as a result of learning how to conduct social scientific research include the following:

1. Identifying problems;
2. identifying solutions to problems;
3. investigative skills and techniques;
4. asking good questions;
5. framing an argument;
6. listening;
7. thinking critically;
8. analyzing, synthesizing, and interpreting information; and
9. communicating orally and in writing.

17.4 Understanding Yourself, Your Circumstances, and Your World

Perhaps the most rewarding consequence of understanding social scientific research methods is the ability to gain a better understanding of yourself, your circumstances, and your world. Through the application of social scientific research methods, sociologists have asked and answered many of the world's most pressing questions. Certainly, those answers are not always complete, nor are they infallible, but the quest for knowledge and understanding is an ongoing process. As social scientists continue the process of asking questions and seeking answers, perhaps you will choose to participate in that quest now that you have gained some knowledge and skill in how to conduct research.

Having thought about what you know and how you know it, as well as what others claim to know and how *they* know it, we hope will provide you with some clarity in an often murky world. Whether you choose to adopt the particular ways of knowing described in this text as your preferred ways of knowing is totally up to you. We hope that you will find that the knowledge you have gained here is of use, perhaps in your personal life and interests, your relationships with others, or your longer-range school or career goals.

Summary

Summary

This chapter focused on research as a career, including a discussion of the various types of career-related research opportunities in the real world. Whether or not you are interested in a career in research, it is undeniable that the skills and knowledge you have gained in this class are transferrable and will serve you well in many other professions.

Key Takeaways

Key Takeaways

- ***Evaluation research*** is research that is conducted to assess the effects of specific programs or policies.
- ***Market research*** is research that is conducted for the purpose of guiding business and other organizations as they make decisions about how best to sell, improve, or promote a product or service.
- ***Sociologists are employed in many research areas***. Some of the most common ones include: evaluation research, market research, and policy and other government research.
- ***Action research*** is conducted by researchers who wish to create some form of social change. It is often conducted by teams of interdisciplinary researchers.
- One of the positive consequences of ***public sociology*** is that the discipline has become more visible and more accessible to much broader audiences than in the past. Having a background in sociological research methods can help you read, make sense of, discuss, and share the research findings you encounter.
- Having a background in social science research

methodology provides you with a number of ***transferable skills***. Having a background in social science research methodology gives you the opportunity to gain greater insight into yourself, your circumstances, and your world.

References

Freire, P. (1970; 1993; 2000). *Pedagogy of the oppressed* (M. B. Ramos, Trans.). New York, NY: Continuum International Publishing Group.

Patton, C. M. (2015). *Qualitative research & evaluation methods* (4th ed.). Thousand Oaks, CA: SAGE

Saylor Academy. (2012). *Principles of sociological inquiry; Qualitative and quantitative methods*. Washington, DC: Saylor Academy. Retrieved from https://www.saylor.org/site/textbooks/Principles%20of%20Sociological%20Inquiry.pdf

List of Links

Chapter 1 Introduction to Research Methods

- Michael Foucault's biography: https://www.britannica.com/biography/Michel-Foucault
- Power and Knowledge: http://routledgesoc.com/category/profile-tags/powerknowledge
- Where do good ideas come from?: https://www.youtube.com/watch?v=NugRZGDbPFU

Chapter 2 Ethics in Research

- Canadian Council on Animal Care: https://www.ccac.ca/
- Belmont Report: http://humansubjects.stanford.edu/education/2009_05_Belmont.pdf
- National Research Service Award Act of 1974 [PDF]: http://history.nih.gov/research/downloads/PL93-348.pdf
- PDF of the Nuremberg Code: https://history.nih.gov/research/downloads/nuremberg.pdf
- Russel Odgen v. SFU: http://www.sfu.ca/~palys/OgdenPge.htm
- Stanford Prison Experiment: http://www.prisonexp.org/
- Stanford Prison Experiment Documentary: https://www.youtube.com/watch?v=L_LKzEqlPto
- Video on Milgram's Obedience Experiment: https://www.youtube.com/watch?v=eTX42lVDwA4
- National Research Service Award Act of 1974 PDF, please change link to: https://www.congress.gov/bill/93rd-congress/house-bill/7724
- Nuremberg PDF, please change link to: https://www.fhi360.org/sites/all/libraries/webpages/fhi-retc2/Resources/nuremburg_code.pdf

Chapter 3 Developing a Research Question

- Interview-based Qualitative Research in Emergency Care Part II: Data Collection, Analysis and Results Reporting: https://www.ncbi.nlm.nih.gov/pubmed/26284572
- Qualitative Research in Emergency Care Part I: Research Principles and Common Applications by Choo, Garro, Ranney, Meisel, and Guthrie (2015): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4545270/

Chapter 5 The Literature Review

- Annotated Bibliography: http://www.jibc.ca/library/writing-study-help/writing-skills/annotated-bibliographie
- APA Manual 6th Edition: https://libguides.jibc.ca/c.php?g=409383&p=2788391
- How TransAlta used a university-sanctioned research project to lobby for the coal industry: https://www.cbc.ca/news/canada/edmonton/transalta-coal-report-1.4752314
- JIBC Literature Review Information: http://www.jibc.ca/sites/default/files/library/pdf/Lit_Review.pdf
- Peer-Reviewed Articles: http://guides.lib.jjay.cuny.edu/c.php?g=288333&p=1922599
- Statistics Canada: https://www.statcan.gc.ca/eng/start
- The Literature Review, Part 1: https://www.youtube.com/watch?v=2IUZWZX4OGI
- The Literature Review, Part 2: https://www.youtube.com/watch?v=UoYpyY9n9YQ&t=8s
- The Literature Review, Part 3: https://www.youtube.com/results?search_query=the+literature+review+part+3

Chapter 6 Data Collection Strategies

- Example of direction in scatterplots: https://www.khanacademy.org/math/ap-statistics/bivariate-data-ap/scatterplots-correlation/v/scatter-plot-

interpreting
- Randomizer: https://www.randomizer.org/

Chapter 7 Sampling Techniques

- Sampling Terminology: https://www.socialresearchmethods.net/kb/sampterm.php
- Stat Trek: https://stattrek.com/

Chapter 8 Data Collection Methods: Survey Research

- Gallup Opinion Polls: http://www.gallup.com/Home.aspx
- Survey Monkey: http://www.surveymonkey.com

Chapter 9 Analysis of Survey Data

- Statistical Package for the Social Sciences: http://www.spss.com

Chapter 10 Qualitative Data Research & Analysis Methods

- Atlasti Qualitative Data Analysis: http://www.atlasti.com
- NVivo: http://www.qsrinternational.com
- Oral History Collection from The University of Toronto: https://guides.library.utoronto.ca/c.php?g=250737&p=2676118
- Research Rundown: https://researchrundowns.com/qual/qualitative-coding-analysis/

Chapter 12 Field Research: A Qualitative Field Technique

- Ethical Challenges in Participant Observation: A Reflection on Ethnographic Fieldwork: https://nsuworks.nova.edu/tqr/vol13/iss1/8/

Chapter 13 Unobtrusive Research: Qualitative and Quantitative Approaches

- Add Health: http://www.cpc.unc.edu/projects/addhealth
- Centre for Demography for Health and Aging: http://www.ssc.wisc.edu/wlsresearch/
- General Social Survey (GSS): https://www.statcan.gc.ca/eng/survey/household/4501
- Institute for Social & Economic Research: https://www.iser.essex.ac.uk/bhps
- International Social Survey Program: http://www.issp.org/
- National Opinion Research Center: http://www.norc.org/About/Pages/default.aspx
- Statistics Canada: https://www.statcan.g.ca
- The Global Feminisms project at the University of Michigan: https://globalfeminisms.umich.edu/
- The Institute for Quantitative Social Science at Harvard: http://dvn.iq.harvard.edu/dvn/dv/mra
- The Murray Research Archive Harvard: https://murray.harvard.edu/

Chapter 15 Sharing Your Research

- Plagiarism Costs Degree for Senator John Walsh: https://www.nytimes.com/2014/10/11/us/politics/plagiarism-costs-degree-for-senator-john-walsh.html

Chapter 17 Research Methods in the Real World

- Gallup: http://www.gallup.com/home.aspx
- Nielsen: http://www.nielsen.com/us/en.html
- The Canadian Journal of Action Research: https://journals.nipissingu.ca/index.php/cjar
- The Canadian Sociological Association (CSA): https://www.csa-scs.ca/
- University of Maine's Sustainability Solutions Initiative (SSI):

https://journals.nipissingu.ca/index.php/cjar