

SOC 200: INTRODUCTION TO SOCIOLOGY RESEARCH METHODS



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Introduction to Sociology Research Methods

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Glossary

Detailed Licensing

Licensing

A detailed breakdown of this resource's licensing can be found in **Back Matter/Detailed Licensing**.

AI Transparency Statement

Statement of AI Use & Transparency

This Open Educational Resource (OER) was compiled with the work of multiple authors and edited by the editor Rachel Ridnor to provide accessible, zero-cost learning materials for sociology students learning research methods. Generative AI tools were integrated into the editorial workflow strictly to support clarity, style, currency, and structural coherence.

Role of Generative AI

The core substantive content, methodological frameworks, case studies, and pedagogical design were entirely authored and curated by the course instructor. Generative AI served in a supportive editorial and research capacity:

- **Editorial & Tone Refinement:** Polishing drafts to ensure a consistent, accessible, and inclusive tone appropriate for undergraduate community college students.
- **Literature & Citation Discovery:** Assisting in identifying updated academic studies, current empirical research examples, and recent methodology publications to refresh course readings.
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Instructor Authority & Verification

All AI-suggested edits and research references were independently reviewed, evaluated, and verified by the compiler/editor.

1: INTRODUCTION TO RESEARCH METHODS

1.1: How Do We Know What We Know?

1.2: What is Science?

1.3: What is the Purpose of Research?

1.4: How is Scientific Research Done?

1.5: Why Should We Care?

1.1: How Do We Know What We Know?

Learning Objectives

- **Define** research methods.
- **Identify** and describe the various ways of knowing presented in this section.
- **Understand** the errors of inquiry.
- **Differentiate** between methodology and epistemology.

If I told you that the world is flat, you would safely assume I am wrong. But *how* do you know I'm wrong? And why did humans once universally believe the earth was flat?

The physical shape of the planet did not change as we shifted from one belief to the other; rather, our mindset changed. Understanding both *what* changed our minds (science) and *how* it changed them tells us a lot about what we know, what we think we know, and what we can actually prove.

This book is dedicated to exploring exactly how we uncover truth. More specifically, we will examine how sociologists discover "social facts." Our primary focus will be on one highly disciplined approach: **social scientific research methods**, a systematic process of inquiry used to learn about our social world.

Before we dive into research methods, let's look at the other ways we gather knowledge in daily life.

Ways of Knowing

What comes to mind when you think about only children? In our culture, popular stereotypes often suggest that children without siblings are "missing out" or that large families are the natural ideal.

However, larger sociological research reveals a significant structural shift that contradicts this traditional view. A 2025 study by the **Pew Research Center** highlights that the "traditional" large family is rapidly becoming a statistical outlier. Adults in their 20s and 30s now plan to have an average of just 1.8 children, below the replacement level, driven by economic constraints and changing social norms rather than personal "selfishness." Sociologists use research methods to track these demographic realities, preventing us from judging modern families by outdated traditional standards.

Of course, millions of people navigate the world successfully without a sociology degree. We all look to alternative sources of knowledge. Most often, we rely on **authority and tradition**. **We will learn in this text to rely on research methods.**

1. Authority

We frequently accept information as true simply because it comes from a trusted, socially defined source. This includes parents, governments, teachers, or religious leaders. For example, Adler and Clark (2015) outline how institutional authority structures shape what citizens believe to be true or false. Sociologists have long warned against blind obedience to authoritarian power; relying solely on authority figures to dictate reality ignores the evidence-based, structural testing required by social science.

2. Tradition

Tradition is the cultural knowledge passed down through generations. This carries the weight of "how things have always been done," using shared customs to build social cohesion. However, traditional knowledge is highly dependent on generational contexts and can reinforce outdated practices.

Thus, it entails things we accept to be true based on passed-down information. However, the question that comes into play is, are all of these things necessarily true? For example, there's an urban legend about a woman who for years used to cut both ends off of a ham before putting it in the oven. According to an account verified by [Snopes](#), it was discovered that she baked ham that way because that's the way her mother did it, so clearly that was the way it was *supposed* to be done. Her mother was the

authority, after all. After years of tossing cuts of perfectly good ham into the trash, however, she learned that the only reason her mother ever cut the ends off ham before cooking it was that she didn't have a pan large enough to accommodate the ham without trimming it.

A global study by the [Pew Research Center](#) offers an interesting note on how one uses tradition. Older demographics and specific religious affiliations place a significantly higher value on maintaining national traditions compared to younger generations. While these traditions build cultural continuity, they can blind us to modern societal transformations. Without applying a systematic framework to question "common sense," we risk accepting inherited cultural dogmas as absolute truths.

3. Research Methods

As a science, sociology bypasses tradition and authority and relies on a structured, logical approach to learning about society using research methods. This will be what we will be exploring throughout the rest of the book.

Table
1.1 Ways
of
Knowing

Ways of Knowing	Description
Tradition	Believing something is true because of cultural habits and passed-down customs.
Authority	Relying on a socially defined expert or power figure to determine what is true.
Research Methods	Using an organized, logical, and empirical process to discover facts.

Errors in Inquiry

Before we go further into the better ways to explore information, let us delve into the, albeit common, but often problematic ways we gather information.

1. Informal Observations:

Many of us know things simply because we've experienced them directly. For example, you would know that electric fences can be pretty dangerous and painful if you touched one while standing in a puddle of water. We all probably have times we can recall when we learned something because we experienced it. If you grew up in Minnesota, you would observe plenty of kids learn each winter that it really is true that one's tongue will stick to metal if it's very cold outside. Similarly, if you passed a police officer on a two-lane highway while driving 20 miles over the speed limit, you would probably learn that that's a good way to earn a traffic ticket. So direct experience may get us accurate information, but only if we're lucky (or unlucky, as in the examples provided here). In each of these instances, the observation process isn't really deliberate or formal. Instead, you would come to know what you believe to be true through **informal observation**. The problem with informal observation is that sometimes it is right, and sometimes it is wrong. And without any systematic process for observing or assessing the accuracy of our observations, we can never *really* be sure that our informal observations are accurate.

2. Selective Observations:

Imagine a researcher who observes that young people in their lives never watch cable news or read newspapers. They might declare, "Young adults are completely disengaged and uninformed about current events."

This researcher is committing **selective observation**, focusing on the decline of *traditional* media while missing the rise of *digital* engagement. In reality, a [Pew Research Center study on young adults and news](#) found that while young adults (ages 18-29) have abandoned traditional outlets, they are the *only* age group that has high trust in news found on social media ecosystems. They aren't uninformed; they have simply shifted their institutional trust to different platforms.

3. Overgeneralization

Now imagine this researcher talks to three college students who say they "hate politics." If the researcher assumes that *all* young voters across the country are politically apathetic based on these three conversations, they are committing **overgeneralization**. This happens when we assume a broad, societal trends exists based on a very small, highly localized sample of interactions.

In sum, there are many errors in inquiry. These include informal observation, selective observation, and overgeneralization. **Table 1.2** summarizes each of the ways of knowing described here. Of course, some of these ways of knowing are more reliable than others. Being aware of our sources of knowledge helps us evaluate the trustworthiness of specific bits of knowledge we may hold.

Table 1.2 Errors in Inquiry

Ways of knowing	Description
Informal observation	Occurs when we make observations without any systematic process for observing or assessing the accuracy of what we observed.
Selective observation	Occurs when we see only those patterns that we want to see or when we assume that only the patterns we have experienced directly exist.
Overgeneralization	Occurs when we assume that broad patterns exist even when our observations have been limited.

Methodology and Epistemology

When we pause to examine *what* we know and *how* we know it, we enter the realm of social philosophy. Sociologists think deeply about two specific concepts:

- **Epistemology:** The science of knowing. It asks, "What is *truth*, and how do we capture it?"
- **Methodology:** The science of finding out. It focuses on the specific *procedures and tools* used to conduct scientific inquiry.

In short, your methodology is the practical vehicle you drive to reach your epistemological goals.

Key Takeaways

- **Ways of Knowing:** Research knowledge is gathered through tradition, authority, and research methods.
- **Errors in Inquiry:** Common research pitfalls include informal observations, selective observations, and overgeneralization.
- **Methodological Reliability:** Research methods are a significantly more reliable source of knowledge compared to other ways of knowing

Exercise

1. **Reflect:** Think about a poor decision you made in the past. What information guided that decision? Did an error in inquiry (like relying on a bad authority or overgeneralizing) play a role?
2. **Apply:** How could using a systematic, research-based approach have changed your decision-making process in that situation?

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1.2: What is Science?

Learning Objectives

- **Differentiate** between the natural and social sciences.
- **Discuss** the two primary purposes of social scientific research.

Natural vs. Social Science

Natural science is the study of naturally occurring objects or phenomena. It includes physical sciences like physics and chemistry, earth sciences like geology, and life sciences like biology and botany.

In contrast, **social science** is the science of people or collections of people, such as groups, firms, institutions, and societies, and their individual or collective behaviors. Social sciences include disciplines such as sociology (the science of social groups and structures), economics (the science of markets and economies), and political science (the science of governance and power).

The natural sciences differ from the social sciences in several key respects:

- **Precision and Predictability:** The natural sciences are highly precise, deterministic, and independent of the person making the observation. For instance, a physics experiment measuring the refractive index of water should yield the exact same result regardless of when, where, or by whom the experiment is conducted. If two students get different values, it simply means one or both made an error.
- **Ambiguity and Variability:** The social sciences tend to be less deterministic and contain more measurement error. For example, if a sociologist attempts to measure a concept like "social cohesion" or "community trust" within a neighborhood, the results can vary wildly depending on the day of the week, local economic disruptions, or recent public events.

Furthermore, social scientists rarely have a single, perfect instrument to measure social phenomena. One index might calibrate a community as having high social capital, while a different metric might find it has less.

Because social objects are highly variable, any student of the social sciences must become comfortable handling higher levels of ambiguity, uncertainty, and error. You will rarely find disagreements among natural scientists regarding the speed of light, but you will find endless debates among social scientists on how to solve complex structural problems, such as reducing poverty or rescuing an economy from a recession.

Purpose of Research

Social scientific research can also be classified based on its ultimate purpose: **pure research** or **applied research**.

1. Pure Research

Pure research explains the most fundamental objects, forces, social relationships, and the laws governing them. The primary goal of pure research is "knowledge for knowledge's sake." It seeks to deep-dive into how the social world works at a foundational level, without an immediate practical application in mind. Universities are the primary hubs for pure research.

2. Applied Research

Applied research aims to apply scientific knowledge to solve specific, real-world problems. For example, using sociological data to design a better intervention program for unhoused individuals is applied research. While private industries and enterprises focus heavily on applied research because of its immediate practical value, applied research cannot stand on its own, it relies entirely on the discoveries of pure research to make progress.

Both pure and applied research are equally necessary for human and societal development.

Key Takeaways

- **Natural Science:** The study of naturally occurring objects or phenomena (e.g., physics, biology). **Social Science:** The study of human behavior, groups, and social structures.
- **Ambiguity:** A core challenge of social science, as social objects are highly variable compared to natural objects. **Pure Research:** Research conducted to build foundational knowledge for its own sake.
- **Applied Research:** Research focused on using scientific knowledge to solve immediate, practical societal problems.

1.3: What is the Purpose of Research?

Learning Objective

- **Differentiate** between scientific laws and scientific theories.

The ultimate purpose of science is to create scientific knowledge. **Scientific knowledge** refers to a generalized body of laws and theories used to explain a phenomenon or behavior of interest, all of which are acquired through the systematic application of the scientific method.

Crucially, science relies on two distinct concepts to organize this knowledge: laws and theories. **Laws** are observed, universal patterns of phenomena or behaviors, while **theories** are systematic explanations of the underlying structures causing that phenomenon or behavior. In this book our focus will be theories.

Key Takeaways

- **Laws:** Observed, universal patterns of social behavior (what happens).
- **Theories:** Systematic explanations of the underlying structural mechanisms (why it happens).

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1.4: How is Scientific Research Done?

Learning Objectives

- **Define** deductive and inductive reasoning
- **Explain** the purpose of both reasoning types.

The process of research involves both **inductive processes** (inferring new theoretical concepts from observed data) and **deductive processes** (testing existing theories using new empirical data). Thus, inductive and deductive research are two halves of a continuous research cycle. As shown in Figure 1.1, each iteration between theory and data contributes to better explanations of the phenomenon of interest and better theories.

Though both inductive and deductive research are important for the advancement of science, it appears that inductive (theory-building) research is more valuable when there are few prior theories or explanations, while deductive (theory-testing) research is more productive when there are many competing theories of the same phenomenon and researchers are interested in knowing which theory works best and under what circumstances.

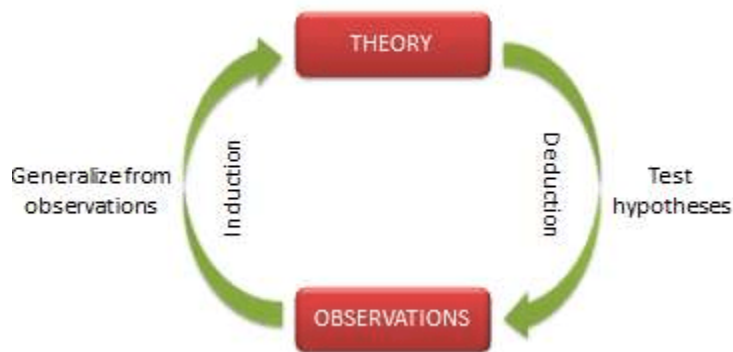


Figure 1.1. The Cycle of Research

Challenges in Social Science Research

Theory building and theory testing are particularly challenging in the social sciences. This difficulty stems from the abstract nature of social concepts, the limitations of our measurement tools, and the presence of numerous unaccounted environmental factors that influence human behavior.

It can also take a long time to refute a flawed social theory. For instance, Karl Marx's theory of communism as an effective means of economic production stood as a dominant global framework for decades before the historical collapse of command economies suggested its practical limitations regarding social welfare and economic growth. Historically communist nations like the Soviet Union and China shifted toward economic structures incorporating private enterprise. However, the 2008 collapse of the mortgage and financial industries in the United States demonstrated that unmitigated capitalism is also deeply flawed.

Unlike the natural sciences, social science theories are rarely permanent or perfect. This fluidity provides endless opportunities for modern researchers to improve existing frameworks or build alternative explanations.

Theoretical vs. Methodological Skills

Conducting high-quality research requires two distinct skill sets:

1. **Methodological skills ("know-how"):** These involve the standard, structured rules of data collection, statistics, and interview techniques that can be directly taught through research methods courses.

2. **Theoretical skills ("know-what"):** These involve the ability to think abstractly, connect seemingly unrelated social trends, and conceptualize social structures. These skills require deep observation, reflection, and experience.

The most impactful social scientists in history are remembered primarily for their theoretical contributions that fundamentally transformed how we view the social world.

Key Takeaways

- **Inductive Research:** Begins with empirical observations to identify patterns and develop new theory.
- **Deductive Research:** Begins with an existing theory to form hypotheses, which are then tested through data collection.
- **Theoretical vs. Methodological Skills:** High-quality research requires both procedural "know-how" and abstract "know-what."

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1.5: Why Should We Care?

Learning Objectives

- **Describe and discuss** the practical reasons why students should care about social scientific research methods in their daily lives.
- **Identify** the types of employment opportunities that exist for those with an understanding of social scientific research methods.

At this point, you may be wondering about the relevance of research methods to your life. Whether or not you choose to become a sociologist, you should care about research methods for two basic reasons: (a) research methods are regularly applied to solve social problems and issues that shape how our society is organized, meaning you have to live with the results of research methods every day of your life; and (b) understanding research methods might actually help you land a job.

Consuming Research and Living With Its Results

In conversations, we often encounter a simple challenge: *Are you just stating an opinion, or can you back up what you are saying with data?* Which would you rather be—someone who relies on assumptions or someone who can actually verify their claims with evidence? Understanding research methods positions you to do more than just passively observe society; it gives you the tools to actively analyze it.

Further, whether you know it or not, sociological research impacts your life every day. Many of our laws, social policies, and court proceedings are grounded in some degree of empirical research. That is not to say that all laws and social policies make sense. However, you cannot have an informed opinion about them without understanding where they come from, how they were formed, and what data policymakers relied on to craft them.

A powerful modern example of sociological research in action involves the growing use of AI and algorithms in everyday life. For years, tech companies argued that algorithms were neutral and objective. However, sociologists studying algorithmic bias have demonstrated how these tools often replicate and amplify existing social inequalities. For example, Ruha Benjamin (2019) explores this structural bias in her book *Race After Technology*. Recent empirical research confirms that even the newest AI models inherit these flaws; modern studies show that generative AI and automated resume screeners frequently penalize female and minority applicants because the tools reflect the historically biased data they were trained on. This sociological evidence has directly shaped the modern legal landscape, prompting groundbreaking research from [Cornell Law](#) (2024) over algorithmic discrimination in human resources and driving new, sweeping legislation regulating how employers use AI to make hiring decisions, such as the [Colorado AI Act of 2024](#). While you may not be a tech developer, understanding how researchers audit these systems impacts your experience as an applicant, an employee, and a citizen.

In addition to living with policies shaped by research, you are also a daily consumer of it. Understanding methods makes you a sharper, more critical consumer. Have you ever noticed the bold statistical claims or "scientific infographics" that pop up in your social media feeds? They are designed to pique your interest, game the algorithm, and make you believe you are learning something profound. However, unless you know whether the creator gathered their data from a representative sample or simply cherry-picked a few convenient surveys, you have no reason to trust the advice. Understanding research methods helps you avoid wasting your time, money, or energy on viral misinformation.

Open any news app, or scroll through any digital feed, and you will inevitably encounter claims about "exciting new research." A foundation in research methods allows you to read past the click bait and ask the right questions about the methodology behind the headline.

Research as Employment Opportunity

There are countless jobs for people who know how to systematically gather and analyze data. In fact, a foundational understanding of social science research methods is a highly marketable skill across multiple industries.

For example, many sociology graduates land their first jobs at **evaluation research** firms specifically because of the practical methods training they received in college. A graduate might work as a data-collection coordinator, helping evaluate local domestic violence shelters and transitional housing by administering and analyzing resident satisfaction surveys. They might collect data on community infrastructure by conducting structured interviews with a random sample of local residents. Without a background in research methods, those critical, community-shaping positions would be out of reach.

The demand for these skills is rapidly growing. In an **Industry and Occupational Employment Projects Report**, the U.S. Bureau of Labor Statistics projected rapid employment growth across the social assistance sector and the professional and technical services sectors. Many of these roles rely heavily on the exact data collection and survey design skills taught in sociology and will continue to grow much faster than the national average. Why? Because as our economy becomes increasingly digital, companies across all sectors desperately need professionals who can accurately measure human behavior, analyze large datasets, and translate those numbers into actionable insights.

Other recent sociology majors have gone on to work in human resources, conduct policy research for lobbying organizations, analyze the social consequences of pharmaceuticals, or manage data for federal agencies like the U.S. Census Bureau. Understanding social scientific research methods can lead directly to the prospect of a very satisfying and secure career.

Table 1.3 Why Research Methods Matter

Benefit	Description
Civic Engagement	Empowers you to understand and critique the empirical data used to shape laws, policies, and social systems.
Critical Consumption	Provides the tools to spot methodological flaws in media, advertising, and viral internet claims.
Career Advancement	Builds highly marketable skills in data analysis, survey design, and critical thinking that are in demand across public and private sectors.

Key Takeaways

- **Civic Engagement:** The ability to understand and critique empirical data used to shape laws and policies.
- **Critical Consumption:** The skill to spot methodological flaws in media and digital claims.
- **Career Advancement:** Marketable skills in data analysis and survey design applicable across public and private sectors.

Exercise

Reflect & Apply: Scroll through your preferred social media feed, news app, or a digital publication for 10 minutes. Find one example of a statistical claim or a "new study" being shared.

- How much actual information about the *methodology* of the research is provided in the post or article?
- Based on what you have learned so far, what questions would you need to ask about how they gathered that data before you would confidently trust the claim?

(To explore some of the diverse paths a background in this field can take, you can browse the [American Sociological Association's updated resources on the many careers of sociology majors](#))

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2: Inductive or Deductive? Two Different Approaches

Learning Objectives

- **Describe** the inductive approach to research and provide examples of inductive studies.
- **Describe** the deductive approach to research and provide examples of deductive studies.

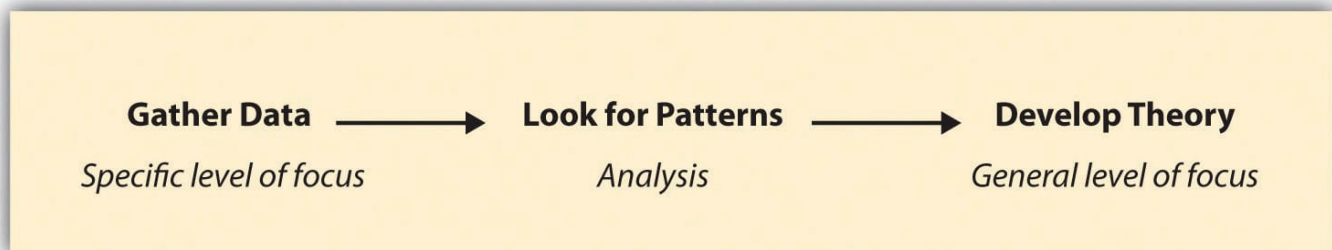
Theories structure and inform sociological research. In turn, research structures and informs theory. This reciprocal relationship often becomes clear to students when they consider how theory and data interact in inductive and deductive approaches to research. In both cases, theory is crucial. But the *direction* of the relationship between theory and research differs for each approach. While inductive and deductive methods are quite different, they are frequently complementary. Let's look at how they differ, and then explore how they work together to uncover social facts.

Inductive Approaches and Some Examples

In an **inductive approach** to research, a researcher begins by collecting data relevant to their topic of interest. Once a substantial amount of data has been gathered, the researcher steps back to get a bird's-eye view of the information. At this stage, the researcher looks for patterns in the data, working to develop a theory that could explain those patterns.

When researchers take an inductive approach, they start with a set of specific observations and move toward a general set of propositions about those experiences. In other words, they move from data to theory, or from the specific to the general. Figure 2.1 outlines this.

Figure 2.1 Inductive Research



One fascinating modern example of inductive research is sociologist Alexandra Ravenelle's (2019) study called "Hustle and Gig: Struggling and Surviving in the Sharing Economy." To understand how app-based gig work impacts workers' lives, Ravenelle did not start with a rigid theory; instead, she interviewed nearly 80 workers from platforms like TaskRabbit, Uber, and Kitchensurfing. By inductively analyzing the patterns in their personal narratives, she developed a broader theory: despite the tech-forward branding of the "sharing economy," gig work is actually returning workers to the vulnerability of early industrial-age labor, stripping away modern workplace protections. She started with specific worker stories and built a theory about socioeconomic stratification.

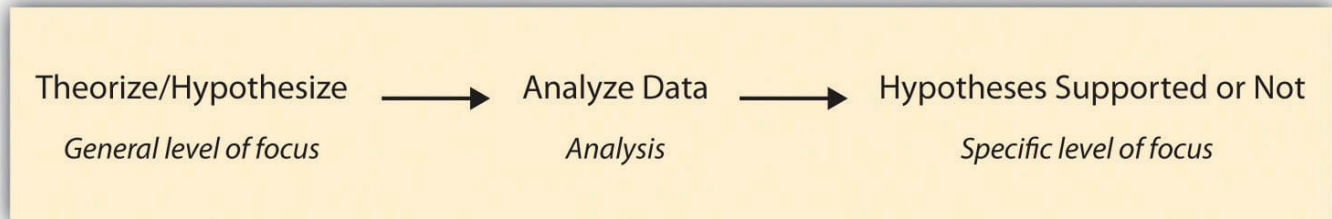
In another recent inductive study, researchers sought to understand the unique social challenges faced by adolescents living with HIV in Uganda. Rather than starting with assumptions, Ester Nanfuka and contributors (2024) conducted deep qualitative interviews and allowed themes and categories to naturally emerge from the transcripts as the analysis unfolded in their work **"You Are Always Worried and Have No Peace; You Cannot Be a Normal Adolescent: A Qualitative Study of the Effects of Mental Health Problems on the Social Functioning of Adolescents Living with HIV in Uganda."** From these specific, unstructured observations, the researchers developed a broad, generalized framework for understanding how mental health challenges directly disrupt the social functioning and peer relationships of this vulnerable demographic. Their study ends exactly where most deductive investigations begin: with a set of testable concepts.

Deductive Approaches and Some Examples

Researchers taking a **deductive approach** take the steps described above and reverse their order. They start with a social theory that they find compelling and then test its implications with data. That is, they move from a more general level to a more specific one.

A deductive approach is what most people typically associate with traditional scientific investigation. The researcher studies existing theories of a phenomenon, forms a specific hypothesis, and then collects data to see if the hypothesis holds up in the real world. Figure 2.2 illustrates this.

Figure 2.2 Deductive Research



While not all sociologists follow a deductive approach, many do. For example, sociologists **Trenton Mize and Reilly Kincaid (2025)** recently conducted a massive deductive study to test "role-accumulation theory." This established sociological theory proposes that holding multiple social roles (like being an employee, a parent, and a volunteer) generally leads to better mental health. Mize and Kincaid formed a specific hypothesis: *Does this theory hold true at all stages of the life course, or does the impact of accumulating roles change as people get older?* To test this, they analyzed 21 years of longitudinal quantitative data from Australian adults. By testing an existing theory against a massive dataset, their deductive research revealed that while *obligatory* roles improve mental health in early adulthood, only *voluntary* roles provide those mental health benefits in late adulthood.

Inductive and Deductive Research Relationship.

While inductive and deductive approaches seem like opposites, they are highly complementary. Deductive research feeds into inductive research and vice versa.

Key Takeaways

- **Inductive Approach:** Begins with empirical observations to identify patterns and develop a new theory.
- **Deductive Approach:** Begins with an existing theory to form hypotheses, which are then tested through data collection and analysis.
- **Complementary Cycle:** Inductive and deductive approaches are best used together to provide a comprehensive understanding of social phenomena.

Exercise

Reflect & Apply: Think about how you could approach a study of the relationship between gender and driving over the speed limit.

- How could you explore this relationship using an **inductive** approach? Where would you start?
- What would a study of the same relationship look like if examined using a **deductive** approach? What theory might you test?

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3: RESEARCH DESIGN

3.1: Goals of the Research Project

3.2: Unit of Analysis and Errors

3.3: Time Dimensions

3.4: Components of a Research Project

3.1: Goals of the Research Project

Learning Objective

- **Understand and describe** the differences among exploratory, descriptive, and explanatory research.

There are viral debates across digital platforms about whether **generative AI tools like ChatGPT are making college students "lazy" or "more productive,"** raising a number of interesting sociological questions. Just what sorts of AI tools are students relying on? How does this reliance change the way they learn? Why do some demographics adopt these tools faster than others?

Sociological research is great for answering exactly these sorts of questions. But in order to answer our questions well, we must take care in designing our research projects.

One of the first things to think about when designing a research project is what you hope to accomplish in very general terms. What do you hope to be able to say about your topic? Do you hope to gain a deep, intimate understanding of a specific group, or would you rather have a broad, sweeping understanding of a national trend? Do you want your research to be used by policymakers to shape social life, or is this project more about exploring a totally new phenomenon? Your answers to each of these questions will shape your research design.

Exploration, Description, Explanation

You will need to decide in the beginning phases whether your research will be exploratory, descriptive, or explanatory. Each has a different purpose, so how you design your research project will be determined in part by this decision.

1. Exploratory Research

Researchers conducting **exploratory research** are typically at the early stages of examining their topics, and it is a **type of inductive research**. These sorts of projects are usually conducted when a researcher wants to figure out the "lay of the land" with respect to a completely new or unstudied topic. Perhaps very little prior research exists on the 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 subjects, or even what sorts of questions are reasonable to ask.

For example, when generative AI first entered higher education, sociologists lacked the data to understand its impact. Early qualitative exploratory studies by **Marc Vinyard & Mark Roosa** (2025) simply asked students, "How are you *actually* integrating these tools into your daily academic routines?" Through open-ended interviews, researchers explored uncharted territory, discovering that students primarily used AI for brainstorming and language refinement rather than outright plagiarism. Because the technology caused a massive shift in behavior, exploratory studies were a necessary first step toward building more complex theories.

2. 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; it is also a **type of inductive research**. A descriptive study of college students' use of AI, for example, might aim to describe patterns in how usage varies by gender or college major or which specific tools students tend to use most regularly.

The **Pew Research Center** (2025) conducted excellent descriptive research to provide the public with demographic data on exactly who is adopting these tools. They described *what* percentage of students are using ChatGPT for schoolwork, explicitly breaking the usage data down by age, race, and household income. Although students and parents might be able to observe some of these trends on their own, having access to the systematic descriptive data gathered by a team of researchers is much more reliable.

3. Explanatory Research

Finally, sociological researchers often aim to explain *why* particular phenomena work in the way that they do. Research that answers “why” questions is referred to as **explanatory research**. In this case, the researcher is trying to identify the causes and effects of whatever phenomenon they are studying, which makes it a type of **deductive research**.

An explanatory study of AI in college might aim to directly answer our opening question: *Why* do some students become overly reliant on it, while others use it to become more productive?

There are numerous examples of explanatory social scientific investigations that answer this exact question. For example, an explanatory study by **Zhang et al.** (2024) sought to explain *why* students develop “AI dependency” (the sociological term for academic laziness). Their explanatory research revealed the structural cause: high academic stress and intense performance expectations severely deplete a student's self-regulation, causing them to rely entirely on AI to do the work for them. Conversely, an explanatory experimental study by **Essel et al.** (2024) sought to explain *why* ChatGPT makes other students more productive. They found that when educators intentionally integrate AI into the classroom as a “metacognitive partner” to debate ideas with, it directly causes significant improvements in a student's critical and creative thinking. Both of these studies move beyond just describing a trend to explaining the *causes and effects* of the technology on human behavior.

Key Takeaways

- **Exploratory Research:** Conducted when a researcher has just begun an investigation and wishes to understand a new or emerging topic.
- **Descriptive Research:** Aims to describe or define a topic, often outlining the “what” and “who” of a social phenomenon.
- **Explanatory Research:** Aims to explain why phenomena work in the way they do by looking at causes and effects.

Exercise

Reflect & Apply: Describe a sociological scenario in which **exploratory research** might be the best approach. Similarly, describe a scenario in which **descriptive** and then **explanatory** research would be the preferred approach.

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3.2: Unit of Analysis and Errors

Learning Objectives

- **Define** units of analysis and describe the various types examined in sociology.
- **Identify** and describe the two common errors researchers make when they confuse levels of analysis: the ecological fallacy and reductionism.

Another critical point to consider when designing a research project has to do with your unit of analysis. A **unit of analysis** is the specific entity that you wish to be able to say something about at the end of your study; it is the main focus of your research.

More specifically, your unit of analysis will be determined by your research question. Getting this right is crucial. If a researcher collects data on one type of unit but draws conclusions about a completely different one, they risk committing major analytical errors that can invalidate their entire study.

Let's go back to our running example about students' reliance on generative AI. First, we will consider how different kinds of research questions about this single topic yield entirely different units of analysis. Then, we will explore the logical traps researchers fall into when they confuse them.

Units of Analysis

1. Individual

If we were to ask, "Which students are most likely to rely heavily on generative AI?" our unit of analysis would be the **individual**. We might email a survey to students on campus, and our aim would be to classify individuals according to their social class, major, or gender to see how those categories correlate with AI usage. Another possibility would be to ask, "How do individual students' AI habits differ?" In this case, we could conduct observations of specific students and record when, where, and how they use their tools. In both cases, the data is collected from individual students, making the individual our unit of analysis.

2. Groups

Another common unit of analysis in sociological inquiry is **groups**. Groups vary in size, and almost no group is too small or too large to be of interest to sociologists. Families, friendship circles, and street gangs are common groups. At the group level, a study of AI reliance might consider whether certain types of social clubs have more AI-reliant members than others. Perhaps we would find that clubs emphasizing physical activity, such as the rugby club, have fewer AI-reliant members than clubs emphasizing digital or cerebral activity, such as the debate club or the esports team. Our unit of analysis in this example is the *group*. (Note: If we had instead asked whether *people* who join debate clubs are more likely to use AI than *people* who join rugby clubs, our unit of analysis would switch back to the individual.)

3. Organizations

Organizations are yet another potential unit of analysis. Organizations include entities like corporations, colleges, and even local government branches. At the organizational level, our study might ask, "How do different colleges address the problem of AI plagiarism?" In this case, our interest lies not in the experience of individual students, but in the campus-to-campus differences in policy. A researcher might examine schools' written academic integrity policies to describe differences across campuses, making the *college* the unit of analysis.

4. & 5. Social Interactions & Artifacts

Of course, it would be a mistake in a sociology textbook to neglect **social interactions** and **artifacts** as units of analysis. Social interactions are relevant when looking at the spaces *between* humans—such as arguments, emails, dances, or digital chats. A

researcher could ask, "What do students say to each other about AI on social media platforms?" and use interactions in a campus Discord server as their unit of analysis. Finally, artifacts are the products of social beings and their behavior, such as books, pottery, or software. A researcher could ask, "How are different AI interfaces (like the ChatGPT prompt box) structured to encourage continuous use?" making the software interface the unit of analysis.

Unit of Analysis Errors

1. Ecological Fallacy

One common error we see people make when it comes to units of analysis is something called the **ecological fallacy**. This occurs when claims about a *lower-level* unit of analysis are made based on data from a *higher-level* unit of analysis. In many cases, this occurs when claims are made about individuals, but only group-level data has been gathered.

For example, imagine we gather data showing that universities with large business programs also have the highest rates of AI usage on campus. If we conclude from this that *individual business students* are more likely to use AI than non-business students, we have committed the ecological fallacy. Because we only have AI usage rates by *campus*, we can only draw conclusions about campuses, not about the individual students on them. Perhaps the sociology and engineering majors on those campuses are the ones causing the AI usage rates to be so high! We simply do not know because we only have large-level campus data. By drawing conclusions about individuals using organizational data, we commit the ecological fallacy.

2. Reductionism

On the other hand, another mistake to be aware of is **reductionism**. Reductionism occurs when claims about a *higher-level* unit of analysis are made based on data from a *lower-level* unit of analysis. In this case, massive systemic claims are made based on individual-level data.

A classic example of reductionism can be seen in oversimplified descriptions of the civil rights movement. On occasion, people have proclaimed that Rosa Parks single-handedly started the civil rights movement in the United States by refusing to give up her seat on a Montgomery bus in December 1955. Although it is entirely true that Parks played an invaluable, courageous role in the movement, to credit one individual with starting a massive societal shift is reductionist. The rise of the movement was the result of a confluence of macro-level factors: decades of systemic fights over legalized segregation, the Supreme Court's historic decision to desegregate schools in 1954, and the organized mobilization of groups like the NAACP and the Student Nonviolent Coordinating Committee. Did Rosa Parks play a vital role? Absolutely. But did one individual *cause* a massive organizational and societal movement? To say yes would be reductionist.

It would be a mistake to conclude from this discussion that researchers should avoid making *any* claims about relationships between variables. While it is important to be attentive to the possibility of error in causal reasoning, this warning should not prevent you from drawing well-reasoned analytic conclusions from your data. The point is to be cautious, ensuring your conclusions match the level of the data you actually collected.

Key Takeaways

- **Unit of Analysis:** The specific entity (individual, group, organization, interaction, or artifact) that a study aims to analyze.
- **Ecological Fallacy:** The error of applying group-level data to make claims about individuals.
- **Reductionism:** The error of applying individual-level data to explain massive large-scale or group phenomena.

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3.3: Time Dimensions

Learning Objectives

- **Define** cross-sectional time frame, provide an example of a cross-sectional time frame, and outline some of the drawbacks of cross-sectional research.
- **Describe** the various types of longitudinal time dimensions.

Cross-Sectional Studies

In terms of time, there are two main types of studies: cross-sectional and longitudinal. **Cross-sectional studies** are those that are administered at just one point in time. These offer researchers a snapshot in time and give us an idea about how things are for our respondents at the particular moment that the study is administered.

An excellent example of a cross-sectional study comes from the [Pew Research Center](#) (2025), which examined American attitudes toward AI. These researchers administered a single, one-time cross-sectional survey to U.S. adults. The researchers found from the analysis of their cross-sectional data that 53% of Americans feel AI will worsen creativity. Because this was a cross-sectional study, that statistic represents a snapshot of societal anxiety frozen exactly in 2025.

One major problem with cross-sectional studies is that the events, opinions, behaviors, and other phenomena they assess do not generally remain stagnant. Generalizing from a cross-sectional study about "the way things are" can be tricky; you can say something about the way things *were* in the exact moment you administered your study, but it is difficult to know if things remained that way. Think, for example, about how college students might have responded to a cross-sectional survey about using Artificial Intelligence to help write their essays in October 2022. Now imagine how responses to the exact same questions would differ just three months later in January 2023, immediately following the public release and viral explosion of ChatGPT. The point is not that cross-sectional studies are useless—they have many important applications. But researchers must remember what they have captured: a snapshot of life as it was at the exact time the study was administered.

One way to overcome this snapshot limitation is to conduct a longitudinal study. **Longitudinal studies** are those that enable a researcher to make observations over some extended period of time. There are several types of longitudinal studies, including trend, panel, and cohort studies.

Longitudinal Studies

1. Trend Study

The first type of longitudinal study is called a **trend study**. The main focus of a trend study is how people's inclinations change over time. In a trend study, the same people do *not* participate each year; researchers poll a new, representative sample of the population each time. For example, Gallup opinion polls are excellent trend studies. For several years, [Gallup](#) (2025) has polled American adults to find out what they think about higher education. Through Gallup's use of a trend study time dimension, we recently learned that public confidence in U.S. colleges rose to 42% in 2025, successfully reversing a massive decade-long decline. Because the interest is in massive societal trends rather than specific people, as long as the sample is representative, it does not matter that different individuals answered the poll each year.

2. Panel Study

Next are **panel studies**. Unlike in a trend study, in a panel study, the *exact same people* participate in the study each time it is administered. As you might imagine, panel studies can be difficult and costly to run. Keeping track of where people live, when they move, and when they drop out takes resources that researchers often lack. When they succeed, however, the results are incredibly powerful. The [National Longitudinal Study of Adolescent to Adult Health \(Add Health\)](#) is a panel study. Starting in 1994, researchers surveyed a massive sample of adolescents in grades 7 through 12. Over the last 30 years, they have tracked the exact same individuals across six different waves into their 40s. Some findings from this panel study from [Schiller et al.](#) (2024) reveal

how chronic stress experienced in high school directly correlates to biological markers of accelerated aging decades later in adulthood. Without tracking the exact same individuals over time, we would not understand those long-term life course impacts.

3. Cohort Study

Another type of longitudinal study is a **cohort study**. In a cohort study, a researcher identifies a category of people who share a defining characteristic or life event, such as a specific birth generation or a graduating class, and regularly studies people who fall into that category. The same people don't necessarily participate from year to year, but all participants must meet the categorical criteria. Economic sociologists frequently use cohort studies to examine wealth inequality. For example, a cohort study by the **Federal Reserve Bank of St. Louis** (2024) compared the wealth and debt of Baby Boomers, Generation X, and Millennials *at the exact same point in their life cycles* (age 30). Because they tracked these specific generational cohorts over time, they discovered that while Millennials had higher total assets at age 30 than Boomers did, the staggering increase in student loan debt meant Millennials ultimately had roughly the same overall net worth as Boomers did at that age.

Summary

All three types of longitudinal studies share the strength that they permit a researcher to make observations over time. This means that if whatever behavior or other phenomenon the researcher is interested in changes, either because of some world event or because people age, the researcher will be able to capture those changes. Table 3.1 summarizes each of the three types of longitudinal studies.

Table 3.1 Types of Longitudinal Studies

Sample type	Description
Trend Study	The researcher examines changes in trends over time; a new sample is done each time.
Panel Study	Researchers study the exact same sample of individuals several times over an extended period.
Cohort Study	The researcher identifies a category of people who share a defining trait (e.g., a generation) and tracks that category over time.

In sum, when and with what frequency a study is administered determines whether your study is cross-sectional or longitudinal. While longitudinal studies are certainly preferable in terms of tracking changes over time, the immense time and cost required can be prohibitive.

Key Takeaways

- **Cross-Sectional Studies:** Research administered at only one point in time, providing a snapshot.
- **Trend Studies:** Examine shifts in general populations over time using different respondents.
- **Panel Studies:** Track the exact same individuals over an extended period.
- **Cohort Studies:** Track a specific subpopulation (like a birth generation) over time.

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3.4: Components of a Research Project

Learning Objectives

- **Describe** useful strategies to employ when searching for literature.
- **Describe** why sociologists review prior literature and how they organize their literature reviews.
- **Identify** the main sections contained in scholarly journal articles.
- **Identify and describe** the major components researchers need to plan for when designing a research project.
- **Describe** the importance of a research proposal.

In this section, we examine the typical components of a research proposal and project. Our purpose here is to provide a general overview of research design; the specifics of these components will vary depending on your particular project.

Searching for Literature

Familiarizing yourself with research that has already been conducted is crucial for coming up with a good research design. As you search for literature, you may have to be fairly broad in your search.

Consider a student researcher who wants to understand why some college students stage protest "smoke-outs" when a campus implements a tobacco-free policy. If she searches in a database for "college student activist smoke-outs," she might yield no results. Concluding there is no prior research, she might assume she cannot write a literature review. However, if she broadens her search to "college student activism" or "deviance and social protest," she will find a wealth of articles. Reading these broader studies helps her understand what motivates students to become involved in activist efforts. By searching broadly, she identifies the foundation upon which her own work can be built.

Once she has identified a set of articles by searching broadly, her reading of those articles should be narrower. Keeping her specific focus on campus protest in mind, she can think about how the theories from broader studies on activism apply to her specific focus.

Reviewing the Literature

Developing an annotated bibliography is often one of the early steps researchers take. A second step involves a **literature review**, in which a researcher positions their work within the context of prior scholarly work. A literature review addresses the following: What questions have other scholars asked? What do we know? What questions remain?

The best literature reviews do not just list articles; they synthesize findings, organizing them around themes relevant to the researcher's focus. For example, a student researching speciesism (the belief that some species are superior to others) might organize their review around two themes: the "why" and the "how." In the "why" section, they describe prior research on why humans construct divisions between themselves and animals; in the "how" section, they arrange subsections around previous theories of social categorization. This organizational scheme helps readers understand the existing theories and highlights what we still don't know, setting the stage for the student's own research.

To read scholarly literature successfully, first focus on the **abstract**, which summarizes the research question, methods, and key findings. After the abstract, journal articles typically contain an introduction, literature review, methodology, findings, and discussion. When digesting an article, a strategic approach is to read the abstract, then jump to the discussion section. The discussion helps you understand the author's major findings and how those findings relate to other research. As you read, apply what you have learned about research design: Is the study exploratory or explanatory? What is the unit of analysis? Using these concepts helps you critically evaluate the literature in your area of inquiry.

Additional Important Components

Identifying your research question and reviewing existing literature are only the beginning. You must also consider the following

major components as you design your project:

- **Research question:** A clear, focused query that guides your study.
- **Research strategy:** Deciding if your approach is exploratory, descriptive, or explanatory; idiographic or nomothetic; and inductive or deductive.
- **Research goals:** Determining if your research is basic (contributing to knowledge) or applied (solving a specific problem).
- **Units of analysis and units of observation:** Identifying who or what you are studying and how you observe it.
- **Key concepts:** Engaging in conceptualization and operationalization to define what you are studying.
- **Method of data collection:** Choosing between surveys, interviews, ethnography, etc.
- **Research participants:** Defining your population and sampling strategy.
- **Ethical concerns:** Identifying potential risks to participants during data collection, analysis, or sharing.

Decisions about these components do not always occur in a neat, sequential order. You may need to think about ethical concerns even before zeroing in on a final research question.

Research Proposal

Before starting, it is often a good idea to write a **research proposal** detailing these decisions and the rationale behind each one. A proposal addresses what research questions you will study and why, what prior literature exists, what theories you will employ, how you will measure your concepts, what research method you will use, and your sampling strategy.

If you are seeking funding, agencies require such a proposal to select the best studies. Even if funding is not sought, a proposal serves as a vehicle for seeking feedback from other researchers, allowing you to identify potential problems, such as missing constructs, before you begin collecting data. This feedback is invaluable, as it is often too late to correct critical flaws once data collection has begun.

Key Takeaways

- **Literature Search:** Start broad and narrow your reading to specific, relevant peer-reviewed studies.
- **Literature Review:** A synthesis of prior research organized by themes rather than just a list of authors.
- **Research Components:** A project must define its question, strategy, goals, units of analysis, concepts, collection method, population, and ethics.
- **Research Proposal:** A foundational document justifying the design and identifying potential pitfalls before data collection.

Exercises

1. **Find and read:** Check out a complete journal article that addresses a topic of interest to you. In four to eight sentences, summarize the author's research question, theoretical framing, methods used, and major findings. What reading strategies helped you recall the most relevant details?
2. **Use the example:** Using the example of the campus smoking ban mentioned in this section, design a hypothetical research project by identifying a plan for each of the nine components of research design presented here.

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4: CONCEPTUALIZATION, OPERATIONALIZATION, AND MEASUREMENT

4.1: What is Measurement?

4.2: Conceptualization

4.3: Operationalization

4.4: Levels of Measurement

4.5: Reliability

4.6: Validity

4.1: What is Measurement?

Learning Objective

- **Define** measurement.

Measurement

Measurement is critical to the success of any social scientific research project. In sociology, **measurement** is the process by which researchers describe and ascribe meaning to the key facts, concepts, or other phenomena under investigation. At its core, measurement is about defining terms in as clear and precise a way as possible. While measurement in social science is not as simple as using a standard measuring cup, there are basic tenets that most social scientists agree upon.

What Do Social Scientists Measure?

The question of what social scientists measure can be answered by asking what social scientists study. They measure just about anything they have an interest in investigating.

For instance, consider the [Healthy Minds Study](#) (2025), a large-scale, ongoing effort that tracks the mental health of college student populations across the United States. In order to conduct such a study, researchers must decide how to measure "mental health." They utilize standardized instruments like the PHQ-9 for depression and the GAD-7 for anxiety. By using these tools, researchers can quantify abstract concepts like "depressive symptoms" or "anxiety levels," allowing for systematic comparisons across universities and student demographics.

Whether researchers are interested in the correlation between social class and happiness, how immigrants cope in new locations, or how gender shapes workplace experiences, they must develop a way to operationalize and measure these phenomena. Social scientists can and do measure just about anything that can be observed or studied.

How Do Social Scientists Measure?

Measurement in social science is a process. It occurs at multiple stages of a research project: in the planning stages, in the data collection stage, and sometimes even in the analysis stage. Once a research question is identified, the next step is to think about what the key ideas are that the project hopes to learn. In describing those key ideas, the measurement process begins.

For example, if the research question is "How does *classroom management* influence *student achievement*?" The researcher must first establish what "classroom management" and "student achievement" mean. Recent research, such as the [meta-analysis by Chalak et al.](#) (2025), demonstrates that "management" can be measured through indices of organization, discipline, and positive reinforcement, while "achievement" is measured through standardized outcomes. This definition is developed early in the process, which guides the researcher on what to look for (or observe) during data collection. Once the data is collected, the researcher must decide how to report on the topic. Perhaps there are different types or dimensions of management, some of which lead to more successful achievement than others. Whatever is decided, measurement is vital at each of these phases.

Measurement is also a process because it involves multiple stages: identifying key terms, defining them, figuring out how to observe them, and determining if those observations are accurate. An additional step involves deciding what elements a measure contains. A measure's elements might be straightforward if they are directly observable (like age), or they might be complex and require the researcher to account for different themes or types. These complexities require paying careful attention to a concept's level of measurement and its dimensions.

Key Takeaway

- **Measurement:** The process by which researchers describe and ascribe meaning to key facts or phenomena under investigation.

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4.2: Conceptualization

Learning Objectives

- **Define** concept & conceptualization.
- **Describe** how conceptualization works.

In this section, the focus is on one of the first steps in the measurement process: **conceptualization**. This involves defining terms as clearly as possible. Definitions mean only what researchers assign them to mean, nothing more and nothing less.

Concepts and Conceptualization

A **concept** is a notion or image conjured up when thinking about a cluster of related observations or ideas. For example, "masculinity" is a concept. It encompasses a set of behaviors and a particular style of self-presentation. However, it cannot be assumed that everyone conjures up the same set of ideas when they hear the term. Modern research underscores that masculinity is not a monolithic identity but a socially constructed set of ideals that varies by context and social situation.

This variation is precisely why defining concepts is essential. In empirical research, terms mean only what the researcher assigns them to mean. Without a shared understanding of a term, the findings and conclusions of a study can easily be misinterpreted. Any decision based on empirical findings must be made with full knowledge of how the research was designed and how its concepts were defined.

Conceptualization is the process of writing out clear, concise definitions for key concepts. For example, when conceptualizing masculinity, a researcher might brainstorm images the term conjures up, such as social norms, emotional regulation, or role performance. Recent sociological work, such as the systematic review by [Logoz et al. \(2025\)](#), demonstrates that "masculinity" can be conceptualized through specific dimensions like restrictive emotionality, dominance, and toughness. This definition is developed early in the process, which guides the researcher on what to look for during data collection.

Conceptualization is not merely applying a random definition. It involves:

1. Brainstorming images the word conjures up.
2. Consulting prior work to see how others have defined the term.
3. Ensuring every term used in the definition is also clearly defined and understood.

Key Takeaway

- **Conceptualization:** The process of creating clear, concise definitions for key concepts.

Exercises

1. **Conceptualizing Discipline:** Conceptualize the term "discipline" and identify its possible parts. Ask a peer to do the same without sharing your definitions beforehand. Once complete, compare your results. How do your conceptualizations differ, and what does this reveal about the subjective nature of defining sociological concepts?
2. **The Role of Prior Literature:** Identify a concept central to your own research interests (e.g., social mobility, digital literacy, or workplace hierarchy). First, draft a clear, concise conceptualization of that term based entirely on your own understanding. Second, conduct a search for peer-reviewed literature to see how scholars have defined that same term. Analyze the differences: How did your initial conceptualization align or diverge from established academic definitions? Did the literature reveal dimensions of the concept that you had not previously considered?

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4.3: Operationalization

Learning Objectives

- **Describe** how operationalization works.
- **Define** and give an example of indicators.

Once key terms have been defined (conceptualized), the next step is **operationalization**. This is the process of spelling out precisely how a concept will be measured. It involves identifying the specific research procedures used to gather data about concepts. This requires knowledge of the research method(s) employed, as data collection strategies significantly shape how concepts are measured.

Indicators

Operationalization works by identifying specific **indicators** that represent the ideas being studied. For example, if a researcher is interested in studying "masculinity," indicators might include social roles prescribed to men, such as breadwinning or fatherhood. The extent to which an individual fulfills these roles serves as a clue, or indicator, regarding how their masculinity is viewed in a specific context.

Another example can be seen in the [Gallup Well-Being Index](#). To measure "well-being," Gallup utilizes a data-driven framework that assesses various life elements, including financial situation, career, social connection, physical health, and community engagement. Gallup uses these factors as indicators of the broader concept of well-being.

Identifying indicators can also be straightforward. Concepts such as gender, political party, age, or birthplace have widely recognized indicators (e.g., Democrat, Republican, or Independent for political party). Researchers must ensure the process of selecting indicators is not arbitrary or casual. Turning to prior theoretical and empirical work is essential; theories point toward relevant indicators, while previous empirical studies provide specific examples of how concepts have been measured in the past. Researchers may choose to use existing indicators or develop new ones to overcome perceived weaknesses in previous measures.

Putting It All Together

Moving from identifying concepts to conceptualization and then to operationalization is a matter of increasing specificity. The process begins with a general interest, identifies essential concepts, defines those concepts, and finally determines precise measurement procedures. Focus narrows as the researcher moves toward operationalization, as illustrated in **Figure 4.2: The Process of Measurement**.

However, the measurement process does not always proceed in this strict, linear fashion. Research aimed at discovering how people define concepts differently may be more inductive. For instance, a study of social movement activism by [Blackstone \(2007\)](#) called "Finding politics in the silly and the sacred: Anti-rape activism on campus" argues that a researcher might begin with an open-ended understanding of "politics." By observing participants, the researcher learns how individuals define politics in their own lives, identifying it as linked to action and challenging power. In this case, observations occur before a formal definition or specific indicators are finalized, showing that the measurement process can be fluid and iterative.

Figure 4.2 The Process of Measurement

General Interest: → Key Concept: → Conceptualization: → Operationalization:

Boys' socialization

Masculinity

*Behaviors prescribed
for men in society*

*Chores assigned to
male children*

Key Takeaways

- **Operationalization:** The process of spelling out precisely how a concept will be measured through specific research procedures.
- **Indicators:** Specific clues or data points that represent the abstract ideas being studied.

Exercise

Identifying Indicators: Think of a concept of interest to you. Identify at least three possible indicators for that concept

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4.4: Levels of Measurement

Learning Objective

- **Define** and provide examples for each of the four levels of measurement.

You should now have some idea about how conceptualization and operationalization work, and you also know a bit about how to assess the quality of your measures. But measurement is sometimes 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'll consider some of these complexities in measurement. First, we'll take a look at the various levels of measurement that exist, and then we'll consider a couple strategies for capturing the complexities of the concepts we wish to measure.

Levels of Measurement

When researchers measure concepts, they often use the language of **variables** and **attributes**. A variable is a grouping of several characteristics, while attributes are the specific characteristics themselves. There are four levels of measurement: nominal, ordinal, interval, and ratio.

1. Nominal Level

At the **nominal level**, attributes meet the criteria of being exhaustive and mutually exclusive. Nominal-level measures cannot be mathematically quantified; there is no inherent ranking. This is the most basic level of measurement. Examples include relationship status, gender, race, political party affiliation, and religious affiliation.

- **Example:** To measure relationship status, respondents might be asked if they are "partnered" or "single." These categories are exhaustive (covering all possibilities) and mutually exclusive (an individual cannot be both).

2. Ordinal Level

Attributes at the **ordinal level** are exhaustive and mutually exclusive, but they are in a rank order. While one can determine if an attribute is "more" or "less" than another, the mathematical distance between those attributes cannot be calculated.

- **Example:** Social class, degree of support for policy initiatives, or prejudice levels. A researcher can say one person's support for a public policy is higher than another's, but they cannot mathematically specify "how much" higher.

3. Interval Level

Measures at the **interval level** meet all the criteria of the previous levels, with the addition that the distance between attributes is known and equal.

- **Example:** IQ scores or temperature (Fahrenheit or Celsius). Defining characteristics allow researchers to state exactly how much more or less one attribute differs from another. However, these measures lack a true zero point, meaning one cannot claim that one value is a specific ratio of another (e.g., 50° is not "half as hot" as 100°).

4. Ratio Level

At the **ratio level**, attributes are exhaustive, mutually exclusive, rank-ordered, have equal distances between them, and possess a **true zero point**. Because of this zero point, researchers can determine the ratio of one attribute compared to another.

- **Example:** Age and years of education. A person who is 12 years old is exactly twice as old as someone who is 6 years old because age possesses a meaningful zero.

Key Takeaways

- **Nominal Level:** Categorical data that is exhaustive and mutually exclusive but cannot be ranked (e.g., race, gender).
- **Ordinal Level:** Categorical data that can be ranked, though the distance between ranks is unknown (e.g., social class).
- **Interval Level:** Quantitative data where the distance between values is known and equal, but lacking a true zero (e.g., temperature).
- **Ratio Level:** Quantitative data possessing all the characteristics of other levels plus a true zero point (e.g., age, income).

Exercise

Identifying Levels of Measurement: With a peer, identify six concepts of interest to your current research. Independently determine the level of measurement for each concept. Compare your results and discuss the rationale behind your classifications, particularly for any concepts where you and your peer reached different conclusions.

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4.5: Reliability

Learning Objectives

- **Define** reliability.
- **List** and describe the different types of reliability.

What is Reliability?

Reliability is the degree to which the measure of a construct is consistent or dependable. If a scale is used to measure the same construct multiple times, a reliable measure produces the same result each time, assuming the underlying phenomenon has not changed. For example, using a calibrated weight scale is a reliable measurement because it produces the same value repeatedly, whereas "guessing" a person's weight is unreliable due to inconsistent estimations.

It is critical to note that reliability implies **consistency, not accuracy**. If a scale is calibrated incorrectly, for instance, consistently shaving off ten pounds, it remains a reliable measure because it provides consistent results, even though those results are not valid (accurate).

Sources of unreliability in social science often stem from:

1. **Researcher Subjectivity:** When measurement depends on observer interpretation (e.g., inferring morale from observation), results may vary by observer or by the timing of the observation.
2. **Ambiguity:** Imprecise questions (e.g., asking for "salary" without specifying annual or monthly) lead to divergent responses.
3. **Lack of Respondent Familiarity:** Asking respondents about issues they do not understand or care about results in unreliable data.

Reliability can be improved by using quantitative rather than qualitative measures, simplifying survey wording, and ensuring questions are clear and relevant. However, because these strategies do not guarantee perfect results, measurement instruments must be empirically tested for reliability.

Some Types of Reliability

1. Inter-Rater Reliability

This measures consistency between two or more independent people observing the same thing. For example, if two researchers are watching a classroom to count the number of times a student raises their hand, they should produce very similar counts. If their counts match most of the time, the observation process is reliable.

2. Test-Retest Reliability

This measures consistency by testing the same people twice. The same survey or test is given to the same group at two different times. If the results are similar both times, the measure is reliable. The time interval between the two tests is important; if too much time passes, the participants might actually change, which makes it harder to measure consistency.

3. Split-Half Reliability

This measures consistency by looking at different parts of the same test. If you have a long survey with many questions about one topic, you can randomly split the questions into two equal groups. If a respondent's score on the first half of the questions matches their score on the second half, the instrument is likely reliable.

4. Internal Consistency Reliability

This assesses whether all the different items in a single survey are measuring the same thing. If a survey has multiple questions about "job satisfaction," you would expect a person who answers "highly satisfied" to one question to answer positively to the other questions as well. If the items are consistent with each other, the survey has high internal consistency.

Key Takeaways

- **Reliability:** The degree to which a measure is consistent or dependable over multiple applications.
- **Inter-Rater Reliability:** Consistency between two or more independent observers.
- **Test-Retest Reliability:** Stability of a measure when the same group is tested twice over time.
- **Split-Half Reliability:** Consistency by comparing results from two halves of the same test.
- **Internal Consistency:** Whether all items in a single survey measure the same underlying construct.

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4.6: Validity

Learning Objectives

- **Define** validity.
- **List** and describe the different types of validity.

What is Validity?

Validity refers to the extent to which a measure adequately represents the underlying concept it is intended to measure. While reliability focuses on consistency, validity focuses on **accuracy**, are we actually measuring what we claim to be measuring? For example, a measure of "compassion" is only valid if it truly captures that specific construct rather than a different, though perhaps related, construct such as "empathy."

Types of Validity

1. Face Validity

Face validity refers to whether a measure seems reasonable "on its face." When you look at the questions asked, do they intuitively make sense as a way to measure the concept? For example, asking people how often they attend religious services is a logical way to measure "religiosity." Conversely, trying to measure "employee morale" by counting how many books are checked out of an office library lacks face validity because the two things do not seem connected.

2. Content Validity

Content validity assesses whether a measure covers the entire range of the concept. A concept often has multiple parts, and a valid measure must include all of them. For example, if you define "satisfaction with restaurant service" as including the quality of the food, the friendliness of the staff, and the atmosphere of the room, your survey must ask about all three. If you only ask about the food, your measure lacks content validity because it ignores important parts of the concept.

3. Convergent and Discriminant Validity

These two forms of validity look at how a measure relates to other concepts:

- **Convergent Validity:** This checks if your measure aligns with other ways of looking at the same concept. If you use two different surveys to measure "organizational knowledge," the results from both should point in the same direction.
- **Discriminant Validity:** This checks if your measure is distinct from things it *shouldn't* be related to. If you are measuring "organizational knowledge," your results should not be exactly the same as a measure of "organizational performance." If they are, you aren't really measuring knowledge; you are just measuring performance by another name.

4. Criterion-Related Validity

This examines how well a measure matches up with real-world results or other established standards. It includes two forms:

- **Predictive Validity:** Does the measure successfully predict a future result? For example, do results from a college entrance exam accurately predict how well a student will perform in their future college courses?
- **Concurrent Validity:** Does the measure align with other standards measured at the same time? For example, if a student performs well on a test for one math class, they should reasonably be expected to do well on a test for another math class taken at the same time, because both are testing the same underlying skill.

Key Takeaways

- **Validity:** The accuracy of a measurement—ensuring the researcher is actually measuring what they claim to measure.
- **Face Validity:** Whether the measure seems reasonable "on its face" or intuitive.
- **Content Validity:** Whether the measure covers the entire range or all dimensions of a concept.
- **Convergent Validity:** Whether the measure aligns with other ways of looking at the same concept.
- **Discriminant Validity:** Whether the measure is distinct from concepts it should not be related to.
- **Criterion-Related Validity:** How well a measure aligns with real-world results or established standards (predictive and concurrent).

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5: INDEXES AND SCALES

5.1: Indexes vs. Scales

5.2: Index Construction

5.3: Scale Construction

Learning Objectives

- **Define** an index and a scale.
- **Describe** the primary differences between indexes and scales.

Understanding Indexes and Scales

When researchers measure complex concepts, a single indicator is often insufficient. To capture the full breadth of a construct, they combine multiple indicators into a single composite measure. While the terms are often used interchangeably, they represent two distinct approaches to data construction.

1. What is an Index?

An **index** is a type of measure that summarizes a general concept by accumulating multiple indicators into a single numerical score. In an index, the indicators are combined, often through simple addition or averaging, to provide a holistic view of a variable.

- **Key Characteristic:** Indexes are often composed of diverse elements that may be measured in different ways. For example, a "Socioeconomic Status Index" might combine income (dollars), education (years), and occupation (status level).
- **Logical Foundation:** The indicators in an index are conceptually related but do not necessarily imply a hierarchy of intensity.

2. What is a Scale?

Like an index, a **scale** is a composite measure, but it is specifically designed to account for the **intensity** of an experience, attitude, or behavior.

- **Key Characteristic:** Scales arrange items in a way that suggests a progressive "ordering" of the construct. As you move from one item to the next, you are measuring a greater degree or intensity of that construct.
- **Example:** The *Bogardus Social Distance Scale* measures the level of intimacy a person is willing to accept with members of a different social group. Because the indicators move from less intimate (e.g., "willing to have them visit my country") to more intimate (e.g., "willing to marry into the group"), they form a logical intensity structure that an index might lack.

Key Differences

Feature	Index	Scale
Primary Focus	Accumulation of information	Intensity or level of a trait
Construction	Combines varied indicators	Carefully selects items by strength
Logic	Indicators contribute to a total score	Items imply a rank-ordered intensity
Example	Consumer Price Index (CPI)	Likert Scales (Agree/Disagree)

Key Takeaways

- **Composite Measures:** Tools used to simplify complex social concepts by combining multiple indicators.
- **Index:** Acts as a summary score by accumulating diverse indicators.
- **Scale:** Accounts for the varying intensity of components, usually arranging items in a hierarchy.

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Learning Objectives

- **Define** the five main steps of index construction.
- **Describe** how researchers select items and evaluate their relationships.
- **Explain** the difference between an index and a scale.
- **Discuss** how to handle missing data and validate a composite measure.

Creating a composite measure, combining several questions into one score, a way to get a more complete picture of a complex concept. To do this well, researchers generally follow a clear, logical process.

The Logic of Index Construction

Building a composite measure typically involves four main steps:

1. Item Selection

The first step is choosing the right questions (items) to include. Think of these as "clues" that point toward the concept you are measuring.

- **Logical Fit (Face Validity):** Do the questions intuitively make sense?. For example, asking about frequency of prayer logically helps measure "religiosity".
- **Stay Focused (Unidimensionality):** Keep the measure focused on one thing. Don't mix questions about religion with questions about political conservatism, even if they seem related.
- **Useful Variety (Variance):** Choose questions that divide people into different groups. If a question has the exact same answer for everyone, it doesn't help you distinguish between people.

2. Examining Empirical Relationships

Next, you check if your questions actually "talk" to each other. If a concept is consistent, people who answer a certain way on one question should be predictable in how they answer another.

- **Checking Correlations:** You look to see if the answers to your questions generally move in the same direction. If two questions are completely unrelated, they probably don't belong in the same index.
- **Avoiding Redundancy:** If two questions provide the exact same information, you only need to include one.

3. Index Scoring

Now you assign numerical values to the responses to get a final score for each person.

- **Range:** You want enough "spread" so you can tell the difference between people, but you also want to make sure you have enough people at every level of the score.
- **Weighting:** Unless you have a very strong reason otherwise, treat all questions as having equal importance.

4. Handling Missing Data

Sometimes people skip questions. You might:

- Ignore people who skipped questions (only if they are very few).

- Treat a blank answer as a "no" or a neutral response (if it makes logical sense for your survey).
- Use a statistical average for that person.
- The most reliable approach is to try a few different methods to see if the results stay the same.

5. Validation

Finally, you must prove the index actually works.

- **Internal Check (Item Analysis):** Make sure each individual question helps contribute to the final score.
- **External Check (External Validation):** See if your final index score predicts other things it *should* predict. For example, if your index measures "scientific orientation," those who score high on it should also be more likely to read scientific literature or attend scientific lectures.

Key Takeaways

- **Item Selection:** Choosing items based on face validity, focus (unidimensionality), and variance.
- **Empirical Relationships:** Ensuring items are correlated and not redundant.
- **Missing Data:** Handling skipped questions via exclusion, neutral assignment, or imputation.
- **Validation:** Confirming accuracy through internal (item-to-index consistency) and external (predicting related variables) checks.

5.3: Scale Construction

Learning Objectives

- **Define** and provide examples for the three main types of scales.
- **Explain** the conceptual differences between Thurstone, Likert, and Guttman scaling methods.

Overview

A scale is a composite measure used to capture the **intensity** of an attitude or belief. Unlike an index, which simply adds up items, a scale is structured to measure how strongly a person feels about a construct. We will explore three classic methods for building these scales.

Thurstone's Scale

Developed by Louis Thurstone, this method is known as the **method of equal-appearing intervals**. Imagine creating a ruler for an attitude, where each point on the ruler is carefully placed.

- **The Process:** Experts generate a large list of statements about a topic. A panel of judges then rates each statement on an 11-point scale, from "extremely unfavorable" to "extremely favorable."
- **Selection:** Researchers select a final set of statements that are spaced evenly across that 11-point range.
- **Result:** Because the items are spread out at equal intervals, it acts like a ruler. When a respondent agrees with a statement, they are assigned the "weight" or value associated with that specific point on the scale.

Likert Scale

Developed by Murphy and Likert, this is the most popular scaling method in social science research. You have likely encountered this in almost every survey you have ever taken.

- **The Process:** Researchers create a set of statements related to a concept. For each statement, respondents choose from a range of options, typically: strongly disagree, *disagree*, *undecided*, *agree*, and strongly agree.
- **Scoring:** This is often called a **summed scale**. Because each response option is assigned a number (e.g., 1 to 5), the researcher simply adds up (sums) the points from all the items to get the respondent's total score.
- **Important Note:** If some statements are phrased in the opposite direction of the main concept (e.g., a negative statement in a positive survey), researchers must "reverse code" them so that all numbers point in the same conceptual direction before adding them up.

Guttman Scale

The Guttman method, or **cumulative scaling**, is based on the idea that items can be arranged from "least intense" to "most intense" on the topic of an issue.

- **The Process:** This scale assumes that if a person agrees with a "highly intense" statement, they logically must have agreed with all the less intense statements that came before it.
- **Example:** Consider a scale measuring **organizational commitment** in a workplace:
 1. "I am willing to attend an optional company meeting." (Least intense)
 2. "I am willing to work an extra hour for free to help the team."
 3. "I am willing to relocate to another state for this company." (Most intense)
- **Logic:** A Guttman scale assumes that if a person says "Yes" to item #3, they *must* have already said "Yes" to items #1 and #2.

If someone says "Yes" to #3 but "No" to #1, the scale is not "perfectly Guttman."

Key Takeaways

- **Thurstone Scale:** Uses a panel of judges to create a "ruler" of statements at equal intervals of intensity.
- **Likert Scale:** Uses summed ratings across statements to measure the intensity of an attitude.
- **Guttman Scale:** Arranges items in a cumulative intensity hierarchy, assuming agreement with a strong item implies agreement with weaker ones.

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6: SAMPLING

6.1: Populations Versus Samples

6.2: Nonprobability Samples

6.3: Probability Samples

6.4: Considering Representativeness

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6.1: Populations Versus Samples

Learning Objectives

- **Understand** the difference between populations and samples.
- **Explain** why researchers use samples rather than entire populations.

Who or What?

When conducting research, it is vital to distinguish between your population of interest and your study sample.

Population

A **population** is the entire cluster of people, events, or phenomena that you are most interested in. It represents the "who" or "what" you want to make claims about at the conclusion of your study. While you might be interested in a broad group, such as "the American people," researchers typically define this more specifically, such as "adults over the age of 18" or "legal residents of California."

Sample

A **sample** is the smaller cluster of people or events from which you will actually gather your data. Researchers use sampling, the process of selecting observations for analysis, because collecting data from an entire population is rarely feasible due to time, cost, and resource limitations.

For example, if your research question is how do men and women's college experiences differ, it is physically impossible to study every college student across all nations and all time periods. Instead, you must select a manageable sample and then be transparent about your study's limitations regarding that group.

Key Takeaways

- **Population vs. Sample:** A population is the group that is the main focus of your interest; a sample is the group from whom you actually collect data.
- **Sampling as a Process:** Sampling involves carefully selecting the specific observations you will analyze to draw your conclusions.

Exercises

1. **Review Scholarly Articles:** Read the methods sections of two scholarly research articles. Note how the authors describe their populations versus their samples. Check the abstracts to see who the authors are drawing conclusions about versus who they actually studied.
2. **Plan Your Own Study:** Consider a research project you might conduct. Would your population and sample be identical, or would they differ? Explain why.

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6.2: Nonprobability Samples

Learning Objectives

- **Define** nonprobability sampling and identify situations where it is the appropriate choice.
- **Describe** and distinguish between the four primary types of nonprobability samples.

Overview: Why Use Nonprobability Sampling?

Nonprobability sampling refers to sampling techniques for which a person's (or event's or researcher's focus's) likelihood of being selected for membership in the sample is unknown. Because we don't know the likelihood of selection, we don't know with nonprobability samples whether a sample represents a larger population or not.

Nonprobability sampling is used when representing a larger population is not the primary goal or is possible to get. Instead, researchers use these techniques to:

- **Design and Pilot Research:** These methods help "work out the kinks" in a survey or provide a quick "lay of the land" before a larger study.
- **Achieve In-depth Understanding:** Qualitative researchers often seek an idiographic (in-depth) understanding of a specific phenomenon or group rather than a broad, statistical overview.
- **Contribute to Theory:** By seeking out specific or even anomalous cases, researchers can modify, expand, or critique existing social theories.

Types of Nonprobability Samples

Researchers utilize four main strategies to select participants based on the specific needs of their project that table 6.1 illustrates:

Table 6.1 Nonprobability Sample Types

Sample Type	Description
Purposive	The researcher seeks out participants who meet specific criteria or cover a full range of perspectives based on their expert knowledge.
Snowball	The researcher relies on initial participants to refer other potential subjects, creating a "chain referral."
Quota	The researcher identifies important subgroups and decides in advance how many participants to recruit from each.
Convenience	The researcher collects data from whoever is most easily accessible, often used in exploratory work.

1. Purposive Sampling

For this type of sampling, the researcher is the expert and so then pulls subjects non-randomly to match the needs they have in mind.

For example, a study of student housing satisfaction could use purposive sampling if the researcher uses their expert knowledge to get subjects non-randomly to ensure residents from all types of dorms and apartments are represented.

2. Snowball Sampling

This is a "chain referral" method where the sample grows as participants refer others. It is highly effective when studying:

- **Stigmatized Groups:** Where participants may be hesitant to come forward publicly but trust a referral from someone they know.
- **Rare Populations:** Groups that are difficult to locate through traditional means. Researchers often use incentives to encourage initial participants to refer others who qualify.

An example of this type of study could be a researcher studying how people with a sensitive medical condition cope might interview one person they know, who then refers them to others in their support network.

3. Quota Sampling

Researchers identify categories important to the study and set a "quota" for how many people to include from each subgroup. This is done non-randomly. While this accounts for variation, it does not yield statistically representative findings.

For example, if you want to study housing satisfaction and believe gender and housing type are key, you might create four subgroups (men in apartments, women in apartments, men in dorms, and women in dorms) and select five people from each.

4. Convenience Sampling

This method focuses on collecting data from those most easily accessible. While it offers the benefit of speed and ease, researchers must be extremely cautious about generalizing these findings to a larger population.

For example, if you have ever seen brief interviews of people on the street on the news, you have seen a convenience sample being interviewed. While it offers the benefit of speed and ease, researchers must be extremely cautious about generalizing these findings to a larger population.

Key Takeaways

- **Purpose over Representation:** Nonprobability samples are ideal for exploratory research, evaluation, and building theoretical contributions where statistical representation is not the goal.
- **Variety of Techniques:** Depending on the study goals, researchers can choose between purposive, snowball, quota, or convenience sampling.

Exercises

1. **Apply the Methods:** If you were studying public park usage in your hometown, how would you design a sample using each of the four methods above?
2. **Evaluate the Methods:** Based on the descriptions, which sampling technique do you believe is the most rigorous, and which is the most prone to bias? Explain your reasoning.

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6.3: Probability Samples

Learning Objectives

- **Describe** how probability sampling differs from nonprobability sampling.
- **Define** generalizability and describe how it is achieved in probability samples.
- **Identify** the various types of probability samples, and provide a brief description of each.

Quantitative researchers are often interested in being able to make generalizations about groups larger than their study samples. While there are certainly instances when quantitative researchers rely on nonprobability samples (e.g., when doing exploratory research), quantitative researchers tend to rely on probability sampling techniques. The goals and techniques associated with probability samples differ from those of nonprobability samples. We'll explore those unique goals and techniques in this section.

Probability Sampling

Unlike nonprobability sampling, **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 better make sure that your sample doesn't contain only women. That's 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 sorts of variation.

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 accessible population have a known chance of being selected for inclusion in the study. The important thing to remember about random selection here is that, as previously noted, it is a core principle of probability sampling. 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 a statistical calculation of the difference between results from a sample and the actual parameters of a population.

Types of Probability Samples

There are a variety of probability samples that researchers may use. These include simple random samples, systematic samples, stratified samples, and cluster samples.

1. Simple Random Samples

Simple random samples are the most basic type of probability sample. To draw a simple random sample, a researcher starts with a list of every single member, or element, of their accessible 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 they will collect data. To randomly select elements, researchers use a table of numbers that have been generated randomly. Please note in this sample type every person or element has an equal chance of being selected.

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. A good online source is the website Stat Trek which contains a [random number generator](#)

that you can use to create a random number table of whatever size you might need. [Randomizer.org](https://www.randomizer.org) also offers a useful random number generator.

2. Systematic Random Samples

As you might have guessed, drawing a simple random sample can be quite tedious. **Systematic random 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've done that, to draw a systematic sample, you'd simply select every k th element on your list. But what is k , and where on the list of population elements does one begin the selection process? **k is your selection interval** or the distance between the elements you select for inclusion in your study. To begin the selection process, you'll need to figure out how many elements you wish to include in your sample. Let's say you want to interview 25 fraternity members on your campus, and there are 100 men on campus who are members of fraternities. In this case, your selection interval, or k , is 4. To arrive at 4, simply divide the total number of population elements by your desired sample size.

To determine where on your list of accessible population elements to begin selecting the names of the 25 men you will interview, select a random number between 1 and k , and begin there. If we randomly select 3 as our starting point, we'd begin by selecting the third fraternity member on the list and then select every fourth member from there. Table 6.2 lists the names of our hypothetical 100 fraternity members on campus. You'll see that the third name on the list has been selected for inclusion in our hypothetical study, as has every fourth name after that. A total of 25 names have been selected.

Table 6.2 Systematic Sample of 25 Fraternity Members

Number	Name	Include in study?
1	Jacob	
2	Ethan	
3	Michael	Yes
4	Jayden	
5	William	
6	Alexander	
7	Noah	Yes
8	Daniel	
9	Aiden	
10	Anthony	
11	Joshua	Yes
12	Mason	
13	Christopher	
14	Andrew	

(Note: Table abbreviated for length, but the pattern of selecting every 4th element continues through 100).

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. Let's say, for example, that you wanted to observe how people use the outdoor public spaces on your campus. Perhaps you need to have your observations completed within 28 days and you wish to conduct four observations on randomly chosen days. Table 6.3 shows a list of the population elements for this example. To determine which days we'll conduct our observations, we'll need to determine our selection interval. As you'll recall from the preceding paragraphs, to do so we must divide our population size, in this case 28 days, by our desired sample size, in this case 4 days. This formula leads us to a selection interval of 7. If we randomly select 2 as our starting point and select every seventh day after that, we'll wind up with a total of 4 days on which to conduct our observations. You'll see how that works out in the following table.

Table 6.3 Systematic Sample of Observation Days

Number	Day	Include in study?		Number	Day	Include in study?
1	Monday			15	Monday	
2	Tuesday	Yes		16	Tuesday	Yes
3	Wednesday			17	Wednesday	
4	Thursday			18	Thursday	
5	Friday			19	Friday	
6	Saturday			20	Saturday	
7	Sunday			21	Sunday	
8	Monday			22	Monday	
9	Tuesday	Yes		23	Tuesday	Yes
10	Wednesday			24	Wednesday	
11	Thursday			25	Thursday	
12	Friday			26	Friday	
13	Saturday			27	Saturday	
14	Sunday			28	Sunday	

Do you notice any problems with our selection of observation days? Apparently we'll only be observing on Tuesdays. As you have probably figured out, that isn't such a good plan if we really wish to understand how public spaces on campus are used. Weekend use probably differs from weekday use, and use may even vary during the week, just as class schedules do. In cases such as this, where the sampling frame is cyclical, it would be better to use a stratified random sampling technique.

3. Stratified Random Sampling

In **stratified random sampling**, a researcher will divide the study population into relevant subgroups and then draw a sample from each subgroup. Once we have our subgroups, we can then apply either simple random or systematic sampling techniques to each subgroup.

Stratified sampling is a good technique to use when a subgroup of interest makes up a relatively small proportion of the overall sample. For example, in a study analyzing the impacts of modern remote work structures on higher education personnel, researchers might find that administrative adjuncts represent a small but vital stratum compared to full-time faculty. By dividing the institutional database into those distinct strata and randomly selecting from each, the research ensures that unique structural viewpoints are accurately represented in exact proportion to the larger population.

4. Cluster Sampling

Up to this point in our discussion of probability samples, we've assumed that researchers will be able to access a list of population elements in order to create a sampling frame. This is not always the case. When attempting to create a list of an entire population is impossible or impractical, 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. For example, if you want to study organizational trust dynamics among public school educators across a wide geographic region, a complete list of individual teachers may be unavailable. However, a complete list of school districts (the clusters) can easily be obtained. A researcher could randomly sample 15 school districts first, and then randomly sample individual educators within those specific districts. Cluster sampling works in stages; in this example, we sampled in two stages. While sampling in multiple stages does introduce the possibility of greater error, it is nevertheless a highly efficient method.

A clear empirical application of multi-stage cluster sampling can be found in a study by [Md. Saidur Rashid Sumon and Md.](#)

Shahinuzzaman (2025), who investigated the relationship between social networks, structural community engagement, and altruistic behavior among youth. Because compiling an individualized sampling frame of every young person active in regional community organizations was unfeasible, the researchers utilized a multi-stage cluster approach. They first localized clusters of organized social groups across specified geographical zones, randomly drawing 42 distinct social organizations to serve as their primary sampling units. From within those selected clusters, they systematically sampled 612 individual youth participants to receive their structured questionnaires.

Because civic clusters and local organizations vary vastly in membership size, drawing an identical, flat baseline of participants from every single cluster without adjustment would give youth in smaller organizations a mathematically higher probability of being picked. To ensure every individual member across the broader target population maintained an equal, non-zero chance of selection, researchers utilizing cluster approaches often rely on **probability proportionate to size (PPS)**. This methodology weights a cluster's likelihood of selection relative to its overall baseline volume, keeping the core principles of random probability sampling intact even across complex, unequal structural groupings.

Just to review consider Table 6.4 which details all the sample types.

Table 6.4 Types of Probability Samples

Sample type	Description
Simple random	Researcher randomly selects elements from the sampling frame.
Systematic random	Researcher selects every kth element from the sampling frame.
Stratified random	Researcher creates subgroups and then randomly selects elements from each subgroup.
Cluster	Researcher randomly selects clusters and then randomly selects elements from the selected clusters.

Key Takeaways

- **Representation is Key:** In probability sampling, the aim is to identify a sample that resembles the population from which it was drawn.
- **Variety of Techniques:** There are several types of probability samples including simple random samples, systematic samples, stratified samples, and cluster samples.

Exercises

1. **Apply the Methods:** Imagine that you are about to conduct a study of people's use of public parks. Explain how you could employ each of the probability sampling techniques described earlier to recruit a sample for your study.
2. **Evaluate the Methods:** Of the four probability sample types described, which seems strongest to you? Which seems weakest? Explain.

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6.4: Considering Representativeness

Learning Objectives

- **Identify** several questions we should ask about samples when reading the results of research.
- **Name** some tenets worth keeping in mind with respect to responsibly reading research findings.

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're busy and when the really interesting stuff is in a study's conclusions, not its procedures. But 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.

Who Sampled, How Sampled, and for What Purpose?

Social science researchers on college campuses have a luxury that researchers elsewhere may not share; they have access to a whole bunch of (presumably) willing and able human subjects. But that luxury comes at a cost: **sample representativeness**.

In 2008, a classic analysis demonstrated a major weakness in psychological research, finding that 68% of samples in top journals were from the United States, effectively ignoring the vast majority of the world's population. While you might hope this issue has been resolved, a decade-later follow-up study by [Thalmayer, Toscanelli, and Arnett \(2021\)](#) analyzed the exact same premier journals and found that American samples still made up over 60% of the research base, with samples from the "majority world" (like Africa, Latin America, and the Middle East) remaining almost entirely neglected at around 4 to 5%. Even more recently, a 2024 benchmark study of leading journals found that US participants *still* remain vastly overrepresented, comprising 59% of samples.

These findings certainly beg the question: What do we actually learn from social scientific studies and about whom do we learn it? This is exactly the concern famously raised by [Joseph Henrich and colleagues \(2010\)](#), who pointed out that behavioral scientists frequently make sweeping claims about human nature based on samples drawn from **WEIRD** societies:

- **Western**
- **Educated**
- **Industrialized**
- **Rich**
- **Democratic**

Often, these claims are 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 behavior when it comes to fairness, cooperation, visual perception, trust, and other behaviors are based on studies that excluded participants from outside the United States and sometimes excluded anyone outside the college classroom.

All of this can lead to **sampling bias**, which is 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 social media post 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 go on that social media site, and those who do not have the time or interest will not answer the question.

How to Be a Responsible Consumer of Research

So how do we know when we can count on results that are being reported to us? While there might not be any magic or always-

true rules we can apply, there are a couple of things we can keep in mind as we read the claims researchers make about their findings.

First, remember that **sample quality is determined by how the sample is actually obtained, not only 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 they can make about the survey findings.

Another thing to keep in mind is that researchers may be drawn to talking about the implications of their findings as though they apply to some group other than the population actually sampled. Though this tendency is usually quite innocent and does not come from a place of malice, it is all too tempting a way to talk about findings. As consumers of those findings, it is our responsibility to be attentive to this sort of (likely unintentional) bait and switch.

Finally, 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 nonrepresentative sample we can learn about the strength of our social theories by comparing relevant aspects of social processes. For example, **Sarah J. Jackson, Moya Bailey, and Brooke Foucault Welles's (2020) study** of specific Twitter hashtag networks allowed them to profoundly contribute to our understanding of digital activism and modern social change. Despite their data not being statistically representative of all internet users everywhere, their carefully chosen purposive sample allowed them to build robust theories about how marginalized groups mobilize online.

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.

Key Takeaways

- **Beware of Sweeping Claims:** Researchers may make claims about populations other than those from whom their samples were drawn, often relying heavily on WEIRD populations or college undergraduates.
- **Obtained vs. Intended:** A sampling method is only as good as the sample that is actually obtained. High non-response rates can ruin the representativeness of a perfectly designed probability sample.
- **Theoretical Value:** A researcher's findings need not be statistically generalizable to be valuable; nonrepresentative samples that allow for comparisons of theoretically important concepts can yield findings that deeply contribute to our social theories.

Exercise

1. **Analyze the News:** Find any news story or social media that describes results from a social scientific study. How much detail is reported about the study's sample? What sorts of claims are being made about the study's findings, and to whom do they apply?
2. **Identify the Bias:** Think of a survey you recently saw online or on social media. Based on what you have learned about representativeness, how might the way the survey was distributed have biased the final sample of participants?

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7: EXPERIMENTS

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- 7.4: Pre-Experimental Designs
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- 7.7: Strengths, Weaknesses, and Validity

7.1: Introduction to Experiments

Learning Objectives

- **Describe** how sociologists utilize experiments to establish cause and effect.
- **Identify** the differences between lab-based and field-based experiments.
- **Provide examples** of classic sociological experiments and the ethical or methodological issues they raise.

Experiments

You have probably tested some of your own theories: “If I study at night and review in the morning, I’ll improve my retention skills,” or “If I stop drinking soda, I’ll feel better.” These if-then statements are attempts to understand cause and effect. However, while we often find anecdotal evidence in our own lives that appears to support our hypotheses, this everyday observation does not constitute sociological research or definitive evidence of causation.

Sociologists set up specific studies in controlled environments to systematically examine relationships between variables. While some studies are correlational (meaning they examine how two variables change together), others are **experimental**, meaning they use strictly controlled conditions to attempt to isolate and explain cause and effect. The primary difference between our everyday observations and sociological research is the systematic, rigorous approach researchers use to collect data.

Experiments aim to measure the relationship of the **independent variable** (the cause) to the **dependent variable** (the effect), with the research team attempting to control all other potential variables in the process. This method is best suited for deductive research involving limited and well-defined concepts. Experiments can be conducted in controlled laboratory settings or out in the real world as field experiments.

Lab Settings

In a lab setting, researchers can strictly control the environment, allowing for precise data recording and manipulation of variables. To set up a lab-based experiment, sociologists create artificial situations. Classically, the sociologist selects a set of people with similar characteristics (such as age, class, race, or education) and divides them into two groups:

- The **experimental group** is exposed to the independent variable.
- The **control group** is not exposed to the independent variable.

This structure is similar to pharmaceutical drug trials where the experimental group receives the test drug and the control group receives a placebo. To test the benefits of tutoring, for example, a sociologist might expose the experimental group to tutoring while the control group receives none. Both groups are then tested to see if the tutoring had a measurable effect on performance. Because the researcher would not want to jeopardize the real-world academic standing of the students, the setting would be somewhat artificial (e.g., the test would not impact their permanent grades).

A prominent example of a sociological lab experiment is [Shelley J. Correll, Stephen Benard, and In Paik’s \(2007\) study on the “motherhood penalty.”](#) To test whether mothers face workplace discrimination, they set up a controlled laboratory experiment. Undergraduate participants were asked to evaluate job applicants whose resumes and fact sheets were identical in every way, except one group (the experimental group) had cues indicating they were mothers (e.g., listing membership in a parent-teacher association), while the control group did not.

Because the laboratory setting allowed researchers to strictly control all other variables, they could confidently isolate the independent variable (motherhood status). The results were clear: participants rated mothers as significantly less competent and less committed to paid work than non-mothers and recommended far lower starting salaries for them. While lab experiments like this offer excellent control, sociologists must always consider *artificiality*; evaluating resumes in a university lab does not perfectly

replicate the high-stakes environment of real corporate hiring, even though it strongly isolates the variables being studied.

Natural or Field-Based Experiments

In a natural or field-based experiment, the generation of data cannot be perfectly controlled, but the information is often considered more accurate because it is collected in real-world settings without artificial laboratory interference.

A prime example is a modern audit study by [Sonia K. Kang, András Tilcsik, Sora Jun, and Katy DeCelles \(2016\)](#). They utilized a field experiment to examine how racial minorities attempt to avoid anticipated discrimination in the labor market by concealing or downplaying racial cues in job applications, a practice known as "resume whitening."

In their field experiment, the researchers submitted both whitened and unwhitened resumes to various real-world employers, including those that specifically presented themselves in job ads as valuing diversity. The empirical results were striking: whitened resumes were more than twice as likely to get a callback for an interview. Furthermore, the audit study revealed that callbacks were just as low for unwhitened minority resumes at ostensibly "pro-diversity" employers as they were at any other employer. This field experiment demonstrated that organizational diversity statements did not actually translate to reduced discrimination in the real world.

Another modern real-life example helps illustrate the experimental process in the digital age. In a 2017 study, researchers [Benjamin Edelman, Michael Luca, and Dan Svirsky](#) conducted a field experiment on the sharing economy platform Airbnb. Online marketplaces often reduce the anonymity of buyers and sellers to facilitate trust, and the researchers wanted to test if this market design choice resulted in racial discrimination.

The researchers created identical guest applications, altering only the guests' names to be distinctively African-American or distinctively White. The name representing a specific racial identity was the **independent variable**, while the host's decision to accept or reject the booking was the **dependent variable**.

The researchers found widespread discrimination: applications from guests with distinctively Black or African-American names were roughly 16 percent less likely to be accepted compared to identical guests with distinctively White names. This discrimination occurred across the board, whether the host was Black or African American or White, male or female, and whether the host was sharing a room in their own property or offering an entire unit. By utilizing a field experiment, the researchers successfully highlighted how digital design choices can have unintended discriminatory consequences.

Key Takeaways

- **Causation vs. Correlation:** Experiments are specifically designed to isolate and test cause-and-effect relationships by manipulating an independent variable and observing the dependent variable.
- **Controlled Settings:** Lab experiments offer high control over variables (internal validity) but can suffer from artificiality. Field experiments occur in real-world settings, offering high realism (external validity) but less control over external factors.
- **Methodological Trade-offs:** Sociologists must carefully choose their experimental design; what works perfectly in a controlled lab might not accurately reflect how humans behave in high-stakes, real-world environments.

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1. Pager, D., Western, B. and B. Bonikowski. 2009. "Discrimination in a Low-Wage Labor Market: A Field Experiment." *American Sociological Review*. Vol. 74 (October: 777-799). ↩

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7.2: The Classical Experiment

Learning Objectives

- **Define** classic experiments.
- **Identify** the core features of classic experimental designs.
- **Describe** the difference between an experimental group and a control group.

Classic Experiments

Several kinds of experimental designs exist. In general, designs considered to be **classic experiments** contain three key features: **independent and dependent variables**, **pretesting and posttesting**, and **experimental and control groups**.

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**). In other words, 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, they must measure participants on the dependent variable before (the **pretest**) and after (the **posttest**) the independent variable (or stimulus) is administered. Thus, pretesting and posttesting are both critical steps in a classic experiment.

One excellent contemporary example of this classic experimental research design can be found in [Melissa G. Hunt, Rachel Marx, Courtney Lipson, and Jordyn Young's \(2018\) study on the effects of social media use on well-being](#). In this study, undergraduate participants were first given a pretest to establish their baseline levels of well-being, including standardized measures of loneliness and depression. No significant differences were found between the experimental and control groups during this pretest phase.

Next, participants were randomly assigned to one of two groups. The experimental group was given the stimulus: they were instructed to severely limit their social media use (specifically Facebook, Instagram, and Snapchat) to just 10 minutes per platform per day. The control group did not receive the stimulus and was instructed to continue using social media exactly as they normally would.

After three weeks, the researchers conducted a posttest to measure depression and loneliness scores again. The researchers discovered that those in the experimental group (who received the stimulus of restricted social media use) showed significant reductions in loneliness and depression compared to the control group. This clearly demonstrates how the classic pretest/posttest experimental design can confidently isolate the impact of a specific independent variable.

We will discuss other types of experiments shortly, but first, we will discuss sampling in experiments.

Key Takeaways:

- **Hypothesis & Control:** Experiments are designed to test hypotheses under strictly controlled conditions.
- **Elements of a Classical Experiment:** The classic experimental design requires an independent and dependent variable, a pretest and posttest, and an experimental and control group to accurately establish cause and effect.

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7.3: Selecting Subjects

Learning Objectives

- **Distinguish** between probability sampling and randomization.
- **Differentiate** and **describe** the two main methods of assigning subjects in experiments.

Sampling in Experiments

There are a few different ways to select and assign subjects in experiments. Experiments are unique in that they generally rely on randomization and matching if it is a **between-subject design** (where different people test each condition). This is different from the sampling methods we discussed in the last chapter.

However, the non-probability sampling methods discussed in the last chapter are used for pre-experimental and within-subjects designs.

Since between-subject designs are very common, we will turn our focus to a discussion of randomization and matching.

1. Randomization

The primary way that researchers control extraneous variables across different experimental conditions is called **randomization**. This means that after you gather subjects, each participant has an equal chance of getting in each group.

It is vital not to confuse randomization with **probability sampling**. Probability sampling is a method for selecting a sample from a broader population (like drawing names from a hat to see who gets to take a survey), and it is not used in experimental research. Randomization, on the other hand, is a method for assigning the participants you *already have* to the different experimental conditions, and it is a foundational element of experimental research.

Randomization is not guaranteed to perfectly control all extraneous variables. Because the process is random, it is always statistically possible that, just by chance, the participants in one condition might turn out to be substantially older, wealthier, or more motivated on average than those in another condition. However, this is generally not a major concern for a few reasons: randomization works incredibly well for large samples, inferential statistics account for the “fallibility” of chance, and if a confounding variable does skew the results, it will likely be caught when the experiment is replicated. Ultimately, random assignment is always considered a massive strength in a research design.

2. Matching

An alternative to the randomization of participants is the use of **matching**. In this design, participants in the various conditions are explicitly matched on the dependent variable or on some specific extraneous variable prior to the manipulation of the independent variable. This guarantees that this specific variable will not be confounded across the experimental groups.

For instance, imagine a sociologist wants to determine whether a new first-generation college student mentorship program (the independent variable) affects student retention and grades (the dependent variable). The researcher could start by measuring the high school GPA of all prospective participants. They would use that information to rank-order the students from highest GPA to lowest. Next, the two students with the highest GPA would form a pair; one would be randomly assigned to the mentorship program (experimental group) and the other to the standard orientation (control group). The researcher would move to the next two highest GPAs and do the same, continuing down the list.

This method ensures that the participants in the experimental group are perfectly matched to the participants in the control group with respect to their baseline academic performance. If, at the end of the experiment, a significant difference in college retention is detected between the two groups, the researcher can be highly confident it is due to the mentorship program and not pre-existing differences in academic history.

Key Takeaways

- **Probability Sampling vs. Randomization:** Probability sampling pulls participants from a population; randomization puts subjects into groups based on the people you already recruited.
- **Randomization:** Assigning participants to groups based on chance to control extraneous variables.
- **Matching:** Balancing specific, known extraneous variables (like age or GPA) across experimental conditions.

7.4: Pre-Experimental Designs

Learning Objectives

- **Discuss** when it is appropriate to use a pre-experimental design.
- **Identify** and describe the various types of pre-experimental designs.

What Is It and When to Use It?

Time, funding, and the specific nature of a sociological topic may limit a researcher's ability to use a robust experimental design, such as a between-subjects design (which includes the classic experiment) or a within-subjects design.

For researchers in the medical and health sciences, conducting a classic experiment could sometimes require denying necessary treatment to patients in a control group, which is a clear ethical violation. Even in the social sciences where life-saving medicine is not at stake, researchers may be limited in their ability to conduct a classic experiment. For example, it might not be equitable or ethical to provide a massive financial reward or essential social service only to members of an experimental group while deliberately withholding it from the control group.

When the random assignment of participants into experimental and control groups is simply not feasible, ethical, or practical, researchers may turn to a **pre-experimental design** (Campbell & Stanley, 1963). However, because these designs lack random assignment, they come with unique disadvantages regarding causal claims, which we will describe as we review the available types.

Types of Pre-Experimental Designs

If we wished to measure the sociological impact of a sudden natural disaster, for example, a catastrophic California wildfire, we might conduct a pre-experiment. We could identify an experimental group from a community that lost their homes to the fire and a control group from a demographically similar neighboring community that was not in the fire's path. This study design, called a **static group comparison**, has the advantage of including a comparison control group that did not experience the stimulus (the wildfire). However, it carries the disadvantage of containing experimental and control groups that were determined by nature rather than random assignment. As you might have guessed, static group comparisons are highly useful in cases where a researcher cannot control or predict whether, when, or how the stimulus is administered.

In cases where gathering a control group is too costly, geographically impossible, or otherwise unfeasible, a **one-shot case study** design might be used. In this instance, no pretest is administered, nor is a control group present. Returning to our wildfire example, a researcher using this design would test the sociological impact of the trauma *only* among the community that was hit by the fire, without seeking out a comparison group. Researchers using this design must be extremely cautious about making definitive claims regarding cause and effect, though the design is incredibly useful for exploratory studies aimed at testing survey measures or determining the feasibility of future, broader research.

Finally, if a researcher does not have access to a control group but has the advantage of time, they might use a **one-group pre-/posttest design**. In this instance, pre- and posttests are both taken by the subjects, but there is no control group to compare them against. We might be able to study the impact of the wildfire using this design *if* we had already been collecting survey data on the impacted community (e.g., surveying their levels of community trust) prior to the fire breaking out. We could then collect similar data after the fire. Applying this design in disaster research involves a bit of serendipity and chance; without having collected baseline data from the impacted communities *prior* to the stimulus, we would be unable to employ a one-group pre-/posttest design.

Table 7.1: Elements of Pre-Experimental Designs

	Pretest	Posttest	Experimental group	Control group
One-shot case study		X	X	
Static group comparison		X	X	X
One-group pre-/posttest	X	X	X	

As implied by the wildfire examples, experiments do not necessarily need to take place in the controlled setting of a university lab. In fact, many applied sociologists rely on pre-experimental field designs to rapidly assess the impact and effectiveness of various real-world programs, policies, and natural events.

Key Takeaways

- **Necessity over Perfection:** Pre-experimental designs lack random assignment and are not ideal for proving strict cause-and-effect, but they are necessary tools when classical experiments are blocked by ethical, financial, or practical constraints.
- **Three Major Types:** The three primary pre-experimental designs are the one-shot case study, the static group comparison, and the one-group pre-/posttest design.

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7.5: Between Subject Designs

Learning Objectives

- **Identify** the core features of between-subjects experimental designs.
- **Differentiate** between the different types of between-subjects designs.

What Is a Between-Subjects Design?

Between-subject designs are ones that use randomization or matching to divide subjects into different groups that test a single independent variable. To qualify, there needs to be at least one **experimental group**, the group that gets the stimulus (note if there is more than one experimental group; they all must get the same stimulus), and at least one **control group**.

These designs are often depicted using a standardized design notation:

- **R** represents the **random assignment** of subjects to groups (using either **randomization** or **matching**).
- **X** represents the stimulus (the independent variable) administered to the experimental group.
- **O** represents observations of the dependent variable (O^1 and O^2 to distinguish between the first pretest and the second posttest observations).

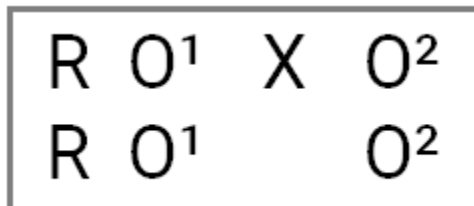
Types

There are 3 types of between-subject designs, including the classic experimental design, which is formally called the **pretest-posttest control group design**.

1. Pretest-Posttest Control Group Design

In this design, subjects are randomly assigned (using either randomization or matching) to experimental and control groups and subjected to an initial (**pretest**) measurement of the dependent variable. The experimental group is then administered a stimulus, and the dependent variable is measured again in both groups (**posttest**).

The notation for this design is:



The top group is the experimental group, while the bottom group is the control group.

An example of such an experiment could be measuring students' baseline racial prejudice scores (O^1), showing the experimental group a documentary on systemic racism (X), and then measuring prejudice scores again (O^2) for both groups to see the difference.

Overall, this design type handles several threats to internal validity, such as maturation and regression to the mean, since these threats should influence both the treatment and control groups equally. However, mortality (dropout rates) can be a problem, and

the pretest itself might bias the subjects before they even see the stimulus.

2. Posttest Control Group Design

This design is a simpler version of the classic experiment where the pretest measurements are entirely omitted.

The notation for this design is:

R	X	O ²
R		O ²

The top group is the experimental group, and the bottom group is the control group.

If you were to do the experiment we gave an example of above for this design, it would entail showing the experimental group the documentary on systemic racism (X) and then giving both groups a prejudice assessment (O²) without ever having taken a baseline measurement.

In this design type the stimulus effect is measured simply as the difference in the posttest scores between the two groups. This design successfully controls for pretest bias (since there is no pretest), maturation, statistical regression to the mean, and pretest-posttest interaction, though the mortality threat may continue to exist.

3. Solomon Four-Group Design

This design is the most complex, essentially combining both of the previous designs into a single robust study. In this design, there are four randomly assigned groups (through randomization or matching): two experimental groups and two control groups.

The notation for this design is:

R	O ¹	X	O ²
R	O ¹		O ²
R		X	O ²
R			O ²

The first and third groups are experimental groups, and the second and fourth groups are control groups. *Note that the exact same stimulus (X) is given to both experimental groups.*

For example, let us say we used the same experiment we used in the last section, but for this design. Two groups take the baseline prejudice pretest (O¹); two do not. One pretest group and one no-pretest group watch the documentary. Finally, all four groups take the posttest (O²).

The major advantage of the **Solomon four-group design** is that it controls for almost all threats to internal validity, including the potential bias caused by taking a pretest. However, because it requires four separate groups, it can be very expensive, time-

consuming, and requires a massive sample size to execute correctly.

Key Takeaways

- **Group Comparisons:** Between-subjects designs allow researchers to compare outcomes across different groups of people who experience different conditions.
- **Design Trade-Offs:** Each between-subjects design has unique strengths and weaknesses; while the Solomon four-group design is the most rigorous and controls for the most variables, it is also the most resource-intensive.

7.6: Within Subjects Design

Learning Objective

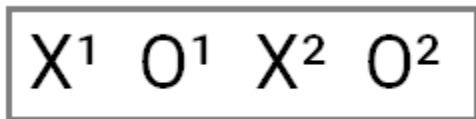
- **Describe** and give an example of a within-subjects design.

Within-Subjects Design

In a **within-subjects design**, each participant is tested under *all* experimental conditions. Unlike standard between-subjects designs where a participant only experiences one condition, in a within-subjects design, the same individual is exposed to multiple stimuli. To gather subjects for this type of experiment, researchers typically use a non-probability sample.

Consider a sociological experiment testing the effect of a defendant's physical attractiveness on a jury's judgments of their guilt. In a between-subjects experiment, one group of participants would be shown an attractive defendant and asked to judge their guilt, and a completely separate group of participants would be shown an unattractive defendant and asked to judge their guilt. In a within-subjects experiment, however, the *same* group of participants would judge the guilt of *both* the attractive and the unattractive defendant.

Here is what this experiment type looks like in standard design notation:



O^1 : First post-test

O^2 : Second post-test

X^1 : Experimental Stimulus

X^2 : Control Stimulus or Comparison Stimulus

The primary advantage of this approach is that it provides maximum control of extraneous participant variables. Participants in all conditions have the exact same socioeconomic status, baseline intelligence, educational background, and so on, because they are the very same people.

Within-subjects experiments also make it possible to use statistical procedures that remove the effect of these extraneous participant variables on the dependent variable. This makes the data less “noisy” and the true effect of the independent variable much easier to detect. We will look more closely at this idea later in the book. However, not all experiments can use a within-subjects design, nor would it always be desirable to do so (for example, if seeing the first stimulus permanently biases the participant before they see the second stimulus).

Key Takeaways

- **Maximum Control:** Within-subjects designs offer the highest level of control over extraneous participant variables because the exact same people test every condition.
- **Direct Comparisons:** This type of research is highly useful for making direct, internal comparisons and reducing statistical “noise” in your data.

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7.7: Strengths, Weaknesses, and Validity

Learning Objectives

- **Describe** the strengths and weaknesses of experiments.
- **Differentiate** between external and internal validity.
- **List and define** the different threats to internal validity.

Strengths & Weaknesses of Experiments Related to Validity Types

As sociologists, who are especially attentive to how social context shapes social life, are likely to point out, a major disadvantage of experiments is that they are rather artificial. How often do real-world social interactions occur in the exact same way that they do in a sterile lab? Experiments that are conducted in applied settings (field experiments) may not be as subject to artificiality, though their conditions are less easily controlled.

Experiments also present a few unique concerns regarding validity. Problems of **external validity** might arise when the conditions of an experiment do not adequately represent those of the world outside the boundaries of the experiment. In the case of the Hunt et al. (2018) research on social media and well-being described earlier in this chapter, for example, the questions to ask with regard to external validity are these: Can we say with certainty that the stimulus applied to the experimental group resembles the stimuli that people are likely to encounter in their real lives outside of the lab? Will restricting social media to exactly ten minutes per platform in a controlled study accurately reflect the messy, interconnected way people engage with their phones in the real world?

This is not to suggest that experimental research is not or cannot be valid, but experimental researchers must always be aware that external validity problems can occur and be forthcoming in their reports of findings about this potential weakness.

Concerns about **internal validity** also arise in experimental designs. These have to do with our level of confidence about whether the stimulus *actually* produced the observed effect or whether some other factor, such as other conditions of the experiment or changes in participants over time, may have produced the effect instead.

In sum, the potential strengths and weaknesses of experiments as a method of data collection in social scientific research include the following:

Table 7.2 Strengths and Weaknesses of Experimental Research

Strengths	Weaknesses
Researcher control	Artificiality
Reliability	Unique concerns about internal and external validity

Threats to Internal Validity

Although experimental designs are considered more rigorous than other research methods in terms of the internal validity of their inferences (by virtue of their ability to control causes through treatment manipulation), they are not immune to internal validity threats. Some of these threats to internal validity are described below, within the context of a study of the impact of a special remedial math tutoring program for improving the math abilities of high school students.

- **History threat:** The possibility that the observed effects (dependent variables) are caused by extraneous or historical events rather than by the experimental treatment. For instance, students' post-remedial math score improvement may have been caused by their intensive preparation for an upcoming statewide standardized test, rather than the remedial math program itself.

- **Maturation threat:** The possibility that observed effects are caused by the natural maturation of subjects (e.g., a general, age-related improvement in their intellectual ability to understand complex concepts) rather than the experimental treatment.
- **Testing threat:** A threat specific to pre-/posttest designs where subjects' posttest responses are conditioned by their pretest responses. For instance, if students remember the specific questions from the pretest evaluation, they may simply repeat their answers or study those specific items for the posttest exam.
- **Instrumentation threat:** Also occurring in pre-/posttest designs, this refers to the possibility that the difference between pretest and posttest scores is not due to the remedial math program but due to changes in the administered test itself (e.g., the posttest being accidentally designed with a much lower degree of difficulty than the pretest).
- **Mortality threat:** The possibility that subjects may drop out of the study at differential rates between the treatment and control groups due to a systematic reason. For example, if the dropouts were mostly students who scored very low on the pretest and got frustrated, the results of the posttest will be artificially inflated by the remaining preponderance of high-performing students.
- **Regression to the mean threat:** This refers to the statistical tendency of a group's overall performance on a measure during a posttest to regress toward the average (mean) of that measure rather than moving in the anticipated direction. For instance, if subjects scored abnormally high on a pretest due to a lucky statistical aberration, they will have a natural tendency to score lower on the posttest (closer to their true mean).

Key Takeaways

- **Validity Trade-offs:** Experiments tend to be weak in external validity (how well they apply to the real world) but stronger in internal validity (how confidently they isolate cause and effect).
- **Vigilance against Threats:** Researchers must actively design their experiments to minimize internal validity threats such as history, maturation, testing bias, instrumentation errors, mortality, and regression to the mean.

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8: SURVEY RESEARCH

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

8.2: Pros and Cons of Survey Research

8.3: Types of Surveys

8.4: Designing Effective Questions and Questionnaires

8.5: Analysis of Survey Data

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

Learning Objectives

- **Define** survey research.
- **Identify** when it is appropriate to employ survey research as a data-collection strategy.

Why Survey Research?

Most of you have probably taken a survey at one time or another, so you probably have a pretty good idea of what a survey is. Sometimes students in my research methods classes feel that understanding what a survey is and how to write one is so obvious that there is no need to dedicate any class time to learning about it. This feeling is understandable, as surveys are very much a part of our everyday lives. We have probably all taken one, we hear about their results in the news, and perhaps we have even administered one ourselves.

What students quickly learn is that there is more to constructing a good survey than meets the eye. Survey design takes a great deal of thoughtful planning and often a great many rounds of revision. It is well worth the effort, however. As we will learn in this chapter, there are many benefits to choosing **survey research** as one's method of data collection. We will take a look at what a survey is exactly, what some of the benefits and drawbacks of this method are, how to construct a survey, and what to do with survey data once one has it in hand.

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 one's population of interest to help prepare for a more focused, in-depth study using time-intensive methods such as in-depth interviews or field research. In this case, a survey may help a researcher identify specific individuals 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 questions more than others. In addition, as you will recall from earlier in the book, **operationalization** works differently with different research methods. If your interest is in political activism, for example, you would likely operationalize that concept quite differently in a survey than you would for a field research study of the exact same topic.

Key Takeaways

- **Explaining Trends:** Survey research is a quantitative method often used by researchers who wish to explain trends or features of large groups.
- **Preparation for Deep Dives:** It may also be used to gather baseline data to assist those planning a more focused, in-depth study.

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8.2: Pros and Cons of Survey Research

Learning Objectives

- **Identify** and explain the strengths of survey research.
- **Identify** and explain the weaknesses of survey research.

Survey research, as with all methods of data collection, comes with both strengths and weaknesses. We will examine both in this section.

Strengths of the Survey Method

Researchers employing survey methods to collect data enjoy a number of benefits. First, surveys are an excellent way to gather a massive amount of information from many people. For example, in a study of older people's experiences in the workplace, a researcher could mail a written questionnaire to around 500 people who lived throughout an entire state at a cost of just over \$1,000. This cost would include printing copies of a seven-page survey, printing a cover letter, addressing and stuffing envelopes, mailing the survey, and buying return postage. While \$1,000 is not pocket change, imagine what it might cost to visit each of those people individually to interview them in person. Consider the cost of gas to drive around the state, other travel costs such as meals and lodging while on the road, and the cost of time to drive to and talk with each person individually. A researcher could double, triple, or even quadruple those costs pretty quickly by opting for an in-person method of data collection over a mailed survey. Thus, surveys are highly **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 well to probability sampling techniques, which we discussed earlier in the text. Of all the data-collection methods described in this textbook, survey research is probably the best method to use when one hopes 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** in that the exact same questions, phrased in exactly the same way, are posed to all participants. Other methods, such as qualitative interviewing (which we will learn about later), do not offer the exact same consistency that a quantitative survey offers. This is not to say that all surveys are always reliable. A poorly phrased question can cause respondents to interpret its meaning differently, which can reduce that question's reliability. Assuming well-constructed questions and questionnaire design, one massive strength of survey methodology is its potential to produce highly reliable results.

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 uniquely useful skill to have for a wide variety of jobs. Lawyers might use surveys in their efforts to select juries; social service and other organizations (e.g., churches, clubs, fundraising groups, 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.

In sum, the following are strengths of survey research:

1. Cost-effective
2. Generalizable
3. Reliable
4. Versatile

Weaknesses of the 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 researchers 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 surveys are in many ways rather **inflexible**. Let's say 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 for a do-over or to change the question for the respondents who have not yet returned their surveys. When conducting in-depth interviews, on the other hand, a researcher can easily 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 universally 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 whatever topic is being studied. Let's say, for example, that you want to learn something about voters' willingness to elect a Black American president. General Social Survey respondents were historically asked, "If your party nominated a Black American for president, would you vote for him if he were qualified for the job?" Respondents were then asked to respond either *yes* or *no* to the question. But what if someone's opinion was more complex than could be answered with a simple binary choice? What if, for example, a person was willing to vote for a Black American woman but not a Black American man? While it is debatable whether such a perspective makes logical sense, it is entirely conceivable that an individual might hold such a view, and a simple yes/no survey question would completely miss that important nuance.

In sum, potential weaknesses to survey research include the following:

1. Inflexibility
2. Validity

Key Takeaways

- **Strengths:** The major strengths of survey research include its cost-effectiveness, generalizability, reliability, and versatility.
- **Weaknesses:** The major weaknesses of survey research include its inflexibility once deployed and potential issues with validity

Exercises

1. **Mitigating Drawbacks:** What are some ways that survey researchers might overcome the weaknesses of this method?
2. **Article Analysis:** Find an article reporting results from survey research (remember how to use Sociological Abstracts?). How do the authors describe the strengths and weaknesses of their study? Are any of the strengths or weaknesses described here mentioned in the article?

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8.3: Types of Surveys

Learning Objective

- **Discuss** some of the benefits and drawbacks of the various methods of delivering different types of surveys.

Introduction

There is much variety when it comes to surveys. This variety comes both in terms of time (when or with what frequency a survey is administered) and in terms of administration (how a survey is delivered to respondents). In this section, we will take a look at what types of surveys exist when it comes to administration, as we discussed time dimensions earlier in this text.

Types of Surveys

Surveys vary not just in terms of when they are administered but also in terms of how they are administered. They can be delivered in different formats:

1. **Individually administered surveys:** A hard copy hand-delivered to an individual.
2. **Mail questionnaires:** A hard copy of a survey that is sent through the mail.
3. **Group administered surveys:** A hard copy format administered in an in-person group setting.
4. **Online surveys:** A digital survey that participants complete online.

We will discuss these in detail below.

1. Individually Administered Surveys

Researchers may also deliver surveys in person by going 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. This mode of gathering data is apparently still used by political campaign workers, at least in some areas of the country.

2. Mail Questionnaires

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 probably 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. It can be difficult to convince people to take the time to complete and return your survey.

Often, survey researchers who deliver their surveys via snail mail may 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, 2020).

In a study of older workers' harassment experiences, people in the sample were notified in advance of the survey mailing via an article describing the research in a newsletter they received from the agency partnering with the researcher. When the survey was mailed, a \$1 bill was included with each in order to provide some incentive and an advance token of thanks to participants for returning the surveys. Two months after the initial mailing went out, those who were sent a survey were contacted by phone. While returned surveys did not contain any identifying information about respondents, research assistants contacted individuals to whom a survey had been mailed to remind them that it was not too late to return their survey and to say thank you to those who may have already done so.

Four months after the initial mailing went out, everyone on the original mailing list received a letter thanking those who had returned the survey and once again reminding those who had not that it was not too late to do so. The letter included a return postcard for respondents to complete should they wish to receive another copy of the survey. Respondents were also provided a telephone number to call and were given the option of completing the survey by phone. As you can see, administering a survey by mail typically involves much more than simply arranging a single mailing; participants may be notified in advance of the mailing, they then receive the mailing, and then several follow-up contacts will likely be made after the survey has been mailed.

3. Group Administered Surveys:

Perhaps you have taken a survey that was given to you in person; on many college campuses, it is not uncommon for researchers to administer surveys in classes. If you are ever 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 new knowledge you are gaining about survey research in this chapter.

4. Online Surveys:

Online delivery is another way to administer a survey. This delivery mechanism is becoming increasingly common, no doubt because it is easy to use, 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 delivery mechanism that is available for free. **Google Forms** offers a highly accessible and free online survey service. One advantage to using a service like Google Forms, aside from the advantages of online delivery already mentioned, is that results can be provided to you in formats that are readable by data analysis programs such as SPSS and Excel (often by exporting directly to a spreadsheet). This saves you, the researcher, the step of having to manually enter data into your analysis program, as you would if you administered your survey in hard copy format.

Survey Type Reflection

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. Some examples could be a gift certificate or even a chance to have your name entered into a drawing for something larger like a tablet.

If you would rather pose questions directly to respondents rather than having respondents read the questions on their own, an **interview** instead of a survey would be the better option. We will talk about those in the next chapter.

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, perhaps mailed surveys are more likely to reach your entire sample but also more likely to be lost and not returned. The choice of which delivery mechanism is best depends on 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.

Key Takeaways

- **Delivery Methods:** Survey types may be delivered in 4 different ways.
- **Methodological Trade-Offs:** Researchers must carefully weigh the pros and cons of each delivery method, balancing factors like financial cost, speed, expected response rates, and the technological access of their target population.

Exercises

1. **Tool Exploration:** For more information about the online delivery of surveys, explore [Google Forms](#). Create a free account and draft a brief, three-question online survey examining a sociological topic, such as how college students experience social stratification.
2. **Method Selection:** Imagine you are tasked with surveying the student body at Orange Coast College about their access to campus student services. Which of the four survey delivery methods discussed in this section would you choose, and why? Write a short paragraph discussing the potential drawbacks of your chosen method and how you might overcome them.

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8.4: Designing Effective Questions and Questionnaires

Learning Objectives

- **Identify** the steps one should take in order to write effective survey questions.
- **Describe** some of the ways that survey questions might confuse respondents and how to overcome that possibility.
- **Recite** the two response option guidelines when writing closed-ended questions.
- **Describe** the steps involved in constructing a well-designed survey.
- **Discuss** why pretesting is important.

To this point we have considered several general points about surveys including when to use them, some of their pros and cons, and how often and in what ways to administer surveys. 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 Questions

The first thing you need to do in order to write effective survey questions is identify what exactly it is that you wish to know. As silly as it sounds to state what seems so completely obvious, I cannot stress enough how easy it is to forget to include important questions when designing a survey. Let's say you want to understand how students at Orange Coast College made the transition from high school to college. Perhaps 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 is essential, 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 also need to think about ranking your questions so that you can be sure to include those that you view as most important.

Although I 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. As I have said, your survey respondents have agreed to give their time and attention to your survey. The best way to show your appreciation for their time is to not waste it. Ensuring that your questions are clear and not overly wordy will go a long way toward showing your respondents the gratitude they deserve.

Related to the point about not wasting respondents' time, make sure that every question you pose will be relevant to every person you ask to complete it. This means two things: first, that respondents have knowledge about whatever topic you are asking them about, and second, that respondents have experience with whatever events, behaviors, or feelings you are asking them to report. You probably would not want to ask a sample of 18-year-old respondents, for example, how they felt watching the events of September 11, 2001, unfold on the news. For one thing, few 18-year-olds are likely to have the historical context to answer accurately. Furthermore, the 18-year-olds of today were not even alive in 2001, so they have had no experience with the event about which they are being questioned. 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 that respondents must have actually experienced the transition to college themselves.

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 **contingency question** into your survey. A contingency question is designed to identify some subset of survey respondents who are asked additional questions that are not relevant to the entire sample. Perhaps in your survey on the transition to college you want to know whether substance use plays any role in students' transitions. You may ask students how often they drank during their first semester of college. But this assumes that all students drank. Certainly some may have abstained, and it would not make any sense to ask the nondrinkers how often they drank. Nevertheless, it seems reasonable that drinking frequency may have an impact on someone's transition to college, so it is probably worth asking this question even if doing so violates the rule of relevance for some respondents. This is just the sort of instance when a filter question would be appropriate. You may pose the question as it is presented in Figure 8.1.

Figure 8.1 Contingency Question

10. Did you drink any alcoholic beverages at any time during your first semester of college?

☐ Yes (If yes, answer Questions 10a and 10b.)

☐ No (If no, skip to Question 11.)

10a. On average, how many times per week did you consume alcoholic beverages during your first semester of college?

☐ less than one time per week

☐ 1-2

☐ 3-4

☐ 5-6

☐ 7+

10b. On average, how many drinks did you consume each time you drank during your first semester of college?

☐ less than one drink each time

☐ 1-2

☐ 3-4

☐ 5-6

☐ 7+

11. Did any of your friends on campus drink alcoholic beverages at any time during your first semester of college?

☐ Yes

☐ No

There are some ways of asking questions that are bound to confuse a good many survey respondents. Survey 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. Looking at the previous question about drinking as our example, what if we had instead asked, "Did you not drink during your first semester of college?" A response of no would mean that the respondent did actually drink. This example is obvious, but hopefully it drives home the point to be careful about question wording so that respondents are not asked to decipher double negatives. In general, avoiding negative terms in your question wording will help to increase respondent understanding. In the past, some survey designers argued that negatively worded questions should be mixed with positively worded ones to ensure respondents were paying attention. However, modern research demonstrates that this practice often backfires. According to [Ian Steinmann's work \(2024\)](#), studies show that mixing positively and negatively worded items increases cognitive load, causes confusion, and reduces the overall reliability of survey data because respondents often misread the negative wording and answer inconsistently.

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). Consider the classic debate over carbonated beverages. If you are conducting a nationwide survey and ask respondents how many cans of "soda" they consume a week, you might get artificially skewed results. Here in California and across the Northeast, "soda" is the standard term. However, if your respondents are from the Midwest, they likely call it "pop," and if they are from the South, they might refer to all carbonated drinks simply as "Coke," regardless of the brand. A student from Illinois might truthfully answer "never" to your question about soda, even if they drink three cans of pop every single day! While beverage names are a straightforward example, the point is to be thoughtful and cautious about whatever terminology you do use to ensure it matches your target population.

Asking multiple questions as though they are a single question can also be terribly confusing for survey respondents. There is a specific term for this sort of question; it is called a **double-barreled question**. Using our example of the transition to college, what if we asked: "Did you find your classes more demanding and more interesting than in high school?" How would someone

respond if they felt their college classes were more demanding but also more boring than their high school classes? Because the question combines “demanding” and “interesting,” there is no way to respond yes to one criterion but no to the other.

Another thing to avoid when constructing survey questions is the problem of **social desirability**. We all want to look good, right? And we all probably know the politically correct response to a variety of questions, whether we agree with the politically correct response or not. In survey research, social desirability refers to the idea that respondents will try to answer questions in a way that will present them in a favorable light. 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 generally frowned upon. So it may be difficult to get people to admit to cheating on a survey. But if you can guarantee respondents’ confidentiality, or even better, their anonymity, chances are much better that they will be honest about having engaged in this socially undesirable behavior. Another way to avoid problems of social desirability is to try to phrase difficult questions in the most benign way possible. Earl Babbie (2020), author of *The Practice of Social Research*, 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 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, and ask your family to take a look at your survey as well. The more feedback you can get on your survey questions, the better the chances that you will come up with a set of questions that are understandable to a wide variety of people and, most importantly, to those in your sample.

In sum, in order to pose effective survey questions, researchers should do the following:

- Identify what it is they wish to know.
- Keep questions clear and succinct.
- Make questions relevant to respondents.
- Use contingency questions when necessary.
- Avoid questions that are likely to confuse respondents, such as those that use double negatives, use culturally specific terms, or pose more than one question in the form of a single question.
- Imagine how they would feel responding to questions.
- Get feedback, especially from people who resemble those in the researcher’s sample.

Response Options

While posing clear and understandable questions in your survey is certainly important, so, too, is providing respondents with unambiguous response options. Response options are the answers that you provide to the people 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**. There should be no overlapping categories in the response options. This is another one of those points about question construction that seems fairly obvious but that can be easily overlooked.

Response options should also be **exhaustive**. In other words, every possible response should be covered in the set of response options that you provide. For example, if you ask how many times a week a student drinks, you should cover all possibilities, from “never” or “less than one time per week” all the way up to “7+ times.” All the possibilities in between these two extremes must be covered by the middle response options.

Surveys need not be limited to closed-ended questions. Sometimes survey researchers include **open-ended questions** in their survey instruments as a way to gather additional details from respondents. An open-ended question does not include response options; instead, respondents are asked to reply to the question in their own way, using their own words. These questions are generally used to find out more about a survey participant’s experiences or feelings about whatever they are being asked to report in the survey. If, for example, a survey includes closed-ended questions asking respondents to report on their involvement in

extracurricular activities during college, an open-ended question could ask respondents why they participated in those activities or what they gained from their participation. While responses to such questions may also be captured using a closed-ended format, allowing participants to share some of their responses in their own words can make the experience of completing the survey more satisfying to respondents and can also reveal new motivations or explanations that had not occurred to the researcher.

Earlier in this section we discussed double-barreled questions, but response options can also be double-barreled, and this should be avoided.

Finally, using a matrix is a nice way of streamlining response options. A matrix is a question type that lists a set of questions for which the answer categories are all the same. If you have a set of questions for which the response options are the same, it may make sense to create a matrix rather than posing each question and its response options individually. Not only will this save you some space in your survey, but it will also help respondents progress through your survey more easily.

A sample matrix can be seen in Figure 8.2.

Figure 8.2 Survey Questions Utilizing Matrix Format

Instructions: For each statement, please check whether you Strongly Agree, Agree, Disagree, or Strongly Disagree				
My college classes are . . .	Strongly Agree	Agree	Disagree	Strongly Disagree
more demanding than my high school classes.	☐	☐	☐	☐
more interesting than my high school classes.	☐	☐	☐	☐
more interactive than my high school classes.	☐	☐	☐	☐
larger than my high school classes.	☐	☐	☐	☐

Designing Surveys

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. Questions are presented on a survey, the document (either hard copy or online) that contains all your survey questions that respondents read and mark their responses on. Designing surveys takes some thought, and in this section we will discuss the sorts of things you should think about as you prepare to present your well-constructed survey questions on a survey.

One of the first things to do once you have come up with a set of survey questions you feel confident about 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 any questions we had about precollege life and habits and then present a series of questions about life after beginning college. The point here is to 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 will want to make respondents continue (Babbie, 2020). In other words, 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. 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.

In truth, the order in which you present questions on a survey is best determined by the unique characteristics of your research. Only you, the researcher, hopefully in consultation with people who are willing to provide you with feedback, can determine how best to order your questions. To do so, think about the unique characteristics of your topic, your questions, and most importantly, your sample. Keeping in mind the characteristics and needs of the people you will ask to complete your survey should help guide you as you determine the most appropriate order in which to present your questions.

You will also need to consider the time it will take respondents to complete your 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 on several factors. First, what is it that you wish to know? Wanting to understand how grades vary by gender and year in school certainly requires fewer questions than wanting to know how people's experiences in college are shaped by demographic characteristics, college attended, housing situation, family background, college major, friendship networks, and extracurricular activities. Keep in mind that even if your research question requires a good number of questions be included in your survey, do your best to keep the survey as brief as possible. Any hint that you have thrown in a bunch of 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 they will not want to spend more than a few minutes on it. But 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). The time that survey researchers ask respondents to spend on surveys varies greatly. Some advise that surveys should not take longer than about 15 minutes to complete, and stretching over 20 minutes is far too long. As with question order, there is no clear-cut, always-correct answer about survey length. The unique characteristics of your study and your sample should be considered 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 pretesting. Pretesting allows you to get feedback on your survey so you can improve it before you actually administer it. Pretesting can be quite 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. But you can learn a lot and make great improvements to your survey simply by **pretesting** with a small number of people to whom you have easy access (perhaps you have a few friends who owe you a favor). By pretesting 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 there are places where you should have included filter questions, to name just a few of the benefits of pretesting. You can also time pretesters 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 it comes time to actually administer your survey and about whether you have some wiggle room to add additional items or need to cut a few items.

Perhaps this goes without saying, but 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 easy on the eyes, and why? Try to mimic those features in the presentation of your survey questions.

Key Takeaways

- **Initial Steps:** Brainstorming and consulting the literature are two important early steps to take when preparing to write effective survey questions.
- **Relevance:** Make sure that your survey questions will be relevant to all respondents and that you use filter questions when necessary.
- **Feedback:** Getting feedback on your survey questions is a crucial step in the process of designing a survey.
- **Refinement:** Pretesting is an important step for improving one's survey before actually administering it.

Exercises

1. **Scale Exploration:** Do a little internet research to find out what a Likert scale is and when you may use one.
2. **Question Construction:** Write a closed-ended question that follows the guidelines for good survey question construction. Have a peer in the class check your work.

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8.5: Analysis of Survey Data

Learning Objectives

- **Define** response rate and discuss some of the current thinking about response rates.
- **Describe** what a codebook is and what purpose it serves.
- **Define** univariate, bivariate, and multivariate analysis.
- **Describe** each of the measures of central tendency.
- **Describe** what a contingency table displays.

This 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 on what to do with our data once we have designed a study and collected it, as more time will be spent on data analysis later in the text. Entire textbooks have been written on data analysis. In fact, if you have ever taken a statistics class, you already know much about how to analyze quantitative survey data. Here, 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.

From Completed Surveys to Analyzable Data

It can be very exciting to receive those first few completed surveys back from respondents. Hopefully you will even get more than a few back, and once you have a handful of completed surveys, your feelings may go from initial euphoria to dread. Data are fun, but they can also be overwhelming. The goal with **data analysis** is to be able to condense large amounts of information into usable and understandable chunks.

The number of completed surveys you receive divided by the number of surveys you distributed is your **response rate**. Let's say your sample included 100 people and you sent surveys to each of those people. If 75 returned completed surveys, your response rate would be 75% (75 divided by 100). Having three-quarters of your surveys returned would be considered good, even excellent, by most survey researchers. Suggestions for improving response rates include personalizing surveys, enhancing the survey's credibility, sending out pre-survey notices and post-survey reminders, and including a small token of appreciation.

The major concern with response rates is that a low rate of response may introduce **nonresponse 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, your findings may not represent the population as a whole.

Once you have your stack of completed surveys, you need to condense your data. In order to do this, you will first need to create a **codebook**. A codebook is a document that outlines how a survey researcher has translated data from words into numbers. Table 8.1 is an excerpt from a codebook. As you'll 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 8.1 Codebook Excerpt From Survey of Older Workers

Variable #	Variable name	Question	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

Variable #	Variable name	Question	Options
			4 = Between moderately 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
15	FINCHURT	If yes, how many times?	1 = 1 or 2 times
			2 = 3 or 4 times
			3 = 5 times or more
16	FINGVCH	Since age 62, have you ever donated money to a church or other organization?	0 = No
			1 = Yes
17	FINGVFAM	Since age 62, have you ever given money to a family member or friend to help them make ends meet?	0 = No
			1 = Yes

If you have administered your survey the old-fashioned way, via snail mail, the next task after creating your codebook is data entry. If you have utilized an online tool such as [Google Forms](#) to administer your survey, here is some excellent news: most online survey tools come with the capability of importing survey results directly into a data analysis program. This automated integration provides a significant logistical advantage, saving researchers countless hours of manual data entry. If you do not believe me, I highly recommend administering hard copies of your survey next time around, and you will surely then appreciate the wonders of online survey administration.

For those who will be conducting manual data entry, there is not much I can say 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. While we will not get into the details of data entry, there are several programs that survey researchers use to analyze data once it has been entered:

- **SPSS (Statistical Package for the Social Sciences):** A statistical analysis computer program designed to analyze the type of data quantitative survey researchers collect. It can perform everything from 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:** While far less sophisticated in its statistical capabilities than SPSS, it is relatively easy to use and suits some researchers' purposes just fine.

Univariate Analysis

Data analysis is about identifying, describing, and explaining patterns. **Univariate analysis** is the most basic form of analysis that quantitative researchers conduct, where researchers describe patterns across just one variable. This includes frequency distributions and measures of central tendency.

1. Frequency Distribution

A **frequency distribution** is a way of summarizing the distribution of responses on a single survey question. See an example of

this in Table 8.2.

Table 8:2 Frequency Distribution of Older Workers' Financial Security

In general, how financially secure would you say you are?	Value	Frequency	Percentage
Label			
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
Total valid cases = 180; no response = 3			

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.

2. Central Tendency Measures

Measures of central tendency, which can only be used for ordinal, interval, and ratio-level variables, tell us what the most common, or average, response is to a question.

- **Mode:** The most common response given to a question. This is the only one you can use with nominal data.
- **Median:** The middle point in a distribution of responses.
- **Mean:** The mathematical average, obtained by adding the value of all responses and dividing by the total number of responses.

Bivariate and Multivariate Analysis

We learn even more when we begin to examine relationships among variables. Analyzing the relationships between two variables is called **bivariate analysis**, while examining relationships among more than two variables is known as **multivariate analysis**. This is something beyond the scope of this course, but is explored in advanced statistics classes

Bivariate analysis allows us to assess **covariation** 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 covary, 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 8.3, this is a cross-tabulation of two questions from the older worker survey: respondents' reported gender and their self-rated financial security.

Table 8:3 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'll see in Table 8.3 that a couple of the financial security response categories were collapsed (recall that there were five

categories presented in the earlier Table 8.2; here there are just three). Researchers sometimes collapse response categories on items such as this in order to make it easier to read results in a table. You'll also see that I placed the variable "gender" in the table's columns and "financial security" in its 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 comparing across categories of our independent variable pretty simple. 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'll also see in the table that I reported the total number of respondents for each category of the independent variable 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 one 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 won't go into detail here about how to conduct multivariate analysis of quantitative survey items here, but we will return to multivariate analysis later, where we'll discuss strategies for reading and understanding tables that present multivariate statistics. If you are interested in learning more about the analysis of quantitative survey data, I recommend checking out Orange Coast College's wonderful statistics classes. 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

- **Response Rates:** While survey researchers should always aim to obtain the highest response rate possible, some recent research argues that high return rates on surveys may be less important than we once thought.
- **Analysis Tools:** There are several computer programs designed to assist survey researchers with analyzing their data, including SPSS and Excel.
- **Patterns:** Data analysis is about identifying, describing, and explaining patterns.
- **Contingency Tables:** Contingency tables show how, or whether, one variable covaries with another.

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9: INTERVIEW RESEARCH

9.1: What Is It and When Should It Be Used?

9.2: Interview Techniques

9.3: Issues to Consider

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9.1: What Is It and When Should It Be Used?

Learning Objectives

- **Define** interviews from the social scientific perspective.
- **Identify** when it is appropriate to employ interviews as a data-collection strategy.

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.

The question of when to conduct an interview might be on your mind. Interviews are an excellent way to gather detailed information. They also have an advantage over surveys; 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. What you get is what you get. In an interview, however, because you are actually talking with your study participants in real time, you can ask that follow-up question. Thus, 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. 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.

For example, a researcher might use interviews to gather data about how people reach major life decisions, such as the choice to pursue a particular career path or the decision not to have children. To understand these "how's," a researcher needs to have back-and-forth dialogue with respondents. When participants begin to tell their stories, inevitably new questions that had not occurred to the researcher from prior interviews come up because each person's story is unique. Also, because the process of making complex life decisions is nuanced for many people, describing that process by responding to **closed-ended questions** on a survey would not work particularly well.

In sum, 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.

Key Takeaways

- **Methodology:** Understanding how to design and conduct interview research is a useful skill to have.
- **Definition:** In a social scientific interview, two or more people exchange information through a series of questions and answers.
- **Utility:** Interview research is often used when detailed information is required and when a researcher wishes to examine processes.

Exercise

Topic Selection: Think about a topic about which you might wish to collect data by conducting interviews. What makes this topic suitable for interview research?

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9.2: Interview Techniques

Learning Objectives

- **Identify** the primary aim of interviews.
- **Describe** what makes interview techniques unique.
- **Define** the term "**interview guide**" and describe how to construct an interview guide.
- **Outline** the guidelines for constructing good interview questions.
- **Define** the term "focus group" and identify one benefit of focus groups.
- **Identify** and describe the various stages of interview data analysis.
- **Identify** the strengths and weaknesses of interviews.

Conducting Interviews

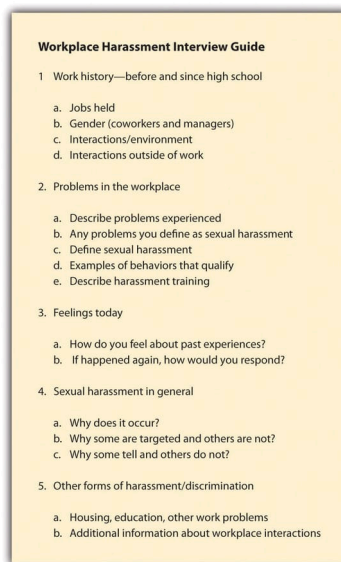
Interviews might feel more like a conversation than an interview to respondents, but the researcher is, in fact, usually guiding the conversation with the goal of gathering information from a respondent. Interviews contain **open-ended questions**. As the name implies, open-ended questions are questions that a researcher poses without providing answer options. Open-ended questions are more demanding of participants than closed-ended questions, for they require participants to come up with their own words, phrases, or sentences to respond.

In an interview, the researcher usually develops a guide in advance that they then refer to during the interview (or memorize 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 simply that: it is used to guide the interviewer, but it is not set in stone. Think of an interview guide like an agenda for the day or a to-do list: both probably contain all the items you hope to check off or accomplish, though it probably will not be the end of the world if you do not accomplish everything on the list or if you do not accomplish it in the exact order that you have it written down. Perhaps new events will come up that cause you to rearrange your schedule just a bit, 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, 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.

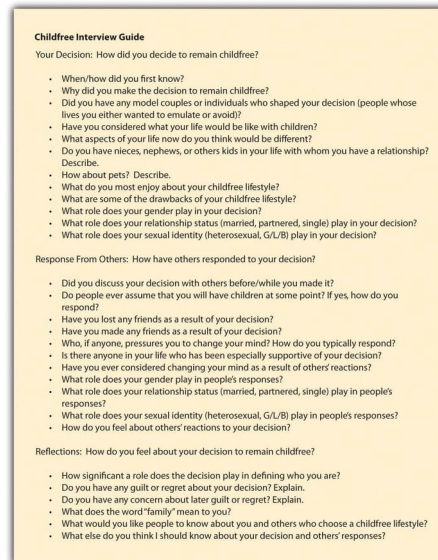
Interview guides can list topics or questions. The specific format of an interview guide might depend on the researcher's style, experience, and comfort level with the topic. For instance, in a study interviewing young people about their experiences with workplace sexual harassment, the guide might be topic-based. There might be few specific questions contained in the guide; instead, the researcher might use an outline of topics to cover, listed in an order that makes logical sense, noted on a sheet of paper. That guide can be seen in Figure 9.1.

Figure 9.1 Interview Guide Displaying Topics Rather Than Questions



Conversely, in a study interviewing child-free adults, the interview guide might contain specific questions rather than brief topics. A researcher might take this approach if it is a topic with which they have less familiarity. Furthermore, if a researcher is studying a topic about which they have strong personal feelings, writing down specific question wording in the interview guide helps ensure the questions are phrased in a way that does not appear biased to respondents. As a researcher conducts more interviews and reads more literature on a topic, they often become more confident about their ability to ask open-ended, non-biased questions without the guide, but having specific questions written down at the start of the data collection process certainly helps. The interview guide used for the child-free project is displayed in Figure 9.2.

Figure 9.2 Interview Guide Displaying Questions Rather Than Topics



As you might have guessed, interview guides do not appear out of thin air. They are the result of thoughtful and careful work on the part of a researcher. As you can see in both of the preceding guides, the topics and questions have been organized thematically and in the order in which they are likely to proceed (though keep in mind that the flow of an interview is in part determined by what a respondent has to say). Sometimes interviewers may create two versions of the interview guide: 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 very detailed guide to prepare and practice in advance of actually conducting interviews and then just bring the brief outline to the interview. Bringing an outline, as opposed to a very long list of detailed questions, encourages the researcher to actually listen to what a participant is telling them. An overly detailed interview

guide will be difficult to navigate through during an interview and could give respondents the misimpression that the interviewer is more interested in their questions than in the participant's answers.

When beginning to construct an interview guide, brainstorming is usually the first step. 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 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 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 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 interviews is that you can ask participants for more information, so 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, as this particular question can come off as confrontational, even if that is not how you intend it. Often people will not know how to respond to "why," perhaps because they do not even 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, "Don't you think that most people who don't want kids are selfish?" you could ask, "What comes to mind for you when you hear that someone doesn't want kids?" Or rather than asking, "What do you think about juvenile delinquents who drink and drive?" you could ask, "How do you feel about underage drinking?" or "What do you think 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 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 interviewers to take audio recordings of the interviews they conduct.

Recording interviews allows the researcher to focus on the 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 is difficult to understate the challenge of managing all these feats simultaneously. Whether you will be recording your interviews or not (and especially if not), practicing the interview in advance is crucial. Ideally, you will find a friend or two willing to participate in a couple of trial runs with you. Even better, you will 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.

Although our focus here has been on interviews for which there is one interviewer and one respondent, this is certainly not the only way to conduct an interview. Sometimes there may be multiple respondents present, and occasionally more than one interviewer may be present as well. When multiple respondents participate in an interview at the same time, this is referred to as a **focus group**. 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. Of course, there are some unique ethical concerns associated with collecting data in a group setting.

Analysis of Interview Data

Analysis of interview data typically begins with a set of transcripts of the interviews conducted. Obtaining said transcripts requires

having either taken exceptionally good notes during an interview or, preferably, recorded the interview and then transcribed it. **Transcribing** interviews is usually the first step toward analyzing interview data. To transcribe an interview means that you create, or someone whom you have hired creates, 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**, one that reports word for word exactly what was said in the recorded interview. If possible, it is also best to include nonverbal cues in an interview's written transcription. 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 (or if you lack the resources to hire others), it is often best to transcribe your interviews yourself. Researchers are often amazed by the things they recall from an interview when they transcribe it themselves. If the researcher who conducted the interview transcribes it, that person will also be able to make a note of nonverbal behaviors and interactions that may be relevant to analysis but that could not be picked up by audio recording. Researchers often see interviewees roll their eyes, wipe tears from their face, and even make obscene gestures that speak volumes about their feelings but that could not have been recorded had the interviewer not remembered to include these details in their transcribed interviews.

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 interview data often works inductively (Charmaz, 2024). To move from the specific observations an interviewer collects to identifying patterns across those observations, 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. In this usage, the word "code" is a noun. But it can also be a verb. The process of identifying codes in one's qualitative data is often referred to as **coding** (Saldaña, 2021). Coding involves identifying themes across interview data by reading and rereading (and rereading again) interview transcripts until the researcher has a clear idea about what sorts of themes come up across the interviews.

Many qualitative researchers describe coding as a multistage process. There are two primary phases of coding: **open coding** and **focused coding**. To analyze interview data, one can begin by open coding transcripts. This means that you read through each transcript, line by line, and make a note of whatever categories or themes seem to jump out to you. At this stage, it is important that you not let your original research question or expectations about what you think you might find cloud your ability to see categories or themes. It is called open coding for a reason: keep an open mind. Open coding will probably require multiple go-rounds. As you read through your transcripts, it is likely that you will begin to see some commonalities across the categories or themes that you have jotted down. Once you do, you might begin focused 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. Identify themes or categories that seem to be related, 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 yet again (and probably again). You might also write up brief definitions or descriptions of each code. Defining codes is a way of making meaning of your data and of developing a way to talk about your findings and what your data mean. At this stage, you are officially analyzing data.

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. In their text on analyzing qualitative data, Lofland, Snow, Anderson, and Lofland (2022) identify a set of questions that are very useful when coding qualitative data. They suggest asking the following:

- Of what topic, unit, or aspect is this an instance?
- What question about a topic does this item of data suggest?
- 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.

Still feeling uncertain about how this process works? Sometimes it helps to see how interview passages translate into codes. In Table 9.1, two codes are presented that emerged from the inductive analysis of transcripts from interviews with child-free adults. A brief description of each code is included, along with a few (of many) interview excerpts from which each code was developed.

Table 9:1 Interview Coding Example

Code	Code description	Interview excerpts
Reify gender	Participants <i>reinforce</i> <i>heteronormative</i> 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 <i>resist</i> 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 in 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.”

As you might imagine, wading through all these data is quite a process. Just as quantitative researchers rely on the assistance of special computer programs designed to help with sorting through and analyzing their data, so, too, do qualitative researchers. Where quantitative researchers have software like SPSS, qualitative researchers traditionally use **Computer-Assisted Qualitative Data Analysis Software (CAQDAS)** such as **NVivo** and **ATLAS.ti**. These programs work by allowing researchers to import electronic transcript files, label or code passages, search for specific words or phrases, and organize complex interrelationships among passages and codes.

In recent years, the landscape of qualitative software has evolved significantly with the integration of artificial intelligence (AI) and Large Language Models (LLMs). Traditional platforms have upgraded their suites with AI capabilities; for example, **ATLAS.ti** incorporates generative AI to suggest automated codes and perform sentiment analysis, while **MAXQDA** offers an AI assistant to summarize massive text documents and paraphrase entries. Simultaneously, a new generation of cloud-based, AI-native platforms has emerged, such as **Dovetail** and **Delve**, which lean heavily into automated thematic extraction and real-time data organization.

While these algorithmic tools are incredibly useful for handling massive datasets and speeding up the initial labor of sorting through hundreds of transcript pages, contemporary researchers emphasize a human-in-the-loop framework. AI can efficiently identify surface-level word patterns and generate fast summaries, but it lacks the deep sociological imagination, cultural context, and critical interpretation required to understand the true nuances of human stories. Ultimately, software serves to assist the organization, but the human researcher remains the primary analytical instrument.

Strengths and Weaknesses of Interviews

As the preceding sections have suggested, interviews are an excellent way to gather detailed information. Whatever topic is of interest to the researcher employing this method can be explored in much more depth 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 they also are able to share information with researchers in their own words and from their own perspectives rather than being asked to fit those perspectives into the perhaps limited response options provided by the researcher. And because 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 interviews that occur in person is that researchers

can make observations beyond those that a respondent is orally reporting. A respondent's body language, and even their choice of time and location for the interview, might provide a researcher with useful data.

Of course, all these benefits do not come without some drawbacks. As with quantitative survey research, interviews rely on respondents' ability to accurately and honestly recall whatever details about their lives, circumstances, thoughts, opinions, or behaviors are being asked about. However, a major methodological critique of relying solely on interviews is that what people say is often a poor predictor of what they actually do. As sociologists Jerolmack and Khan (2014) argue, self-reports can be of limited value in explaining situated behavior, meaning researchers should be cautious about conflating verbal accounts with actual action. Because of this "attitudinal fallacy," if you want to know what people actually do, you should often supplement interviews with direct observation.

Further, as you may have already guessed, interviewing is time-intensive and can be quite expensive. Creating an interview guide, identifying a sample, and conducting interviews are just the beginning. Transcribing interviews is labor-intensive, and that is before coding even begins. It is also not uncommon to offer respondents some monetary incentive or thank-you for participating. Keep in mind that you are asking for more of participants' time than if you had simply mailed them a questionnaire containing closed-ended questions. Because qualitative methods are more resource-intensive, sample sizes tend to be much smaller, which limits a researcher's ability to generalize findings to a broader population. There is also a risk of participant bias, where individuals may adjust their answers based on what they think the interviewer wants to hear.

Conducting interviews is not only labor-intensive but also emotionally taxing. When interviewing young workers about their sexual harassment experiences, researchers often hear stories that are shocking, infuriating, and sad. Seeing and hearing the impact that harassment has had on respondents can be difficult. Researchers embarking on an interview project should keep in mind their own abilities to hear stories that may be difficult to hear.

Key Takeaways

- **Interview Guides:** Interview guides can vary in format but should contain some outline of the topics you hope to cover during the course of an interview.
- **Analysis Software that is AI-Enhanced:** Software programs like NVivo and ATLAS.ti are tools that qualitative researchers use to help them with organizing, sorting, and analyzing their data.
- **Utility:** Interviews allow respondents to share information in their own words and are useful for gathering detailed information and understanding social processes.
- **Drawbacks:** Drawbacks of interviews include reliance on respondents' accuracy and their intensity in terms of time, expense, and possible emotional strain.

Exercises

1. **Question Critique:** Come up with a research question and write a few open-ended questions you could ask were you to conduct in-depth interviews on the topic. Now critique your questions. Are any of them "yes/no" questions? Are any of them leading?
2. **Self-Interview:** Read the open-ended questions you just created, and answer them as though you were an interview participant. Were your questions easy to answer or fairly difficult? How did you feel talking about the topics you asked yourself to discuss? How might respondents feel talking about them?

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9.3: Issues to Consider

Learning Objectives

- **Identify** the main issues that 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**.

The fact that the researcher interacts with their subjects creates a few complexities that deserve attention. These complexities are examined below.

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 interviewers aim to allow participants to have some control over which or to what extent various topics are discussed, at the end of the day, it is the researcher who is in charge (at least that is how most respondents will perceive it to be). As the researcher, you are asking someone to reveal things about themselves 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. Modern qualitative methodologists emphasize that acknowledging the intersubjectivity of the interview transforms subjects from mere sources of information into active co-producers of knowledge, which helps balance the power differential (Cheron et al., 2022). Suggestions for overcoming the power imbalance between researcher and respondent include having the researcher reveal some aspects of their own identity and story so that the interview is a more reciprocal experience rather than one-sided, allowing participants to view and edit interview transcripts before the researcher uses them for analysis, and giving participants an opportunity to read and comment on the analysis before the researcher shares it with others through publication or presentation. On the other hand, some researchers note that sharing too much with interview participants can give the false impression that there is no power differential, when in reality researchers retain the ability to analyze and present participants' stories in whatever way they see fit.

Regardless of how a researcher feels about sharing details about their background with an interview participant, another way to balance the power differential is to make the intent of the research very clear to the subjects. Share the rationale for conducting the research and the research questions that frame the work. Be sure that subjects also know how the data gathered will be used and stored. Also, ensure participants understand how their privacy will be protected, including who will have access to the data and what procedures, such as using pseudonyms, will be taken to protect their identities. Many of these details will be covered by an institutional review board's informed consent procedures and requirements, but even if they are not, researchers should be attentive to how sharing information with participants can help balance the power differences between themselves and those who participate in their research.

There are no easy answers when it comes to handling the power differential between the researcher and researched, and even social scientists do not agree on the best approach for doing so. It is, nevertheless, an issue to be attentive to when conducting any form of research, particularly those that involve interpersonal interactions and relationships with research participants.

Location Matters

One way to balance the power between researcher and respondent is to conduct the interview in a location of the participant's choosing, where they will feel most comfortable answering questions. Interviews can take place in any number of locations: in respondents' homes or offices, researchers' homes or offices, coffee shops, restaurants, public parks, or hotel lobbies, to name just a few possibilities. Researchers conduct interviews in all these locations, and each comes with its own set of benefits and

challenges. While allowing the respondent to choose the location that is most convenient and most comfortable for them is of utmost importance, identifying a location where there will be few distractions is also crucial. 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, some researchers conduct interviews with parents who, out of necessity, spend more time attending to their children during an interview than responding to questions (of course, depending on the topic of the research, the opportunity to observe such interactions could be invaluable). 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 the accessibility of the location to the interviewer and by the interviewer's safety and comfort level with the location. A researcher might agree to conduct an interview in a respondent's home only to discover upon arriving that the environment contains highly offensive or distracting elements, such as violently racist posters. Even if the topic of the interview has nothing to do with the respondent's decor, the discomfort and fear the researcher feels can consume them and distract from their ability to carry on the interview. In retrospect, researchers in such situations often wish they had thought to come up with an excuse to reschedule the interview in a more neutral 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 based on 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. Some argue that this term is too clinical, and perhaps it implies that a researcher tricks a participant into thinking they are closer than they really are. While it is unfortunately true that some researchers might adopt this misguided approach to rapport, that is not the sense in which the term is used here, nor is that the sort of rapport researchers should attempt to establish with their subjects. Instead, as already mentioned, it is respect that is key.

There are no big secrets or tricks for how to show respect for research participants. 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 the interviewer conducts 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 effectively communicate 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. For researchers feeling uncertain about how to establish rapport and show participants respect, here are a few additional bits of advice.

Developing good rapport requires good listening. The interview is a versatile tool for data production that relies heavily on multisensory channels, including verbal communication, body language, and active listening (Cheron et al., 2022). In fact, listening during an interview is an active, not a passive, practice. Active listening means that the researcher participates with the respondent by showing that they understand and follow whatever it is that is being shared. The questions you ask respondents should indicate that you have actually heard what they have just said. Active listening probably 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.

Interviewers probe respondents, though the way they probe usually differs. In interviews, probing should be uniform. Often interviewers will predetermine what sorts of probes they will use. In many professional research firms, supervisors randomly listen in on telephone interviews to ensure quality. Interviewers are explicitly instructed not to use probes that might make them appear to agree or disagree with what respondents said. Therefore, "yes," "I agree," or a questioning "hmmm" are discouraged. Instead, interviewers might respond with "thank you" to indicate that they heard a respondent. They use "yes" or "no" if, and only if, a respondent specifically asks if they heard or understood what was just said.

In some ways, interviews better lend themselves to following up with respondents and asking them to explain, describe, or otherwise provide more information. This is because interviewing techniques are designed to go with the flow and take whatever direction the respondent goes during the interview. Nevertheless, it is worth your time to come up with helpful probes in advance. You certainly do not want to find yourself stumped or speechless after a respondent has just said something about which you would 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.

Key Takeaways

- **Power Dynamics:** Feminist researchers paved the way for helping interviewers think about how to balance the power differential between themselves and interview participants.
- **Respect:** Interviewers must always be respectful of interview participants and practice active listening.

Exercises

1. **Location Brainstorming:** Imagine that you will be conducting interviews. What are some possible locations around the Orange Coast College campus or the wider Orange County area you think might be good places to conduct interviews? What makes those locations good?
2. **Power Balancing:** What do you think about the suggestions for balancing power between interviewers and interviewees? How much of your own story do you think you would be likely to share with interview participants? Why? What are the possible consequences (positive and negative) of revealing information about yourself when you are the researcher?

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10: FIELD RESEARCH

- 10.1: What Is It and When to Use It?
- 10.2: Pros and Cons of Field Research
- 10.3: Getting In
- 10.4: Field Notes
- 10.5: Analysis of Field Research Data
- 10.6: Field Research Paradigms

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10.1: What Is It and When to Use It?

Learning Objectives

- **Define** the term **field research**.
- **Define participant observation** and describe the continuum of participant observation.
- **Discuss** at least two examples of field research.

Why Field Research?

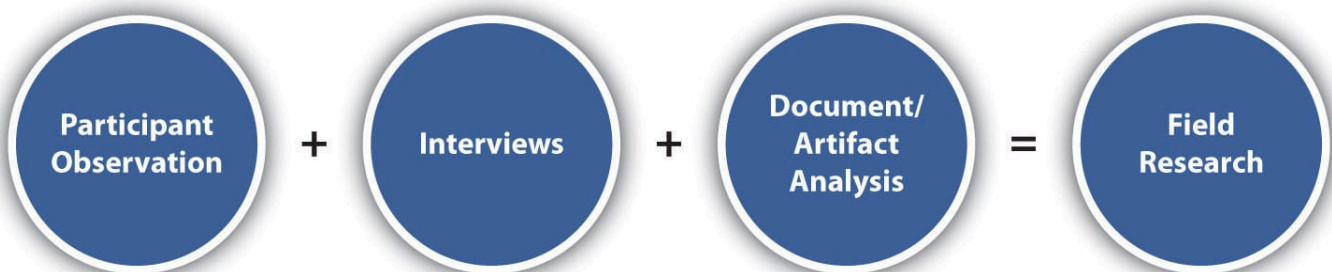
If researchers wanted to know how children from different social classes navigate school, how could they find the answer? One way might be to interview students and parents and simply ask them. Sociologist Jessica McCrory Calarco could have stopped there for her study on inequalities in education. In interviews, many parents and students reported that academic success simply came down to doing homework and studying hard. However, Calarco was not satisfied with relying solely on personal accounts. She chose to conduct extensive observations in elementary school classrooms to see for herself how students interacted with teachers.

What Calarco discovered in her book *Negotiating Opportunities* (2018) was that middle-class students actively negotiated with teachers for extensions, better grades, and extra help, while working-class students rarely asked for assistance. Without a field research component to her study, Calarco might never have uncovered these hidden behavioral differences in how students secure educational advantages. Field research reveals the crucial difference between what people say they do and what they *actually* do.

Whether observing how elementary students negotiate grades or how couples divide household chores, scholars who conduct this type of work must immerse themselves in the settings that they study. What all field researchers have in common is their participation in "the field."

Field research is a qualitative method of data collection aimed at understanding, observing, and interacting with people in their natural settings. Thus, 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. This text utilizes two main terms: field research and participant observation. Field research functions 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; see Figure 10.1.

Figure 10.1



Field research typically involves a combination of participant observation, interviewing, and document or artifact analysis. This chapter focuses primarily on participant observation.

Like field research, participant observation also has multiple meanings. Researchers conducting participant observation vary in the extent to which they participate or observe. As originally conceptualized by Junker (1960), there is a theoretical continuum of participant observation, where complete observation lies at one end of the continuum and complete participation lies at the other end.

For example, in her study of the daily operations of a sperm bank and an egg donation agency, **Rene Almeling (2011)** rested near the **complete observation** end of the continuum. Rather than pretending to be a medical patient or a donor, Almeling observed clinic operations and staff interactions overtly without taking on clinic duties. Conversely, in her research on the global elite party circuit, **Ashley Mears (2020)** operated near the **complete participation** end of the continuum. As a former fashion model, Mears actively participated as a "VIP girl" in exclusive clubs, fully immersing herself in the social ecosystem she was studying alongside promoters and billionaires. Modern methodologists continuously debate how researchers should navigate this continuum, noting that a researcher's visible and invisible traits significantly impact how they move between observation and participation.

There are pros and cons associated with both aspects of the participant observer's role. **Complete observers** may miss important aspects of group interaction and lack the opportunity to fully grasp what life is like for the people they observe. At the same time, sitting back and observing may grant them opportunities to see interactions that they would miss were they more involved. **Complete 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 researchers investigate. On the other hand, complete participants may find themselves in situations that they would rather not face but cannot excuse themselves from because they have adopted the role of complete participant. Also, complete participants who do not overtly reveal themselves as researchers must face the ethical quandary of deceiving their subjects. In reality, most field research projects lie 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 just observe.

As you might have imagined based on the examples of Almeling's and Mears's work, field research is well equipped to answer "how" kinds of 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 10.1 presents examples of the kinds of questions field researchers have asked in contemporary projects along with a brief summary of where and what role those researchers took in the field. The examples presented in Table 10.1 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 modern sociological field researchers engage in.

Table 10.1 Field Research Examples

Question	Researcher role	Author (year)
How do extreme poverty and eviction shape the lives of the urban poor?	Extensive participant observation living in a mobile home park and a rooming house in Milwaukee while observing landlords and tenants.	Matthew Desmond, <i>Evicted: Poverty and Profit in the American City</i> (2016)
How do police and the urban poor interact on a daily basis in hyper-policed neighborhoods?	Five years of participant observation alongside police officers and residents in Los Angeles's Skid Row.	Forrest Stuart, <i>Down, Out, and Under Arrest: Policing and Everyday Life in Skid Row</i> (2016)
How do middle-class and working-class students navigate educational inequalities?	Three years of participant observation in elementary school classrooms, observing interactions between students, teachers, and parents.	Jessica McCrory Calarco, <i>Negotiating Opportunities: How the Middle Class Secures Advantages in School</i> (2018)
How do young people navigate neighborhood violence and identity in the digital age?	Extensive digital and physical participant observation tracking how gang activity and youth socialization migrate onto social media platforms.	Jeffrey Lane, <i>The Digital Street</i> (2019)
How is elite status and wealth displayed and consumed in the global party circuit?	Eighteen months of complete participation as a VIP model in exclusive clubs around the world.	Ashley Mears, <i>Very Important People: Status and Beauty in the Global Party Circuit</i> (2020)
How do race and class impact how defendants navigate the criminal justice system?	Extensive observation of attorney-client interactions and court proceedings in the Boston area.	Matthew Clair, <i>Privilege and Punishment: How Race and Class Matter in Criminal Court</i> (2020)

Field research is a method that was originally crafted by anthropologists for the purpose of cultural understanding and

interpretation (Wolcott, 2008). Dissatisfied with studying groups of people based solely on secondhand accounts and inspection of artifacts, several anthropologists decided to try living in or near the communities they studied to learn from and about them. Two anthropologists in particular, Franz Boas (1888) and Bronislaw Malinowski (1922), are credited with developing this method around the turn of the 20th century. Boas lived with native populations in Canada and in the American Northwest. Malinowski lived in Papua New Guinea with people who were native to the area. While these foundational studies are over a century old, they established the qualitative traditions that modern sociologists continue to adapt. Sociologists picked up on the idea and on the benefits of field research. Soon a number of sociologists had embraced this new method and adapted field research for their own studies of groups. Many of the early field researchers in sociology were former social workers who got interested in sociological research because of experiences in their roles as social reformers. The University of Chicago in particular played a key role in the historical development of American field research through, among other projects, its involvement in Hull House, a social settlement founded for European immigrants in Chicago (Deegan, 1986).

Key Takeaways

- **Methodological Scope:** Field research typically involves a combination of participant observation, interviewing, and document or artifact analysis.
- **The Continuum:** Different participant observation projects rest in different places on the continuum of complete observer to complete participant; most lie near the middle of the continuum.
- **Origins:** Field research has its historical origins in anthropology before being adapted and modernized by sociologists.

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10.2: Pros and Cons of Field Research

Learning Objectives

- **Identify** and explain the strengths of field research.
- **Identify** and explain the weaknesses of field research.

Field research has many benefits, as well as a set of drawbacks. Both are explored in detail below.

Strengths 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 view of 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.

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 scholars were not previously aware. This in particular is a unique strength of field research. With other methods, such as interviews and surveys, researchers certainly cannot expect a respondent to answer a question to which they do not know the answer or to provide information of which they are not aware. Because field research typically occurs over an extended period of time, social facts that may not even be immediately revealed to a researcher but that become discovered over time can be uncovered during the course of a field research project.

In sum, the major benefits of field research are the following:

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.

Weaknesses of Field Research

As previously noted, the fact that field researchers are able to collect very detailed data is a major benefit of this method. This benefit, however, 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 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. Methodologists assert that interview research requires, to a certain extent, the development of a relationship between a researcher and their participants. While interviews and field research both require relationship development, one might compare interviews to casual dating, whereas field research is closer to a full-blown, committed marriage.

The relationships researchers develop in the field are sustained over a much longer period than the hour or two it might take to conduct an interview. Not only do the relationships last longer, but they are also more intimate. A number of modern qualitative scholars have documented the complex emotional landscape and ethical quandaries of relationships with research participants (Blix & Wettergren, 2015; Tracy, 2019). On the plus side, these relationships can be very rewarding and yield the rich, detailed data noted as a strength in the preceding discussion. However, as in any relationship, field researchers experience not just the highs but also the lows of daily life and interactions. Participating in day-to-day life with one's research subjects can result in some tricky ethical dilemmas. It can also be a challenge if the aim is to observe as "objectively" as possible.

Finally, documentation can be challenging for field researchers. Where survey researchers have the questionnaires participants 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. When you take notes after some observation, you may not recall everything exactly as you saw it when you were there.

In sum, the weaknesses of field research include the following:

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.
3. Documenting observations may be more challenging than with other methods.

Key Takeaways

- **Strengths:** Field research yields very detailed data, is designed to pay heed to social context, and can uncover social facts that are not immediately obvious.
- **Weaknesses:** Researchers may have to sacrifice breadth for depth, the research can be emotionally taxing, and documenting observations is often challenging.

Exercises

1. **Analytical Reflection:** In your opinion, what is the most important strength of field research? What do you view as its greatest weakness? Explain your position.
2. **Database Application:** Find an article reporting results from field research. You can do this by searching the Sociological Abstracts database available through your campus library. How do the authors describe the strengths and weaknesses of their study? Are any of the strengths or weaknesses described in this section mentioned in the article? Are there additional strengths or weaknesses not mentioned in this section?

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10.3: Getting In

Learning Objectives

- **Identify** the two major considerations with respect to "getting in" field research sites.
- **Describe** the factors one should consider when choosing a field research site.
- **Explain** how one's social location is relevant for choosing a field research site.
- **Describe** the factors one should consider when deciding what role to play in a field research site.
- **Explain** the difference between overt and covert roles in field research.

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

Choosing a Site

Where a researcher observes might be determined by their research question, but because field research often works inductively, they may not have a totally focused question before beginning observations. In some cases, field researchers hone in on a 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 choosing a site, there are a number of factors to consider. What is the researcher hoping to accomplish with the field research? What is the topical or substantive interest? Where are they likely to observe behavior that has something to do with that topic? How likely is it that they will actually have access to the locations that are of interest to them? How much time is available to conduct participant observations? Will the participant observations be limited to a single location, or will they take place in multiple locations?

Perhaps the best place to start when working to identify a site or sites for field research is to think about limitations. One limitation that could shape where participant observation is conducted is time. Field researchers typically immerse themselves in their research sites for many months, sometimes even years. For example, in his study *Ballad of the Bullet: Gangs, Drill Music, and the Power of Online Infamy*, Forrest Stuart (2020) spent over two years conducting participant observation in Chicago, embedding himself in the daily routines of drill musicians. Identifying availability in terms of time will help determine where and what sort of research sites to choose.

Also, researchers must consider where they live and whether travel is an option. Some field researchers actually move to live with or near their population of interest. How a researcher answers these questions will shape how they identify their research site. Sociologist Kimberly Kay Hoang's research in *Dealing in Desire: Asian Ascendancy, Western Decline, and the Hidden Currencies of Global Sex Work* (2015) took her from the United States to Vietnam, where she spent extensive time observing bars and clubs. Similarly, Jordanna Matlon's ethnographic work in *A Man Among Other Men: The Crisis of Black Masculinity in Racial Capitalism* (2018) required her to conduct research in Abidjan, Côte d'Ivoire. These are just a few of many examples of sociological researchers who have traveled the globe for the purpose of collecting data.

In choosing a site, a researcher must also consider how their social location might limit what or where they can study. The ascribed aspects of our locations are those that are involuntary, such as age, race, or mobility. For example, how might an ascribed status as a middle-aged professional shape a researcher's ability to conduct complete participation in a study of youth subcultures? The achieved aspects of our locations are those that we have some choice about. In field research, scholars may also have some choice about whether or the extent to which they reveal the achieved aspects of their identities. There are numerous examples of field researchers whose achieved statuses granted them access to field sites into which they might not have otherwise been allowed. Sociologist Victoria Reyes, in *Global Borderlands: Fantasy, Violence, and Empire in Subic Bay, Philippines* (2019), utilized her complex blend of ascribed and achieved statuses as a Filipina American academic to gain entry

into the heavily guarded global borderlands of Subic Bay, navigating interactions with both foreign dignitaries and local workers.

The preceding discussion should not be taken to mean that sociologists cannot or should not study those from whom they differ. In fact, there have been plenty of successful field studies conducted by researchers who may have looked out of place in the sites they chose to investigate. The aim here is not to reify the socially constructed categories upon which society places so much emphasis. Rather, the point is to be aware of which ascribed and achieved aspects of a researcher's identity may shape decisions about field sites.

Finally, in choosing a research site, a researcher must consider whether the research will be a collaborative project or a solo endeavor. Collaborating with others has many benefits; a team can cover more ground and therefore collect more data than one person can alone. Having collaborators in any research project means having others with whom to share the trials and tribulations in the field. However, collaborative research comes with its own set of challenges, such as possible personality conflicts, competing commitments in terms of time, and differences in methodological perspectives. Modern sociological projects are increasingly collaborative. For example, Matthew Desmond's ongoing *The Eviction Lab* project combines the efforts of numerous qualitative field researchers, quantitative data scientists, and students to map housing insecurity across the country.

Choosing a site for participation is shaped by all these factors: the 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 a researcher's control might shape the role they take once participant observation begins. The researcher will also need to make some deliberate decisions about how to enter the field and what persona to adopt once inside.

In terms of entering the field, one of the earliest decisions is whether to be overt or covert. As an **overt researcher**, one enters the field with 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 have joined is being studied. As one might imagine, there are pros and cons to both approaches. A critical point to keep in mind is that whatever decision is made about how to enter the field will affect many subsequent experiences in the field.

As an overt researcher, establishing rapport at first might be troublesome. Having an insider at the site who can vouch for the researcher will certainly help, but the knowledge that subjects are being observed will inevitably make some people uncomfortable and possibly cause them to behave differently than they would if they were not research subjects. Because field research is typically a sustained activity that occurs over several months or years, participants usually become more comfortable with the researcher's presence over time. Overt researchers also avoid a variety of moral and ethical dilemmas that covert researchers face.

As a covert researcher, getting into a site might be easier, but other profound issues may arise. For how long would the researcher plan to conceal their identity? How might participants respond once they discover they have been studied? How will the researcher respond if asked to engage in activities that are unsettling, illegal, or unsafe? Contemporary field researchers often face intense ethical scrutiny regarding these questions. Beyond personal comfort levels with deceiving participants, the decision about whether to enter the field covertly will often be heavily regulated. Any research associated with a federally funded agency or university must pass through an **Institutional Review Board (IRB)**, which will closely examine any planned deception of research subjects. The extent to which a research site is a public location, where people may not have an expectation of privacy, might also play a role in helping a researcher and their IRB decide whether covert research is a reasonable approach.

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

Once a decision is made about how to enter a field site, the researcher will need to think about the role they will adopt while there. Aside from being overt or covert, how close will the researcher be to participants? Fred Davis (1973) coined the terms "Martian" and "Convert" to describe these ontological polarities. Davis describes the Martian role as one in which a field researcher stands back a bit, not fully immersed in the lives of the subjects, in order to better problematize, categorize, and see with the eyes of a newcomer what is 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. While these are classic terms, modern researchers generally recognize that most fieldwork requires constantly navigating the space between these two extremes.

Whatever role is chosen, the power dynamics and relationship ethics discussed in previous chapters apply heavily to field research. In fact, the researcher-researched relationship is even more complex in field studies, where interactions with participants last far longer than a standard interview. The potential for exploitation is greater in field studies because relationships are usually closer and the lines between research and personal interactions frequently blur. These precautions must be seriously considered before deciding to embark upon a field research project.

Key Takeaways

- **Planning:** When beginning a field research project, one must take care in planning where to conduct observations and what role to adopt in one's field site.
- **Limitations:** The time and resources a researcher has available to spend in the field will be major factors in choosing a research site.
- **Roles:** There are pros and cons to both the overt and the covert researcher roles.
- **Identity:** Ascribed and achieved statuses both shape the choices that field researchers make about their sites and about their roles within those sites.

Exercises

1. **Site Selection:** Try to name at least three different locations where you might like to conduct field research. What barriers would you face were you to attempt to enter those sites as a researcher? In what ways might your entry into the sites be facilitated by your social location?
2. **Role Reflection:** What is your opinion about researchers taking on a covert as compared with an overt role in field research? Which role would you like to take in a field research project? Why?

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10.4: Field Notes

Learning Objectives

- **Define** descriptive field notes.
- **Cite** the variety of ways that field researchers might take notes while in the field.
- **Describe** what should be noted when taking field notes.

Field notes are your opportunity to write quickly and honestly. While this is not the type of writing where one should aim for literary perfection, it is perhaps the most important writing you will do as a researcher. You are not writing for an audience; you are writing to record observations straightforwardly and quickly in a way that makes sense to you. Field notes are a necessary step toward developing quality analysis, as they serve as the primary record that affirms what you observed.

Methodologists generally distinguish between two different kinds of field notes: descriptive and analytic. While the lines between what counts as description and what counts as analysis can be fuzzy, the distinction is useful for organizing your writing process. In this section, we focus on **descriptive field notes**, which describe a researcher's observations as clearly and directly as possible. These notes typically do not contain explanations or comments; instead, they present the observations on their own, as straightforwardly as possible.

Writing in the Field

Field researchers use a variety of strategies to take notes while in the field. Some research is conducted in settings where sitting with a notebook or computer is standard, but this is often the exception. More frequently, field researchers must find creative ways to note their observations while actively engaged in the environment. Researchers have employed various tactics, including jotting notes on hands or in small pocket notebooks, using voice recorders, or utilizing smartphone applications like [Evernote](#) or [Otter.ai](#) to capture quick observations. Given that smartphones are now common in almost any setting, using these devices to capture data has become a standard, less intrusive practice. It is crucial to remember, however, that researchers cannot record people without their consent.

A researcher's strategy for recording observations while in the field is determined mostly by the site chosen and the role played. If a researcher is in a setting where having a notebook or phone looks out of place, they may need to develop a shorthand using combinations of abbreviations and symbols to capture information without taking too much time away from their participation. Writing notes while in the field requires a fine balance between jotting down observations and actually engaging in the setting.

As with other proficiencies, writing field notes is a skill that improves with practice. Observation is deliberate, not haphazard. For first-time researchers, this process often feels overwhelming, but having a clear research question or topic in mind helps focus observations. However, it remains vital not to let the original research question blind the researcher to occurrences in the field that may not seem important at the time, as these can become crucial later.

Writing out of the Field

Here is a newer, highly regarded source that focuses specifically on constructing and organizing field notes in modern qualitative research:

- **Phillippi, J., & Lauderdale, J. (2018).** A guide to field notes for qualitative research: Context and conversation. *Qualitative Health Research*, 28(3), 381-388.

This 2018 peer-reviewed article provides an excellent contemporary framework for collecting, incorporating, and disseminating field notes, making it a perfect replacement for the 2011 text.

Here is the updated section with the newer research integrated into the text and reference list:

Learning Objectives

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Writing out of the Field

Immediately upon leaving an observation in the field, it is important to take the time to complete the brief notes taken while in the field. Contemporary researchers emphasize that well-organized field notes ensure that rich context persists beyond the initial observation, creating a vital record that unfolds over time. Even if the notes taken in the field feel complete, it is common for researchers to recall much more once they sit down without distractions and review what was jotted down. This is also an opportunity to add reflections, or observations about the observations, when writing up more complete notes.

When typing up notes upon returning from an observation, the researcher should "fill in the blanks" and write as much as possible about what was just observed. Even if it seems mundane, it is fair to say that field notes can never contain too much detail. Writing in as much detail as possible also helps avoid generalizing in field notes. Be specific about what is observed. Rather than saying that everyone said or did something, make a note of exactly who said or did a specific action, or note that it is unclear who did so but that it seemed as if most everyone did. Rather than saying that someone observed was angry, describe what gave that impression; for example, was that person yelling, red in the face, or shaking their fist?

Do not forget to describe exactly where the observations took place and detail the surroundings, in addition to describing the interactions and conversations observed and participated in. Early in a field research project, a researcher may focus slightly more on describing the "lay of the land" than they do later on. This might mean writing up very detailed descriptions of the locations observed and the people with whom the researcher interacts. It may also involve drawing a map or, if appropriate in the setting,

taking pictures of the field sites. If observations are conducted in the same place and with the same people, these descriptive details written up early on will become less noticeable over time. It is helpful to have documentation of first impressions and the sort of details that later become so much a part of the everyday scene that they are no longer noticed.

To reflect contemporary sociological research, the following excerpt from a hypothetical researcher's field notes describes a first meeting with two key informants during an ethnographic study of a modern housing rights organization (Phillippi & Lauderdale, 2018):

10/14/23, 11:00am

The researcher met Sarah and Marcus at the local tenant union office. The researcher was scheduled to be there at 10:30, but public transit was delayed, resulting in an 11:00am arrival. Sarah and Marcus did not seem bothered by the tardiness (Marcus: "We don't keep a strict clock around here."). Upon walking into the community center and heading to the back corridors, the researcher was unsure where to go and walked into the first open door, asking, "I'm looking for the tenant union office." A volunteer showed the researcher into a large multi-purpose room (long and slightly irregular shape with windows on one wall, a folding table, and many mismatched chairs, along with two laptops set up on a counter running along the far wall). Two organizers were looking at a spreadsheet on one of the laptops. The researcher introduced themselves, and Sarah and Marcus introduced themselves. Both organizers shook the researcher's hand; Sarah was the first to do so with slightly more self-assurance than Marcus. Marcus told the researcher to put their bag on one of the empty chairs. The researcher placed their coat and bag in a corner behind the main folding table.

The description in those field notes continued for several more paragraphs. The goal of such an excerpt is to describe a location where a significant amount of time will be spent and to describe first impressions of potential key informants. It is standard practice to use quotation marks every time a person is directly quoted. Including as many direct quotes as possible is recommended, as such quotes provide support for the analytic points made later when describing patterns in the data. This is another reason that taking notes in the field is a good idea. Direct quotes may be difficult to remember hours or even minutes after hearing them; for this reason, a researcher may wish to write verbatim quotes while in the field and then describe the circumstances under which something was said later when writing up full notes after leaving the scene.

Another characteristic of field notes is the use of all capital letters and brackets in some places. This is a strategy for expressing personal feelings and impressions in field notes. While the distinction between what was actually observed and what a researcher thinks about what they observed is not always easy to make, most field researchers attempt to distinguish between these two categories of information.

The bracketed portions of field notes may never be used, but in some cases, they will become the early stages of data analysis. Notes from extended participant observation often include bracketed notes of both types. Sometimes, bracketed notes are used to express emotion or purge difficult thoughts or feelings. This can be helpful when a researcher feels upset about or annoyed by something that occurred in the field. Because field research requires developing personal relationships with subjects, and because interpersonal relationships all experience various highs and lows, it is important to express feelings about those relationships in the notes. Writing these more personal reflections may become important for analysis later, or they may simply be cathartic at the moment. They might also reveal biases a researcher has about the participants that should be confronted.

Every field researcher's approach to writing up field notes will vary according to whatever strategy works best for that individual. Where brackets are used to document personal feelings and reflections on bits of data, other field researchers may use the comments function in a word processing program or use a different font type, size, or color to distinguish observations from reflections. Others might create two columns for their full field notes: one containing notes only about what was observed directly and the other containing reactions and impressions. There is no wrong way to write field notes. What is important is that the researcher adopts a strategy that enables accurate writing, includes as much detail as possible, and distinguishes observations from reflections.

Key Takeaways

- **Descriptive Focus:** When taking descriptive field notes, researchers should aim to make note of their observations as straightforwardly as possible.

- **Flexibility:** Field researchers use a variety of tools to facilitate note-taking in the field, including shorthand, smartphones, and voice recorders.
- **Intentionality:** In field research, observation is deliberate and requires a balance between engagement and documentation.
- **Completeness:** Note-taking continues after exiting the field, where researchers must immediately "fill in the blanks" of their brief notes to ensure accurate and detailed records.

Exercise

1. **Observation Practice:** Consider a standard note-taking exercise often completed in methodology classes. Find another person or two with whom to conduct observations and take notes for about 15 minutes (perhaps someplace in a campus library, student union, or dorm). Sit near peers who are also taking notes but do not talk with them during this portion of the exercise. Be sure to use all of the senses while taking notes: eyes, ears, nose, and sense of touch. When the 15 minutes are up, compare notes with peers. Where are there similarities? Where are there differences? Why do those similarities and differences exist? What strategy did each person employ to take notes? How might the approach to field note-taking change if asked to do it again?

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10.5: Analysis of Field Research Data

Learning Objectives

- **Define** analytic field notes and explain how they differ from descriptive field notes.
- **Explain** why making note of mundane details is a good idea.
- **Describe** the process by which field researchers analyze their data.

Field notes are data. 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. The analysis of field research data is the focus here.

From Description to Analysis

Writing and analyzing field notes involves moving from description to analysis. Previously, the focus was on field notes that are mostly descriptive in nature. Here, the focus shifts to **analytic field notes**. Analytic field notes are notes that include the researcher's impressions, theoretical connections, and interpretations of their observations. Analyzing field note data is an iterative process that occurs over time. It begins the moment a field researcher enters the site and continues as interactions happen, as the researcher writes up descriptive notes, and as they consider what those interactions mean within a broader sociological context.

Often, field notes will develop from a more descriptive state to an analytic state when the researcher exits a given observation period, messy jotted notes or audio recordings in hand, and sits at a computer to type up those notes into a readable format. Carefully paying attention while in the field is important; so too is what occurs immediately upon exiting the field. Field researchers typically spend several hours typing up and expanding field notes after each observation. This expansion phase is often where the formal analysis of field research data begins. Having time outside of the field to reflect upon thoughts about what has been seen and to attach tentative theoretical significance to those observations is crucial to developing robust qualitative analysis.

Once the analytic field notes have been written, the field researcher can begin to look for patterns across the notes by coding the data. This involves the iterative process of open and focused coding. As mentioned previously, it is important to note as much as possible while in the field and to record as much detail as can be recalled after leaving the field because a researcher never knows what might become theoretically important. Things that seem decidedly unimportant at the time may later reveal themselves to have profound relevance.

In field research, scholars are often surprised by the bits of data that turn out to hold analytic weight later on. For example, a researcher might include a number of direct quotes and descriptions of informal interactions with participants that they do not expect to be important but nevertheless jot down. Several of these quotes may eventually become the linchpin of the analysis. For instance, in her ethnographic study of elementary school classrooms, sociologist Jessica McCrory Calarco observed countless mundane interactions between students and teachers. In her field notes, she recorded instances where middle-class students would casually approach a teacher's desk to ask for help correcting a minor mistake on a worksheet before officially handing it in (Calarco, 2018).

It might not occur to a researcher in the moment that this simple, everyday request was anything more than a student wanting a good grade. However, when reviewing these field notes analytically, Calarco realized that these mundane interactions represented something much larger. Middle-class students were actively utilizing their socialized behaviors to negotiate for advantages, treating teachers as accommodating resources. In contrast, working-class students rarely made these seemingly minor requests, often viewing teachers as authority figures who should not be bothered. Had the researcher not made a note of these casual desk interactions, which at the time seemed entirely routine, she may have missed a critical analytic point regarding how classroom behaviors subtly reproduce educational inequalities (Calarco, 2018).

Key Takeaways

- **Analytic Focus:** In analytic field notes, a researcher makes note of impressions, theoretical linkages, and interpretations of their observations rather than just the direct events.
- **Mundane Details:** Details that may seem unimportant or everyday in the moment may turn out to be deeply important during later analysis; it is therefore crucial that field researchers make note of these seemingly minor observations when conducting field research.

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10.6: Field Research Paradigms

Learning Objectives

- **Identify** and differentiate among the four major field research paradigms.
- **Describe** the primary goals of ethnography, institutional ethnography, case studies, and grounded theory.

Paradigms Overview

Paradigms allow researchers to approach field research differently. This section explores four different paradigms: ethnography, institutional ethnography, case studies, and grounded theory. Different paradigms allow scholars to frame their questions and observations through distinct methodological lenses.

1. Ethnography

Ethnography is the extended observation of the social perspective and cultural values of an entire social setting. Ethnographies involve the objective observation of a complete community. British anthropologist Bronislaw Malinowski, who studied the Trobriand Islanders near Papua New Guinea during World War I, was one of the first anthropologists to engage directly with the communities being studied. He became known for this methodological contribution, which differed greatly from the detached observations that previously took place from a distance, a practice often referred to as "on the verandas" or "armchair anthropology."

Although anthropologists had been conducting ethnographic research for a longer period, sociologists began utilizing ethnographic methods in the twentieth century, particularly within what became known as The Chicago School at the University of Chicago. William Foote Whyte's *Street Corner Society: The Social Structure of an Italian Slum* (1943) is a seminal work of urban ethnography and remains a classic sociological text.

The heart of an ethnographic study focuses on how subjects view their own social standing and how they understand themselves in relation to a community. An ethnographic study might observe, for example, a small United States fishing town, an Inuit community, a village in Thailand, a Buddhist monastery, a private boarding school, or an amusement park. These places all have borders. People live, work, study, or vacation within those boundaries. Because individuals are there for a specific reason, they behave in certain ways and respect established cultural norms. An ethnographer commits to spending a predetermined amount of time studying every aspect of the chosen place, taking in as much detail as possible.

For instance, a sociologist studying an isolated indigenous tribe in the Amazon might watch the way villagers go about their daily lives and then write a comprehensive analysis of those routines. To observe a spiritual retreat center, an ethnographer might attend as a guest for an extended stay, observe and record data, and collate the material into qualitative results.

Here is a classic example, *Middletown: A Study in Modern American Culture* (1929). In 1924 a young married couple named Robert and Helen Lynd undertook an unprecedented ethnography. Their goal was to apply sociological methods to the study of one United States city in order to discover what "ordinary" people did and believed. Choosing Muncie, Indiana (with a population of about 30,000) as their subject, they moved to the small town and lived there for eighteen months.

Before this project, ethnographers had been examining other cultures for decades. These studies typically focused on groups considered to be minorities or outsiders, such as gangs, immigrants, and the poor. No researcher had previously studied the so-called average American.

By recording interviews and using surveys to gather data, the Lynds did not sugarcoat or idealize life in the United States. They objectively stated what they observed. Through researching existing sources, they compared Muncie in 1890 to the Muncie they observed in 1924. They found that most adult residents had grown up on farms but now lived in homes inside the city. From that discovery, the Lynds focused their study on the impact of industrialization and urbanization.

The researchers observed that the workers of Muncie were divided into business-class and working-class groups. They defined the business class as dealing with abstract concepts and symbols, while working-class people used tools to create concrete objects. The two classes led different lives with different goals and hopes. However, the Lynds observed that mass production offered both classes the same amenities. Like wealthy families, the working class was now able to own radios, cars, washing machines, telephones, vacuum cleaners, and refrigerators. This represented a newly emerging economic and material reality of the 1920s.



A classroom in Muncie, Indiana, in 1917, five years before Robert and Helen Lynd began researching this "typical" U.S. community. (Photo courtesy of Don O'Brien/Flickr)

As the Lynds worked, they divided their manuscript into six sections: Getting a Living, Making a Home, Training the Young, Using Leisure, Engaging in Religious Practices, and Engaging in Community Activities. Each chapter included subsections, such as "The Long Arm of the Job" and "Why Do They Work So Hard?" within the "Getting a Living" chapter.

When the study was completed, the Lynds encountered a significant problem. The Rockefeller Foundation, which had commissioned the book, claimed it was useless and refused to publish it. The Lynds asked if they could seek a publisher themselves.

As it turned out, *Middletown: A Study in Modern American Culture* was not only published in 1929, but it also became an instant bestseller, a status unheard of for a sociological study at the time. The book sold out six printings in its first year of publication and has never gone out of print.

Nothing like it had ever been done before. *Middletown* was reviewed on the front page of the *New York Times*. Readers in the 1920s and 1930s identified with the citizens of Muncie, Indiana, but they were equally fascinated by the sociological methods and the use of scientific data to define ordinary people in the United States. The book served as definitive proof that social data were important, and interesting, to the general public.

2. Institutional Ethnography

Institutional ethnography is an extension of basic ethnographic research principles that focuses intentionally on everyday concrete social relationships. Developed originally by Canadian sociologist Dorothy E. Smith, institutional ethnography is often considered a feminist-inspired approach to social analysis. It primarily considers how individuals' everyday experiences are shaped by larger institutional power structures. Smith founded this subdiscipline to address the exclusion of women's lived realities in traditional sociological research, challenging methodologies that objectified subjects from a detached, often male-dominated perspective.

In modern research, institutional ethnography goes beyond merely observing local experiences; it seeks to make visible the ruling relations and coordinated sequences of social organization that govern everyday life. Contemporary scholars, such as Smith and Alison Griffith in *Simply Institutional Ethnography* (2022), emphasize key concepts like discourse, work, and texts to understand how institutional circuits dictate human behavior.

3. Case Study

A **case study** is an intensive investigation of a single unit, which could be an individual, a group, a community, an event, or an organization. Rather than aiming to generalize findings across a massive population, case study research seeks to provide a deep, contextualized understanding of the specific case in question.

Modern case study methodology requires rigorous design and analysis techniques. Robert K. Yin's extensively updated work, *Case Study Research and Applications: Design and Methods* (2018), outlines how case studies can be used for exploratory, descriptive, or explanatory research. This paradigm emphasizes the use of multiple sources of evidence, such as interviews, document analysis, and direct observation, to build a comprehensive picture of the case being studied. It is particularly useful for examining complex phenomena within their real-world context, such as how new organizational practices become routine or how community coalitions campaign for change.

4. Grounded Theory

Grounded theory is a systematic methodology in the social sciences involving the construction of theories through methodical gathering and analysis of data. Unlike other research paradigms that begin with a hypothesis to be tested, grounded theory begins with the data itself.

Researchers collect data and review it to identify repeating ideas, concepts, or elements, which are then coded into categories. As more data is collected and reviewed, these *codes* are grouped into concepts and concepts into broader categories, ultimately forming a new theory. Kathy Charmaz, a leading theorist in the field, modernized this approach with *Constructing Grounded Theory* (2024), which moves the paradigm away from its rigid positivist origins and incorporates constructivist perspectives. Charmaz emphasizes a reflexive practice where the researcher's interactions and interpretations actively shape the emergent theory, ensuring the analysis remains deeply grounded in the lived realities of the participants.

Key Takeaways

- **Ethnography:** Involves extended observation of the social perspective and cultural values of an entire social setting.
- **Institutional Ethnography:** Focuses on everyday concrete social relationships and how they are coordinated by ruling institutional structures.
- **Case Study:** Provides a complete portal to the world of a specific bounded unit, utilizing multiple sources of evidence for in-depth understanding.
- **Grounded Theory:** A method for constructing a theory directly from gathered data, often utilizing a constructivist and reflexive approach to social inquiry.

11: UNOBTRUSIVE RESEARCH

11.1: What Is It and When to Use It?

11.2: Pros and Cons of Unobtrusive Research

11.3: Content Analysis

11.4: Analyzing Existing Data

11.5: Reliability in Unobtrusive Research

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11.1: What Is It and When to Use It?

Learning Objectives

- **Define** unobtrusive research.
- **Define** historical comparative research.

Why Unobtrusive Research?

Are female and male athletes at the professional and college levels treated equally? You might think that with the passing of Title IX, the civil rights law that prohibits sex discrimination in education, including athletics, and with the growing visibility of women athletes in sports such as golf, basketball, hockey, and tennis, the answer would be an easy yes. However, an ongoing 30-year longitudinal unobtrusive research project led by sociologists Cheryl Cooky and Michael A. Messner shows otherwise. In their content analysis of televised sports news and highlights shows spanning from 1989 to 2019, Cooky, Council, Mears, and Messner (2021) found that despite the massive growth of women's sports, coverage remains dismally low. When a women's sports story does appear, it is usually a case of "one and done," meaning a single women's sports story is obscured by a cluster of longer men's stories that precede and follow it. Furthermore, their unobtrusive research reveals a shift toward "gender-bland sexism" in broadcasts, characterized by themes like asymmetrical gender marking and a lackluster tone compared to the excitement surrounding men's events.

Gender disparities are also evident in more recent forms of unobtrusive visual analysis. For example, a 2024 study examining Chinese Olympic athletes' self-presentation on the short-video platform Douyin found that self-presentation on social media is significantly influenced by gender and a power dynamic centered on athletic performance. Without unobtrusive research, it would be easy to assume that more has changed for women athletes over the past few decades than actually has.

This chapter explores unobtrusive methods of collecting data. **Unobtrusive research** refers to nonreactive methods of collecting data where researchers do not engage the people they study or interfere with the subjects, ensuring participants are not reacting to being studied. 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 being studied. It may seem strange that sociology, a discipline dedicated to understanding human social behavior, would employ a methodology that requires no interaction with human beings. However, humans create plenty of evidence of their behaviors. They write letters to the editor of their local paper, create various sources of entertainment for themselves such as movies and television shows, consume goods, walk on sidewalks, and lie on the grass in public parks. All these activities leave something behind, such as worn paths, trash, recorded shows, and printed papers. 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. **Comparative historical research** is a method of social science that examines historical events in order to create explanations that are valid beyond a particular time and place. Researchers achieve this by direct comparison to other historical events, theory building, or reference to the present day. While not all unobtrusive researchers necessarily conduct historical, comparative, or even some combination of historical and comparative work, unobtrusive methods are highly compatible with such studies. As a contemporary example, sociologist Leslie C. Gates (2023) used a comparative historical approach in her award-winning book *Capitalist Outsiders: Oil's Legacies in Mexico and Venezuela*. By examining the distinct histories of these two nations, Gates was able to explore how their respective oil sectors left varying legacies that shaped their political and economic trajectories over time. Not only do such works inform readers about the similarities and differences in past events, but they also offer sociological frameworks to understand current political and economic developments.

This chapter examines content analysis as well as the analysis of data collected by others. Both types of analysis have in common their use of data that do not require direct interaction with human subjects, but the particular type and source of data for each method differ. These similarities and differences are explored in the following sections, after an examination of the pros and cons of unobtrusive research methods.

Key Takeaways

- **Unobtrusive Research:** Nonreactive methods where researchers do not engage or interfere with subjects.
- **Comparative Historical Research:** Examines historical events to build theories or comparisons across times and places.

Exercises

1. **Brainstorming Unobtrusive Data:** What are some additional sources of unobtrusive data, aside from those already mentioned, that sociologists might take interest in examining?
2. **Designing a Comparative Study:** What locations might you like to compare in your own research? Are there changes that occur over time that you might be interested in exploring? Explain.

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11.2: Pros and Cons of Unobtrusive Research

Learning Objectives

- **Identify** the major strengths of unobtrusive research.
- **Identify** the major weaknesses of unobtrusive research.
- **Define** researcher bias.
- **Define** the Hawthorne effect.

As is true of the other methodological approaches examined in this text, unobtrusive research has a number of distinct strengths and several notable weaknesses.

Strengths of Unobtrusive Research

Researchers who seek evidence of what people *actually* do, as opposed to what they *say* they do (as is often the case in survey and interview research), might strongly consider using unobtrusive methods. Field researchers may also claim this advantage over interview and survey research, but field researchers cannot be entirely certain about what effect their physical presence in the field may have on the people and the interactions they observe.

While unobtrusive research projects face the risk of introducing **researcher bias**, which occurs when a researcher's personal beliefs, expectations, or subjective interpretations unintentionally influence the study's design or data analysis, researchers employing unobtrusive methods do not need to be concerned about the effect of their physical presence on their subjects. This phenomenon, known as the **Hawthorne effect**, occurs when research subjects alter their behaviors simply because they know they are being studied. The absence of the Hawthorne effect is a major strength of unobtrusive research because the researcher does not interact directly with the research participants.

Another benefit of unobtrusive research is that it can be relatively low-cost compared to some of the other methods discussed previously. Because the "participants" are generally inanimate objects, documents, or digital archives as opposed to human beings, researchers can often access data without having to worry about compensating participants for their time, though traveling to specific archives or paying for database access can sometimes incur costs.

Unobtrusive research is also highly adaptable and forgiving. It is far easier to correct mistakes made during data collection when conducting unobtrusive research than when using interactive methods. Imagine, for example, realizing at the end of conducting 50 in-depth interviews that you accidentally omitted two critical questions from your interview guide. Your options are severely limited: re-interview all 50 participants, attempt to infer their answers based on other responses, reframe the entire research question, or scrap the project entirely. Obviously, none of these options is ideal. Similar problems arise if a mistake is made in survey research or field research, where the consequences of making an error during data collection can be disastrous. For an unobtrusive researcher, however, returning to the source of the data to gather more information or correct a problem in the original data collection is usually a straightforward process.

Finally, unobtrusive research is uniquely suited to studies that focus on processes that occur over long periods of time. While longitudinal surveys and long-term field observations are also suitable ways of gathering such information, they cannot examine processes that occurred decades or centuries before data collection began. Furthermore, unobtrusive methods do not rely on retrospective human accounts, which are highly subject to errors in memory.

In sum, the strengths of unobtrusive research include the following:

- There is no possibility for the Hawthorne effect.
- The method is generally cost-effective.

- It is easier to correct data collection mistakes compared to other methods.
- It is highly conducive to examining historical processes or events that occurred in the past without relying on human memory.

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 often analyze data that may have been created or gathered for purposes entirely different from the researcher's aims, problems of validity frequently arise. It may also be the case that data sources measuring exactly what 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 align with the data that is actually available to them.

Finally, it can be incredibly difficult in unobtrusive research projects to account for social context. In a field research project, for example, the researcher is able to directly observe the events that lead up to a specific occurrence and watch how people respond in real-time. In unobtrusive research, however, it can be difficult to ascertain *why* something occurred, even if the data provides a solid understanding of *what* occurred.

In sum, the weaknesses of unobtrusive research include the following:

- There are potential problems with validity because the data was often created for other purposes.
- The topics or questions that can be investigated are strictly limited by data availability.
- It can be difficult to see or account for the nuanced social context surrounding the data.

Key Takeaways

- **Cost and Adaptability:** Unobtrusive research is cost-effective and allows for easier correction of mistakes than interactive methods of data collection.
- **The Hawthorne Effect:** This effect, which occurs when research subjects alter their behaviors because they know they are being studied, is not a risk in unobtrusive research.
- **Inherent Limitations:** Weaknesses of unobtrusive research include potential problems with validity, limitations in data availability, and difficulty in accounting for social context.

Exercise

1. **Analyzing Pros and Cons:** What do you view as the most important strength and the most important weakness of unobtrusive research? Why?

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11.3: Content Analysis

Learning Objectives

- **Define** content analysis.
- **Describe** the kinds of texts that content analysts analyze.
- **Outline** the differences between manifest content and latent content.
- **Describe** code sheets and their purpose.

Content Analysis

Content analysis is a type of unobtrusive research that involves the study of human communications and visual representations. Another way to think of content analysis is as a way of studying texts and their meaning as well as artifacts and their meanings. Thus, the units of analysis here are social interactions and artifacts.

At its core, content analysis addresses the questions of "Who says what, to whom, why, how, and with what effect?" (Babbie, 2020).

The material that content analysts investigate includes such things as actual written copy (e.g., newspapers or letters) 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. The following table provides a few specific contemporary examples of the kinds of data that content analysts have examined in recent studies. Which of these sources of data might be of interest to you?

Table 11.1: Content Analysis Examples

Data	Research question	Study
Televised sports news and highlights	How has the quantity and quality of coverage for women's sports changed over a 30-year period?	Cheryl Cooky, LaToya D. Council, Ashley Mears, and Michael A. Messner, <i>One and done: The long eclipse of women's televised sports, 1989 to 2019</i> (2021)
Twitter/X posts	How was risk perception regarding COVID-19 communicated in the digital Twittersphere?	Alessandro Caliendo, Guido Anselmi, and Vincenzo Sturial, <i>Digital mixed content analysis for the study of digital platform social data: An illustration from the analysis of COVID-19 risk perception in the Italian Twittersphere</i> (2022)
Short-video social media (Douyin/TikTok)	How is visual self-presentation on social media influenced by gender and athletic performance among Olympic athletes?	Chuanlin Ning, Ruomu Miao, and Tianyi Wan, <i>Communicating via gold medal: Chinese Olympic athletes' visual self-presentation on the social media platform Douyin</i> (2024)
Disney animated films	Are there statistical differences in the gendered behaviors displayed by protagonists over time?	Lucy L. Clarke, Benjamin Hine, Dawn England, Poppy P. M. S. Flew, Ritaj Alzahri, Stepheni N. Juriansz, and Ma. J. B. C. Garcia, <i>The gendered behaviors displayed by Disney protagonists</i> (2024)

Data	Research question	Study
Magazine advertisements	How are varying degrees of masculinity and femininity portrayed in modern digital and print advertising?	Kathryn Graff, Sarah K. Murnen, and Amanda Krause, <i>Low-Cut Shirts and High-Heeled Shoes: Increased Sexualization Across Time in Magazine Depictions of Girls</i> (2013)

One thing you might notice about Table 11.1 is that the data sources represent primary sources. That is, they are original. Secondary sources, on the other hand, are those that have already been analyzed. Shulamit Reinharz offers a helpful way of distinguishing between these two types of sources in her methods text. She explains that while primary sources represent the "raw" materials of history, secondary sources are the "cooked" analyses of those materials (1992, p. 155). 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. While there are certainly instances of content analysis in which secondary sources are analyzed, it is much more common for content analysts to analyze primary 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 their conclusions or on the choices that were made in terms of how and in what ways to present the data. For example, a research team from Stanford University recently applied natural language processing tools to conduct a content analysis of United States history textbooks used in Texas (Dora-Laskey et al., 2020). Their aim was not to learn about historical facts, but rather to understand how secondary sources frame social meaning. They discovered that topics of formal politics heavily dominate the texts, while Latinx and Black people are rarely discussed or are described using language associated with low agency.

Sometimes students new to research methods struggle to grasp the difference between a content analysis of secondary sources and a review of literature. In 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. These sources are culled in a review of literature in order to arrive at some conclusion about our overall knowledge about a topic. Findings are generally taken at face value.

Conversely, 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, 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 studies." Perhaps a researcher wishes to know whether more men than women authors are published in the top-ranking journals in the discipline. The researcher could conduct a content analysis of different journals and count authors by gender (though this may be a tricky prospect if relying only on names to indicate gender). Or perhaps a researcher would like to learn whether or how various topics of investigation go in and out of style. They could investigate changes over time in topical coverage in various journals. In these latter two instances, the researcher is not aiming to summarize the content of the articles but instead is looking to learn something about how, why, or by whom particular articles came to be published.

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. For instance, to understand how modern controlling images are used to justify the tightening of immigration controls, sociologist Cayden Norman (2025) conducted a qualitative content analysis of articles from the Federation of American Immigration Reform, examining the underlying racialized and gendered narratives surrounding Latina immigrants.

Quantitative content analysis, on the other hand, involves assigning numerical values to raw data so that it can be analyzed using various statistical procedures. In a contemporary example, researchers conducted a quantitative content analysis of modern Black protest music responding to police violence during the Black Lives Matter movement (Peterson, 2025). By counting and analyzing the frequency of 50 publicly available song lyrics, the research identified recurring semiotic themes, such as victim naming, biblical allusion, storytelling, and repetition, demonstrating statistically how modern protest music bridges contemporary struggles with historical traditions

Sampling in Content Analysis

Typically content analysis uses probability sampling methods, which include all of the types discussed in the sampling chapter.

Analysis of Content Analysis

Once you have the material you would like to analyze, the next step is to figure out how you will analyze it. This step requires that you determine your procedures for coding, understand the difference between manifest and latent content, and understand how to identify patterns across your coded data.

While the coding procedures used for written documents obtained unobtrusively may resemble those used to code interview data, many sources of unobtrusive data differ dramatically from written documents or transcripts. What if your data are sculptures or worn paths, or perhaps kitchen utensils? The idea of conducting open coding and focused coding on these sources as you would for a written document sounds a little silly, not to mention impossible. So how do we begin to identify patterns across the sculptures or worn paths or utensils we wish to analyze? One option is to take field notes as we observe our data and then code patterns in those notes. Let's say, for example, that we would like to analyze kitchen utensils. Taking field notes might be a useful approach were we conducting observations of people actually using utensils in a documentary or on a television program. (Remember, if we are observing people in person, then our method is no longer unobtrusive).

If, rather than observing people in documentaries or television shows, our data include a collection of actual utensils, note-taking may not be the most effective way to record our observations. Instead, we could create a code sheet to record details about the utensils in our sample. A **code sheet**, sometimes referred to as a tally sheet in quantitative coding, is the instrument an unobtrusive researcher uses to record observations.

In the example of kitchen utensils, perhaps we are interested in how utensils have changed over time. If we had access to sales records for utensils over the past 50 years, we could analyze the top-selling utensil for each year. To do so, we would want to make some notes about each of the 50 utensils included in our sample. For each top-rated utensil, we might note its name, its purpose, and perhaps its price in current dollar amounts. We might also want to make some assessment about how easy or difficult it is to use or some other qualitative assessment about the utensil and its use or purpose. To rate the difficulty of use, we could use a 1 to 5 scale, with 1 being very easy to use and 5 being very difficult to use. We could even record other notes or observations about the utensils that may not occur to us until we actually see the utensils. Our code sheet might look something like the sample shown in Table 11.2.

Table 11.2 Sample Code Sheet for Study of Kitchen Utensil Popularity Over Time

	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
Utensil name										
Utensil purpose										
Price (in current \$)										
Ease of use (1–5 scale)										
Other notes										

As you can see, our code sheet will contain both qualitative and quantitative data. Our "ease of use" rating is a quantitative assessment; we can therefore conduct some statistical analysis of the patterns here, perhaps noting the mean value on ease of use for each decade we have observed. We could do the same thing with the data collected in the row labeled Price, which is also quantitative. The final row of our sample code sheet, containing notes about our impressions of the utensils we observe, will contain qualitative data. We may conduct open and focused coding on these notes to identify patterns across those notes. In both cases, whether the data being coded are quantitative or qualitative, the aim is to identify patterns across the coded data.

The Purpose row in our sample code sheet provides an opportunity for assessing both manifest and latent content. **Manifest content** is the content we observe that is most apparent; it is the surface content. This is in contrast to **latent content**, which is less obvious. Latent content refers to the underlying meaning of the surface content we observe. In the example of utensil purpose, we might say a utensil's manifest content is the stated purpose of the utensil. The latent content would be our assessment of what it means that a utensil with a particular purpose is top-rated. Perhaps after coding the manifest content in this category, we see some patterns that tell us something about the meanings of utensil purpose. Perhaps we conclude, based

on the meanings of top-rated utensils across five decades, that the shift from an emphasis on utensils designed to facilitate entertaining in the late 2010s to those designed to maximize efficiency and minimize time spent in the kitchen in the 2020s reflects a shift in how (and how much) people spend time in their homes.

A contemporary psychological study using machine learning and massive digital corpora offers an excellent updated example of the differences between manifest and latent content. In evaluating societal stereotypes over time, Charlesworth et al. (2024) studied how groups were discussed across large historical databases. They analyzed the *manifest structure* by looking at the actual, visible traits associated with specific groups on the surface of the text. Then, they analyzed the *latent structure* of those stereotypes by measuring the underlying meaning of the text, evaluating the average positivity, negativity, warmth, or competence hidden beneath those words.

Strengths and Weaknesses of Content Analysis

A major strength of this method is that it is very cheap to execute and relatively quick to do. It also allows you to study a process that is occurring over a long period of time. Also, since it is an unobtrusive measure, there are no subject impacts to consider. However, no method is perfect, and the biggest issue with this method is that it is limited to what information is recorded, which in and of itself can be biased.

Key Takeaways

- **Content Analysis:** The study of human communications, texts, and artifacts.
- **Manifest Content:** The surface-level, visible content of a text.
- **Latent Content:** The underlying meaning of the text.
- **Code Sheets:** Instruments used to standardize the coding process in content analysis.

Exercises

1. **Formulating a Question:** Identify a research question you could answer using unobtrusive research. State a testable hypothesis having to do with your research question. Identify at least two potential sources of data you might analyze to answer your research question and test your hypothesis.
2. **Developing a Code Sheet:** Create a code sheet for each of the two potential sources of data that you identified in the preceding exercise.

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11.4: Analyzing Existing Data

Learning Objectives

- **Name** at least two sources of publicly available quantitative data.
- **Name** at least two sources of publicly available qualitative 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 data 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. The [General Social Survey \(GSS\)](#) is one of the most commonly used sources of publicly available data among quantitative researchers. Data for the GSS have been collected regularly since 1972, thus offering social researchers the opportunity to investigate changes in the attitudes and beliefs of people in the United States over time. Questions on the GSS cover an extremely broad range of topics, from family life to political and religious beliefs to work experiences.

Other sources of quantitative data include [Add Health](#), a study that was initiated in 1994 to learn about the lives and behaviors of adolescents in the United States, and the [Wisconsin Longitudinal Study](#), a study that has, for over 60 years, surveyed 10,000 women and men who graduated from Wisconsin high schools in 1957. Another massive repository is the [Inter-university Consortium for Political and Social Research \(ICPSR\)](#), housed at the University of Michigan, which maintains an extensive archive of datasets across the social and behavioral sciences. Quantitative researchers interested in studying social processes outside of the United States also have many options when it comes to publicly available data sets. Data from [Understanding Society](#) (which incorporated the former British Household Panel Study), a longitudinal, representative survey of households in the United Kingdom, are available to those conducting academic research. The [International Social Survey Programme \(ISSP\)](#) merges the GSS with its counterparts in other countries around the globe. These represent just a few of the many sources of publicly available quantitative data.

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. The [Qualitative Data Repository \(QDR\)](#) at Syracuse University is a dedicated archive for storing and sharing digital data generated or collected through qualitative and multi-method research in the social sciences. QDR curates and enables the download of various qualitative data, including interview transcripts, focus groups, field notes, and archival documents. The UK Data Service also provides [QualiBank](#), which serves as a principal repository for economic, population, and social research qualitative data in the United Kingdom.

The [Harvard Dataverse](#) offers case histories, qualitative interview data, and a secure open-source platform for sharing datasets. The [Global Feminisms](#) project at the University of Michigan offers open-access interview transcripts and videotaped oral histories focused on feminist activism, women's movements, and academic women's studies in countries around the world. At the University of Connecticut, the [Oral History Office](#) provides links to a number of other oral history sites. Not all the links offer publicly available data, but many do. Finally, the [Southern Historical Collection](#) at the University of North Carolina at Chapel Hill offers digital versions of many primary documents online, such as journals, letters, correspondence, and other papers that document the history and culture of the American South.

Keep in mind that the resources mentioned here represent just a snapshot of the many sources of publicly available data that can be easily accessed via the web. Table 11.3 summarizes the data sources discussed in this section.

Table 11.3 Sources of Publicly Available Data

Organizational Home	Focus/Topic	Data Type
Carolina Population Center	Add Health; longitudinal social, economic, psychological, and physical well-being of cohort in grades 7 to 12 in 1994	Quantitative

Organizational Home	Focus/Topic	Data Type
Center for Demography of Health and Aging	Wisconsin Longitudinal Study; life course study of cohorts who graduated from high school in 1957	Quantitative
Inter-university Consortium for Political and Social Research (ICPSR)	Extensive archive of datasets across the social and behavioral sciences	Quantitative and Qualitative
International Social Survey Programme	International data similar to the GSS	Quantitative
Harvard Dataverse	Large archive of written data, audio, and video focused on many topics	Quantitative and Qualitative
University of Michigan	Global Feminisms Project; interview transcripts and oral histories focused on feminist activism	Qualitative
Syracuse University	Qualitative Data Repository (QDR); archive for qualitative and multi-method social science data	Qualitative
UK Data Service	QualiBank; repository for economic, population, and social research data in the UK	Qualitative

While the public and free sharing of data has become increasingly common over the years and is an increasingly common requirement of those who fund research, there are potential dangers to making one's data available to all. For example, the education sector has seen massive vulnerabilities. In December 2024, PowerSchool, a provider of student information systems, experienced a data breach that compromised the records of over 62 million students and nearly 10 million teachers. This exposed highly sensitive information, such as Social Security numbers, medical records, and special education data. For millions of children, this information now circulates in underground markets and is increasingly used as inputs to train AI systems.

Similarly, higher education institutions remain targets for data extraction. In June 2026, the University of Nottingham confirmed a data breach after the hacker group ShinyHunters accessed a student record system and leaked files containing roughly 455,000 unique email addresses, passport numbers, and demographic details of students and alumni. Modern data privacy laws and institutional review boards now strictly govern how data is de-identified before public release, but the tension between open data access and participant privacy remains a central ethical concern for unobtrusive researchers.

Key Takeaways

- **Data Reusability:** Previously collected data sources enable researchers to conduct analysis without having to collect any of their own data.
- **Methodological Variety:** Some publicly available data sources are quantitative; others are qualitative.
- **Ethical Balance:** Researchers must balance the benefits of open data access with the ethical mandate to protect participant privacy.

11.5: Reliability in Unobtrusive Research

Learning Objectives

- **Define** stability and describe strategies for overcoming problems of stability.
- **Define** reproducibility and describe strategies for overcoming problems of reproducibility.
- **Define** accuracy and describe strategies for overcoming problems of accuracy.

Reliability in Unobtrusive Research

This final section of the chapter investigates a few particularities related to reliability in unobtrusive research projects that warrant our attention. These particularities have to do with how and by whom the coding of data occurs. As methodologist Klaus Krippendorff (2022) explains, issues of stability, reproducibility, and accuracy all speak to the unique problems—and opportunities—with establishing reliability in unobtrusive research projects.

Stability refers to the tendency for coders to consistently re-code the same data in the same way over a period of time (Krippendorff, 2022). 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, is the tendency for a group of coders to classify category membership in the same way (Krippendorff, 2022). In qualitative research, an explicit intercoder reliability assessment can yield numerous benefits, including improving the systematicity, communicability, and transparency of the coding process (O'Connor & Joffe, 2020). 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 work together. For instance, a research team might share the responsibility for coding data by conducting their coding at the same time in the same room. Resolving ambiguities together through dialogue ensures that the team develops a shared understanding of how to code various bits of data, which ultimately helps convince diverse audiences of the trustworthiness of the final analysis (O'Connor & Joffe, 2020).

Finally, **accuracy** refers to the extent to which the classification of text corresponds to a standard or norm statistically (Columbia Public Health, 2023; Krippendorff, 2022). 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, but 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.

Key Takeaways

- **Stability:** Can become an issue in an unobtrusive research project when the results of coding by the same person vary across different time periods.
- **Reproducibility:** Has to do with multiple coders' results being the same for the same text (also known as intercoder reliability).
- **Accuracy:** Refers to the extent to which one's coding procedures correspond to some preexisting standard.

Exercise

Assessing Reliability: With a peer, create a code sheet that you can use to record instances of violence on the television program of your choice. Now, on your own, watch two or three episodes of that program, coding for instances of violence as you go along. Your peer should do the same. Finally, compare your code sheet to that of your peer. How similar were you in your coding? Where do your coding results differ, and why? Which issues of reliability may be relevant?

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12: Quantitative Analysis Descriptive Statistics

Learning Objectives

- **Describe** data coding, data entry, and handling missing data.
- **Define** a frequency distribution.
- **Define** the three measures of central tendency.
- **Discuss** dispersion.
- **Differentiate** between univariate and bivariate data.

Introduction

Numeric data collected in a research project can be analyzed quantitatively using statistical tools in two different ways. **Descriptive analysis** refers to statistically describing, aggregating, and presenting the constructs of interest or associations between these constructs. **Inferential analysis** refers to the statistical testing of hypotheses (theory testing). In this chapter, we will examine statistical techniques used for descriptive analysis, and the next chapter will examine statistical techniques for inferential analysis. Much of today's quantitative data analysis is conducted using robust software programs such as SPSS, SAS, or increasingly popular open-source programming languages like R and Python. Readers are advised to familiarize themselves with at least one of these tools for understanding and applying the concepts described in this chapter.

Data Preparation

In research projects, data may be collected from a variety of sources: mail-in surveys, digital questionnaires, interviews, pretest or posttest experimental data, observational data, and so forth. This data must be converted into a machine-readable, numeric format, such as in a spreadsheet or a text file, so that it can be analyzed by statistical software. Data preparation usually follows these steps:

Data Coding. Coding is the process of converting data into numeric format. A *codebook* should be created to guide the coding process. A codebook is a comprehensive document containing a detailed description of each variable in a research study, items or measures for that variable, the format of each item (numeric, text, etc.), the response scale for each item (i.e., whether it is measured on a nominal, ordinal, interval, or ratio scale), and how to code each value into a numeric format. For instance, if we have a measurement item on a seven-point Likert scale with anchors ranging from “strongly disagree” to “strongly agree,” we may code that item as 1 for strongly disagree, 4 for neutral, and 7 for strongly agree. Nominal data such as industry type can be coded in numeric form (e.g., 1 for manufacturing, 2 for retailing), though nominal data cannot be analyzed as a continuous statistic. Coding is especially important for large complex studies involving many variables to help the coding team maintain consistency. Today, digital survey platforms (like Google Forms) often automatically code data based on pre-set parameters, drastically reducing manual coding errors.

Data Entry. Coded data can be entered into a spreadsheet, database, text file, or directly into a statistical program. Most statistical programs provide a data editor for entering data. However, these programs store data in their own native format (e.g., SPSS stores data as .sav files), which makes it difficult to share that data with other statistical programs. Hence, it is often better to enter data into a universally readable spreadsheet (like a .csv file) or database, where they can be reorganized as needed and shared across programs. The entered data should be frequently checked for accuracy via occasional spot checks. Furthermore, the coder should watch out for obvious evidence of bad data, such as a respondent selecting “strongly agree” for all items without reading them. Such “straight-lining” data should be excluded from subsequent analysis.

Missing Values. Missing data is an inevitable part of any empirical data set. Respondents may not answer certain questions if they are ambiguously worded or too sensitive. During data analysis, the default mode of handling missing values in most software programs is to simply drop the entire observation containing even a single missing value, a technique called “*listwise*”

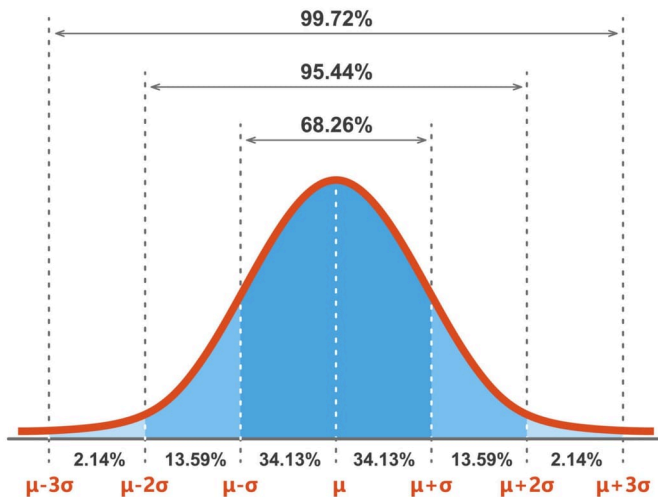
deletion." Because such deletion can significantly shrink the sample size and make it extremely difficult to detect small effects, researchers often use *imputation* to replace missing values with an estimated value. While simple mean substitution (averaging the remaining responses) was once popular, modern researchers typically rely on more robust, unbiased estimates like maximum likelihood procedures, k-Nearest Neighbors (kNN) imputation, or multiple imputation methods, which are supported in modern software programs like R, Python, and SPSS.

Univariate Analysis

Univariate analysis, or analysis of a single variable, refers to a set of statistical techniques that can describe the general properties of one variable. Univariate statistics include: (1) frequency distribution, (2) central tendency, and (3) dispersion.

The **frequency distribution** of a variable is a summary of the frequency (or percentages) of individual values or ranges of values for that variable. For instance, we can measure how many times a sample of respondents attend religious services using a categorical scale. If we count the percentage of observations within each category and display it as a bar chart, we have a visual frequency distribution .

With very large samples where observations are independent and random, the frequency distribution tends to follow a plot that looks like a bell-shaped curve, where most observations cluster toward the center of the range, and fewer observations fall toward the extreme ends. Such a curve is called a **normal distribution**. See the image below.



Central tendency is an estimate of the center of a distribution of values. There are three major estimates of central tendency: mean, median, and mode.

- The **arithmetic mean** (often simply called the "mean") is the simple average of all values in a given distribution.
- The **median** is the middle value within a sorted range of values in a distribution.
- The **mode** is the most frequently occurring value in a distribution of values. Note that any value that is estimated from a sample is called a *statistic*.

Dispersion refers to the way values are spread around the central tendency, for example, how tightly or how widely the values cluster around the mean. Two common measures of dispersion are the *range* (the difference between the highest and lowest values) and the *standard deviation*. Because the range is particularly sensitive to extreme outliers, researchers rely heavily on standard deviation, which corrects for outliers by taking into account how close or far each value is from the distribution mean.

Bivariate Analysis

Bivariate analysis examines how two variables are related to each other. The most common bivariate statistic is the **bivariate correlation** (often simply called “correlation” or Pearson's r), which is a number between -1 and +1 denoting the strength of the relationship between two variables.

Let's say that we wish to study how age is related to self-esteem in a sample of 20 respondents that is, as age increases, does self-esteem increase, decrease, or remain unchanged?

- If self-esteem increases as age increases, we have a **positive correlation**.
- If self-esteem decreases as age increases, we have a **negative correlation**.
- If age has no systematic bearing on self-esteem, we have a **zero correlation**.

To calculate the value of this correlation, consider a hypothetical dataset where Age is a ratio-scale variable and Self-Esteem is an average score computed from a multi-item scale measured using a 7-point Likert scale (ranging from “strongly disagree” to “strongly agree”).

When plotted on a scatter plot (with self-esteem on the vertical y -axis and age on the horizontal x -axis), the visual shape of the data points reveals the relationship. A plot that roughly resembles an upward-sloping line indicates a positive correlation. If the two variables were negatively correlated, the scatter plot would slope downward. If the two variables were uncorrelated, the scatter plot would approximate a horizontal line, implying no systematic relationship.

Hypothesis Testing for Correlation

After computing the bivariate correlation, researchers are often interested in knowing whether the correlation is statistically significant (i.e., a real relationship) or caused by mere chance. Answering such a question requires testing the following hypotheses:

- **$H_0: r = 0$** (Null Hypothesis)
- **$H_1: r \text{ not equal } 0$** (Alternative Hypothesis)

H_0 is called the **null hypothesis**, and H_1 is called the **alternative hypothesis** (sometimes represented as H_a). Although they may seem like two separate hypotheses, they actually represent a single framework since they are direct opposites. We are ultimately interested in testing H_1 . Note that this specific H_1 is a *non-directional hypothesis* since it does not specify whether r is greater than or less than zero. A *directional hypothesis* would be specified as $H_0: r \text{ equal to or less than } 0$ and $H_1: r > 0$ (if we were specifically testing for a positive correlation). Significance testing of a directional hypothesis is done using a one-tailed t -test, while a non-directional hypothesis utilizes a two-tailed t -test.

In statistical testing, the alternative hypothesis cannot be tested directly. Rather, it is tested indirectly by rejecting the null hypothesis with a certain level of probability. Statistical testing is always probabilistic because we can never be absolutely sure if our inferences based on sample data apply perfectly to the entire population.

- **p-value:** The probability that a statistical inference is caused by pure chance.
- **Significance level (alpha):** The maximum level of risk we are willing to take that our inference is incorrect (typically set to 0.05).

A p -value less than $\alpha = 0.05$ indicates that we have enough statistical evidence to reject the null hypothesis, thereby indirectly accepting the alternative hypothesis. If $p > 0.05$, we do not have adequate statistical evidence to reject the null hypothesis.

The easiest way to test this is to look up the **critical value** of r from statistical tables (though most software programs perform this significance testing automatically). The critical value depends on the desired significance level ($\alpha = 0.05$), the degrees of freedom (df), and whether the test is one-tailed or two-tailed. The degrees of freedom equal $n - 2$. For our sample of 20, $df = 20 - 2 = 18$.

In a standard two-tailed table, the critical value of r for $\alpha = 0.05$ and $df = 18$ is 0.44. For a computed correlation to be

significant, its absolute value must be larger than the critical value (greater than 0.44 or less than -0.44). If our computed correlation was 0.79, we would conclude that there is a significant positive correlation between age and self-esteem in our dataset. The odds are less than 5% that this correlation is a chance occurrence, allowing us to reject the null hypothesis.

Correlation Matrices

Most research studies involve more than two variables. If there are n variables, we will have a total of $n(n-1)/2$ possible correlations between them. Such correlations are easily computed using a software program like SPSS and represented using a **correlation matrix**.

A correlation matrix lists the variable names along the first row and the first column, depicting bivariate correlations between pairs in the intersecting cells. The values along the principal diagonal (from the top left to the bottom right) are always 1.00 because a variable is always perfectly correlated with itself. Because correlations are non-directional, the correlation between V1 and V2 is identical to V2 and V1. Therefore, the lower triangular matrix is a mirror reflection of the upper triangular matrix, and researchers often only display the lower half for simplicity. When these correlations involve interval or ratio scale variables, they are specifically called **Pearson product-moment correlations**.

Cross-Tabulation and Chi-Square

Another useful way of presenting bivariate data is **cross-tabulation** (often abbreviated to cross-tab, and formally known as a contingency table). A cross-tab describes the frequency or percentage of all combinations of two or more nominal or categorical variables.

As an example, let us assume we observed the Gender (nominal: Male/Female) and Letter Grade (categorical: A, B, C) of 20 students. A simple 2x3 cross-tabulation matrix displays the joint distribution to help us see if grades are equally distributed across gender:

Table 13.3: Example of Cross-Tab Analysis

Gender	Grade A	Grade B	Grade C	Marginal Row Total
Male	1	6	3	10
Female	4	5	1	10
Marginal Col Total	5	11	4	Total = 20

Note: The last row and the last column are called "marginal totals" because they indicate the totals across each category displayed along the margins of the table.

Although we can see a distinct pattern in the distribution—female students lean toward A grades, while male students lean toward C grades—is this pattern statistically significant? Do these frequency counts differ from what might be expected by pure chance?

To answer this, we compute the **expected count** for each cell by multiplying the marginal column total by the marginal row total and dividing by the grand total. For example, for the Male/A Grade cell:

- Expected count = $(5 \times 10) / 20 = 2.5$

We expected 2.5 male students to receive an A grade by pure chance, but in reality, only 1 male student received an A. We test whether the overall difference between expected and actual counts across all cells is significant using a **chi-square (χ^2) test**.

The chi-square statistic computes the average difference between observed and expected counts across the entire matrix. We then compare this computed number to a critical value based on our desired probability level ($p < 0.05$) and the degrees of freedom. For a cross-tab, $df = (rows - 1) \times (columns - 1)$.

- In this 2x3 table: $df = (2 - 1) \times (3 - 1) = 2$.

According to standard chi-square tables, the critical value for $p = 0.05$ and $df = 2$ is 5.99. If our computed chi-square value based on the observed data is 1.00 (which is less than 5.99), we fail to reject the null hypothesis. We must conclude that the observed

grade pattern is not statistically different from a pattern that could occur by pure chance.

Key Takeaways

- **Data Handling:** Understanding how to accurately code, enter, and handle missing data (via techniques like multiple imputation) is critical before statistical analysis begins.
- **Univariate Analysis:** Methods like frequency distributions, measures of central tendency (mean, median, mode), and dispersion (standard deviation) are useful for describing the properties of a single variable.
- **Bivariate Analysis:** Techniques like correlation and cross-tabulation compare two variables and are essential for exploring relationships, significance, and potential causation.

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13: QUALITATIVE ANALYSIS

13.1: Analysis Strategies

13.2: Computer Programs for Qualitative Analysis

13.1: Analysis Strategies

Learning Objectives

- **Define** ethnomethodology and describe its purpose.
- **Define** and describe conversation analysis.
- **Define** grounded theory and describe each of the 3 major coding methods.

Introduction

Qualitative analysis is the analysis of qualitative data such as text data from interview transcripts. Unlike quantitative analysis, which is statistics-driven and largely independent of the researcher, qualitative analysis is heavily dependent on the researcher's analytic and integrative skills and personal knowledge of the social context where the data is collected. The emphasis in qualitative analysis is "sense-making" or understanding a phenomenon, rather than predicting or explaining. A creative and investigative mindset is needed for qualitative analysis, based on an ethically enlightened and participant-in-context attitude and a set of analytic strategies. This chapter provides a brief overview of some of these qualitative analysis strategies.

Analysis Strategies

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.

1. Ethnomethodology

Ethnomethodology refers to the study of everyday reality. Rather than assume that the purpose of social science is to understand some objective reality, ethnomethodologists investigate how people construct, prolong, and maintain their realities. The term *ethnomethodology* was coined by sociologist Harold Garfinkel (1967), who was a sociologist who delved into the minutiae of everyday life. 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. Few initiatives in sociological theory have resulted in a wider range of innovative research than Garfinkel's foundational studies, which demonstrate the organization of details in social life and their consequences for social order.

Recent applications of ethnomethodology continue to explore how individuals reproduce social categories and power dynamics in everyday settings. For example, sociologist C.J. Pascoe's (2023) research delves deep into the social worlds of teachers, students, parents, and administrators at an American high school. Pascoe explores how an everyday "regime of kindness" actually fails to address deep-seated inequalities, contributing instead to a shallow cultural environment. Similarly, Brandon Folse (2024) published an action research study examining the increasing ubiquity of "gamification" in everyday life, focusing on its normalization as a motivational tool.

2. Conversation Analysis

Conversation analysis (CA) grew out of ethnomethodology and thus shares its focus on the construction of reality as opposed to the discovery of reality. Conversation analysts focus specifically on talk in interaction: how talk progresses, how it is facilitated or impeded, how turns are taken in talk, and how these processes both shape and are shaped by social context. In conversation analysis, the basic unit of analysis is the turn-at-talk. Turns form sequences and are designed to accomplish specific social actions, revealing the orderly, publicly observable structure of social life.

CA treats language not as an abstract system but as a resource for social action, where meaning is collaboratively produced in real time. Contemporary applications of conversation analysis have expanded significantly. For example, Thompson et al. (2024) utilized conversation analysis to inform empirically driven communication interventions in medical and health-focused

research designs. Another recent study advocates for advancing CA in sport and exercise sciences to develop evidence-based interventions and communication training, highlighting how everyday interaction impacts athletic and psychological outcomes.

3. Grounded Theory

Grounded theory is an inductive qualitative research methodology used to develop theory directly from systematically collected and analyzed data. Unlike traditional research approaches that prioritize testing pre-existing hypotheses, grounded theory focuses on building understanding directly from the data. Data collection and analysis occur in overlapping, iterative cycles. Researchers utilizing grounded theory engage in four distinct stages of ongoing analysis: codes, concepts, categories, and theory. While traditional social studies prioritize the validity of findings, a grounded theory is uniquely judged by its fit, relevance, workability, and modifiability.

The grounded theory approach requires that researchers suspend any preexisting theoretical expectations or biases before data analysis and let the data dictate the formulation of the theory. Strauss and Corbin further defined this into three primary coding techniques for analyzing text data:

- **Open Coding:** This is a process aimed at identifying concepts or key ideas that are hidden within textual data, which are potentially related to the phenomenon of interest. The researcher examines the raw textual data line by line to break the data down into discrete parts. Similar concepts are then grouped into higher-order categories to reduce the amount of data the researcher must work with and build a “big picture” of the issues salient to understanding a social phenomenon.
- **Axial Coding:** The second phase of grounded theory is axial coding, where the categories and subcategories are assembled into causal relationships or hypotheses that can tentatively explain the phenomenon of interest. Researchers may use a coding scheme to understand which categories represent conditions, actions/interactions, and consequences.
- **Selective Coding:** The third and final phase involves identifying a central category or a core variable and systematically and logically relating this central category to other categories. New data is selectively sampled to validate the central category and its relationships to other categories. Coding of new data and theory refinement continues iteratively until theoretical saturation is reached, meaning additional data no longer provides any new insights into the core categories.

Key Takeaways

- **Ethnomethodology:** Ethnomethodologists study everyday reality and how people produce those realities through their presentations of self and interactions with others.
- **Conversation Analysis:** Conversation analysts focus specifically on the dynamics of talk.
- **Grounded Theory:** Grounded theory provides important and systematic ways to code and analyze qualitative information.

13.2: Computer Programs for Qualitative Analysis

Learning Objectives

- **Describe** the computer programs used for qualitative analysis.
- **Discuss** the integration of artificial intelligence in qualitative software and the associated strengths and weaknesses.

Computer Programs Used for Qualitative Analysis

To help analyze qualitative data, standard Computer-Assisted Qualitative Data Analysis Software (CAQDAS) programs, such as [ATLAS.ti](#), [NVivo](#), and [QDA Miner](#), can be used to facilitate and automate coding processes. Traditionally, these programs helped researchers quickly and efficiently organize, search, sort, and process large volumes of text data using user-defined rules. To guide such automated analysis, a researcher creates a coding schema specifying the keywords or codes to search for in the text, based on an initial manual examination of sample data. The schema can be organized in a hierarchical manner to sort codes into higher-order constructs. The coding schema is then validated using a different sample of texts for accuracy and adequacy.

However, the landscape of CAQDAS has shifted significantly with the integration of generative Artificial Intelligence (AI) and Large Language Models (LLMs). Modern versions of programs like ATLAS.ti and NVivo now include AI-powered tools capable of automatic transcription, text summarization, and inductive coding. For instance, ATLAS.ti's "Intentional AI Coding" utilizes OpenAI's GPT models to process qualitative data and automatically suggest codes tailored to the researcher's specific prompts and research questions, accelerating the initial open coding process. NVivo similarly incorporates AI assistants for automatic text and document summarization, allowing researchers to rapidly identify broad themes across massive datasets.

Despite these advancements, relying heavily on software and AI for qualitative analysis comes with distinct weaknesses.

- **Lack of Context and Nuance:** AI can detect surface-level similarities, but it frequently misinterprets nuance, tone, irony, slang, and metaphorical language. Software programs, even advanced AI, often struggle to place statements within the lived contexts of participants, potentially overlooking the subtleties of human communication.
- **Methodological Transparency (The "Black Box"):** LLMs often operate as black boxes, generating outputs without showing exactly how interpretations were derived. AI cannot document its assumptions, explain its decision pathways, or engage in the reflexive reasoning required to ensure validity and rigor in qualitative studies.
- **Data Privacy and Ethics:** Utilizing cloud-based AI tools introduces strict data governance concerns. Researchers must carefully manage whether sensitive participant data is submitted to external servers for processing and ensure they are utilizing privacy and offline modes when necessary.
- **Overemphasis on Coding Volume:** AI features can privilege rapid, high-volume coding and pattern analysis over deep, meaning-making interpretation, which may lead to fracturing the data.

While AI can speed up the analysis process and reduce the tedium of manual coding, a good qualitative analysis ultimately relies on a creative, investigative human researcher to interpret the deeper meanings of the social context.

Key Takeaways

- **CAQDAS:** Programs like NVivo and ATLAS.ti efficiently organize and manage large volumes of qualitative text data.
- **AI Integration:** Modern software features generative AI to assist with rapid transcription, summarization, and initial open coding.
- **Weaknesses:** AI tools lack human contextual understanding, operate without methodological transparency, and carry potential data privacy risks.

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14: Ethics in Social Research

Learning Objectives

- **Define** ethics.
- **Describe** the tenets of ethics in research.
- **Discuss** the purpose of the IRB and professional ethics codes.
- **Give an example** of an ethical controversy.

Introduction

Ethics is the conformance to the standards of conduct of a given profession or group. Such standards are often defined at a disciplinary level through a professional code of conduct and sometimes enforced by university committees called Institutional Review Boards. Even if not explicitly specified, scientists are still expected to be aware of and abide by general agreements shared by the scientific community on what constitutes acceptable and non-acceptable behaviors in the professional conduct of science. For instance, scientists should not manipulate their data collection, analysis, and interpretation procedures in a way that contradicts the principles of science or the scientific method or advances their personal agenda.

Why is research ethics more critical today than ever before? Because the digital age has blurred the lines between "public" and "private" data. Researchers now have access to massive amounts of data from social media platforms, search engines, and tracking software, which can be manipulated in ways that violate human rights and privacy.

A prominent modern example of this occurred in 2014 when Facebook (now Meta) and academic researchers conducted a large-scale **"Emotional Contagion" study**. Without the explicit, informed consent of nearly 700,000 users, the company manipulated the algorithms of those users' news feeds to see if exposing them to more positive or negative posts would influence their own emotional state. While the researchers argued this was a natural extension of existing user agreements, the study sparked a massive global backlash regarding the ethical responsibility of researchers and tech corporations when experimenting on unsuspecting human subjects. You can read more about this controversy and the ongoing debate in the *New York Times* report, **"Facebook Tinkers With Users' Emotions in News Feed Experiment, Stirring Outcry."**

Ethics is the moral distinction between right and wrong, and it is important to remember that **what is unethical is not necessarily illegal**. If a researcher's conduct falls into the "gray zone" between ethics and law, they may not be legally culpable, but they risk being ostracized by the professional community, losing their research funding, and causing irreparable damage to their professional reputation. These ethical norms may vary across cultures.

Ethical Principles in Scientific Research

Some of the expected tenets of ethical behavior that are widely accepted within the scientific community are as follows:

1. Voluntary Participation and Harmlessness

Subjects in a research project must be aware that their participation in the study is voluntary, that they have the freedom to withdraw from the study at any time without any unfavorable consequences, and that they are not harmed as a result of their participation or non-participation in the project.

Historical violations of this principle have led to the strict guidelines we have today:

- **Nazi Medical Experiments:** Forced medical experiments conducted by Nazi researchers on prisoners of war during World War II, as documented in the post-War Nuremberg Trials (originating the term "crimes against humanity").
- **Tuskegee Syphilis Experiments:** Conducted by the U.S. Public Health Service during 1932-1972, nearly 400 impoverished African-American men suffering from syphilis were denied treatment even after penicillin was accepted as an effective cure.

Subjects were instead presented with false treatments, such as spinal taps.

- **Stanford Prison Experiment:** In 1971, psychologist Philip Zimbardo recruited Stanford students and randomly assigned them to roles as prisoners or guards. When it became evident that student prisoners were suffering psychological damage as a result of their mock incarceration and student guards were exhibiting sadism, the experiment was terminated.

Today, all participants must receive and sign an **informed consent** form that clearly describes their right to not participate and their right to withdraw before their responses in the study can be recorded. In a medical study, this form must also specify any possible risks. For subjects under the age of 18, this form must be signed by their parent or legal guardian.

2. Anonymity and Confidentiality

To protect subjects' interests and future well-being, their identity must be protected in a scientific study. This is done using the dual principles of anonymity and confidentiality.

Protection	Definition	Example	Legal Standing
Anonymity	The researcher (or readers) cannot identify a given response with a specific respondent.	A mail survey with no tracking identification numbers.	Maximum protection; insulated from law enforcement tracking.
Confidentiality	The researcher <i>can</i> identify a person's responses but promises not to divulge that person's identity publicly.	Face-to-face interviews; longitudinal field surveys requiring matched data.	Weaker protection; data can potentially be subpoenaed by courts.

The Modern Limits of Confidentiality

It is a common misconception that research data is protected by "privileged communication" in the same way as doctor-patient or attorney-client interactions. In reality, modern digital research is increasingly vulnerable to external demands for data.

- **The Rise of Administrative Subpoenas:** Unlike traditional court-ordered warrants that require judicial oversight, **administrative subpoenas** are issued directly by government agencies. According to a 2025 report, major social media platforms now disclose user data in up to 82% of government requests. If a sociologist conducts research using digital platforms or SaaS tools (like Google Workspace), that data may be accessible to third parties, and recent legal precedents emphasize that using these "intermediary tools" can weaken claims of privacy or privilege.
- **The Digital Surveillance Risk:** Today, researchers often mine "publicly available" social media data. However, there is a stark disconnect between users' expectations of privacy and the reality of data collection. As documented in a 2024 study on the re-identification of social media data, even when datasets are "de-identified," the risk of re-identification is high because geolocation data or cross-platform activity can be combined to identify individuals.
- **Historical and Ongoing Precedents:** The vulnerability of research data is not new but has intensified. In 1993, researchers like Rik Scarce faced jail time for refusing to divulge confidential sources, and the 1991 *Exxon Valdez* case demonstrated that even guaranteed confidentiality can be overturned by court subpoena.

For a deeper look at how government data access is expanding and the challenges it poses to privacy, you can review this reporting: [From Criticism to Subpoena: Platforms Hand Over User Data to DHS as Government Access Expands](#).

Protecting Participants Today:

To mitigate these risks, researchers are encouraged to:

- **Apply De-identification:** Minimize the collection of PII (Personally Identifiable Information) and destroy identifiers as soon as they are no longer necessary.
- **Use Certificates of Confidentiality:** For sensitive research (e.g., criminal behavior, substance abuse), researchers should apply for a *Certificate of Confidentiality* from the NIH or other federal bodies, which provides legal protection against the compelled disclosure of identifiable research information.

- **Assume "Public" is Not "Anonymous":** Treat all online user-generated data as private, even when it is technically "publicly accessible" on social media platforms.

3. Disclosure

Usually, researchers have an obligation to provide some information about their study to potential subjects before data collection (e.g., who is conducting the study, its purpose, and expected outcomes). However, in some cases, disclosing such information may potentially bias subjects' responses.

If a study's true purpose cannot be revealed beforehand (such as in an experiment testing "groupthink"), it must be fully revealed in a **debriefing** session immediately following the data collection process, along with a list of potential risks or harm borne by the participant.

4. Analysis and Reporting

Researchers also have ethical obligations to the scientific community regarding how data is analyzed and reported.

- **Full Disclosure:** Unexpected or negative findings should be fully disclosed, even if they cast doubt on the research design.
- **Honesty in Design:** It is unethical to present findings discovered by chance as the product of deliberate design. Hypotheses should not be designed *after* the fact based on the results of data analysis.
- **Data Integrity:** It is unethical to "carve" data into different segments to falsely prove hypotheses or to generate multiple papers claiming different data sets.

Science progresses through openness and honesty, and researchers best serve the scientific community by fully disclosing the problems with their research so others can learn from them.

Institutional Review Boards (IRB)

Research ethics in studies involving human subjects is governed in the United States by federal law. Any agency (like a university or hospital) that applies for federal funding to support its research must establish that it is in compliance with federal laws governing the rights and protection of human subjects.

This process is overseen by a panel of experts called an **Institutional Review Board (IRB)**. The IRB reviews all research proposals involving human subjects to ensure that the principles of voluntary participation, harmlessness, anonymity, and confidentiality are preserved and that risks are minimal.

The IRB approval process requires completing a structured application providing complete information about the research project, the researchers (principal investigators), and details on how the subjects' rights will be protected. Data collection can commence only after the project is cleared by the IRB review committee.

Professional Code of Ethics

Most professional associations of researchers have established formal codes of conduct describing acceptable and unacceptable professional behavior. For example, the **Association of Information Systems (AIS)** code of conduct groups ethical violations into two categories:

- **Category I (Serious Transgressions):** Includes plagiarism and falsification of data or research procedures, which may lead to expulsion, dismissal from employment, and fatal damage to professional reputation.
- **Category II (Less Serious Transgressions):** Includes not respecting the rights of research subjects, misrepresenting the originality of projects, and using unpublished data without acknowledgment.

Though codes of ethics have not completely eliminated unethical behavior, they have helped clarify the boundaries of ethical behavior in the scientific community.

An Ethical Controversy: Humphreys' Tearoom Trade

Robert Allen “Laud” Humphreys is an American sociologist best known for his Ph.D. dissertation, *Tearoom Trade*, published in 1970. The book is an ethnographic account of anonymous male homosexual encounters in public toilets in parks, a practice known as “tea-rooming” in U.S. gay slang.

Humphreys was intrigued that the majority of participants were outwardly heterosexual men who lived conventional family lives. Typically, tearoom encounters involved three people: the two males engaging in a sexual act and a lookout person called a “watchqueen.” Because it was not otherwise possible to reach these subjects, Humphreys showed up at public toilets masquerading as a watch queen. As a participant observer, Humphreys was able to conduct field observations.

The Controversy: Humphreys needed more information on the participants. Because they were unwilling to be interviewed in the field, Humphreys secretly wrote down their license plate numbers and tracked down their names and addresses from public databases. He then visited these men at their homes, disguising himself to avoid recognition, announced he was conducting a public health survey, and collected personal data under false pretenses.

Humphreys’ research generated massive controversy:

- **Critics** argued he invaded others’ right to privacy, used extreme deceit, and put vulnerable men at risk by tracking their home addresses without informed consent.
- **Defenders** argued it was an important sociological phenomenon worth investigating, there was no other way to collect the data, and the deceit was harmless since Humphreys never publicly disclosed his subjects’ identities.

This controversy was never fully resolved and remains hotly debated in classes on research ethics today.

Key Takeaways

- **Ethics Defined:** Ethics involves conforming to professional standards of conduct to protect the integrity of science and the rights of human subjects, even when such actions are not strictly mandated by law.
- **Voluntary Participation & Consent:** Informed consent is the bedrock of research. Subjects must be fully aware of the study’s purpose and their right to withdraw at any time without negative consequences or coercion.
- **Anonymity vs. Confidentiality:** While anonymity provides the highest level of protection, confidentiality is often required for longitudinal or interview-based research. However, researchers must be transparent about the limits of confidentiality, as research data lacks “privileged communication” status in the U.S. legal system.
- **The Digital Reality:** In the modern era, the line between “public” and “private” data has blurred. Researchers must account for the risks of re-identification in large datasets and the increasing vulnerability of digital data to government administrative subpoenas.
- **Accountability:** Regulatory bodies like **Institutional Review Boards (IRBs)** and professional organizations like the **American Sociological Association (ASA)** serve as essential guardrails. They ensure that researchers prioritize human dignity, social responsibility, and scientific integrity over personal or corporate agendas.
- **Continuous Vigilance:** Research ethics is not a static set of rules but an ongoing obligation. As technology changes the ways we interact and share information, researchers must proactively adapt their methods to prevent harm and maintain public trust.

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