FOUNDATIONS FOR SOCIAL RESEARCH

1   SCIENCE, SOCIETY, AND SOCIAL RESEARCH

LEARNING OBJECTIVES

Upon completion of this chapter, the reader should be able to

1.1 Describe three common types of motivations for social research

1.2 Illustrate each of the four common errors involved in learning about the social world using a hypothetical example

1.3 List components of the scientific approach

1.4 Compare the four types of social research

1.5 Assess the strengths and limitations of social research

1.6 Contrast three pairs of alternatives in social research: positivism and postpositivism; quantitative methods and qualitative methods; and basic research and applied research

How do social connections through the Internet compare to those that are face-to-face? Are they as meaningful? As satisfying? As helpful? Have smartphones, the World Wide Web, and social media changed our social world for the better? Questions like this motivated a lot of social science research after the launch of the World Wide Web in 1991. Then in Spring 2020, COVID-19 swept across the globe and most normal social activities, including social science research, came to an abrupt halt. Unparalleled levels of illness and death ruptured social connections and redrew social divisions. We have all been changed.

We have also participated in an unanticipated experiment about online social connection. How did you manage? Did you live for weeks or months without any meaningful in-person contact with others, at least outside your immediate family or roommates? Did your Internet connections work well for you and those you wanted to be in touch with? Did your time online change your relations with others, whether you saw them in person or only online? How did your family members, friends, and neighbors manage?

That's where social researchers begin, with questions about the social world and a desire to answer them. What makes social research different from the ordinary process of thinking about our experiences is a focus on broader questions that involve people outside our immediate experience, questions about why things happen that we may not otherwise consider, and the use of systematic research methods to answer those questions. It's just as true now, as we reflect on the impact of the pandemic. Each of us has had many relevant personal experiences, ranging from feelings about social distancing and losing jobs or income to perceptions of others' behaviors and images of others' suffering. How widespread are our own feelings and how accurate are our perceptions? What has changed because of the pandemic, and what else influenced people during the pandemic? Social research methods help us to answer these bigger questions, challenge our preexisting assumptions, and develop more confidence in our answers. Social scientists think of the big picture, try not to neglect the details, strive to figure out how the pieces go together, and keep a record at each step.

And that's just for starters. In this chapter, I hope to convince you that the use of social science research methods to investigate questions about the social world results in knowledge that can be more important, more trustworthy, and more useful than only

relying on personal opinions, individual experiences, or someone's Twitter posts. You will also learn about the challenges that researchers confront and the standards to which they must adhere. By the chapter's end, you should know what is "scientific" in social science and appreciate how the methods of science can help us understand the problems of society.

LEARNING ABOUT THE SOCIAL WORLD

We can begin to get a sense of how sociologists and other social scientists investigate the social world by reviewing some questions that social researchers have asked about the Internet and social ties and the ways they have answered those questions before and during the pandemic.

1. *How connected are people to the Internet?* The Pew Research Center's surveys have found that Internet use in the United States has risen rapidly, from 52% of U.S. adults in 2000 to 93% in 2021 (Perrin and Atske 2021) (see Figure 1.1). By the end of March 2021, 65.6% of the total world population of 7,875,765,587 was connected in some way to the Internet—an increase of 1,332% since 2000. Across continents, the percentage connected ranged from highs of 93.9% in North America and 88.2% in Europe to 74.9% in the Middle East, 69.9% in Oceania and Australia, 63.8% in Asia and 43.2% in Africa (Internet World Stats 2021). These connections increased rapidly during the pandemic, with Internet usage rising by 40% or more and videoconferencing increasing ten times (De, Pandey, and Pal 2020). How did your own Internet usage change?

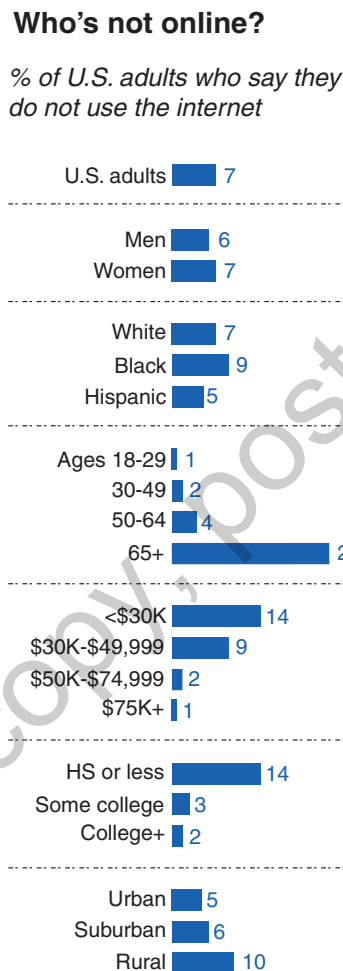| FIGURE 1.1 ■ Percentage of U.S. Adults Who Use the Internet, 2000–2021 |
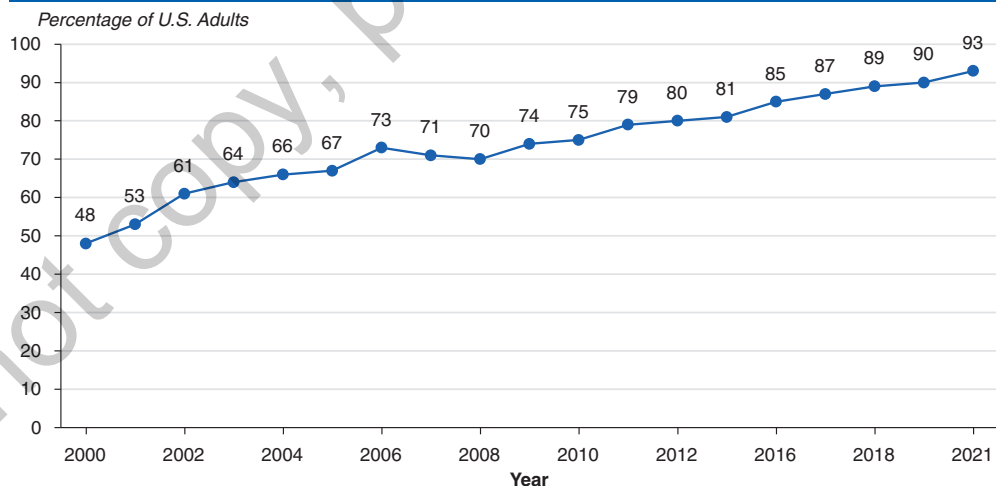
Source: "7% of Americans Don't Use the Internet. Who Are They?" Pew Research Center, Washington, DC (April 2, 2021) https://www.pewresearch.org/fact-tank/2021/04/02/7-of-americans-dont-use-the-Internet-who-are-they/ and "Americans' Internet Access: 2000–2015." Pew Research Center, Washington, DC. (June 26, 2015) http://www.pewInternet.org/2015/06/26/americans-Internet-access-2000-2015/.

2. *How does Internet use vary across social groups?* Pew's surveys have also revealed differences in Internet use between social groups. The percentage of U.S. adults who were not online in 2021 (7% overall) was similar between men and women, differed

only a bit by race, but varied markedly by age—from a low of 1% of those aged 18–29 to a high of 25% among those 65 or older. Internet use also varied by income, education, and location, with those in the lowest income and educational groups least likely to be online (Perrin and Atske 2021) (see Figure 1.2). How much variation have you observed across people with these different characteristics?

3. *How did the COVID-19 pandemic influence Internet use?* A large majority of U.S. adults said in April 2020 that the Internet was "essential" (53%) or at least "important"

FIGURE 1.2 ■ Percentage of Individuals Not Using Internet, by Personal Characteristics

Who's not online?

% of U.S. adults who say they do not use the internet

Category	%
U.S. adults	7
Men	6
Women	7
White	7
Black	9
Hispanic	5
Ages 18-29	1
30-49	2
50-64	4
65+	25
<$30K	14
$30K-$49,999	9
$50K-$74,999	2
$75K+	1
HS or less	14
Some college	3
College+	2
Urban	5
Suburban	6
Rural	10

Note: White and Black adults include those who report being only one race and are not Hispanic. Hispanics are of any race. Respondents who did not give an answer are not shown.
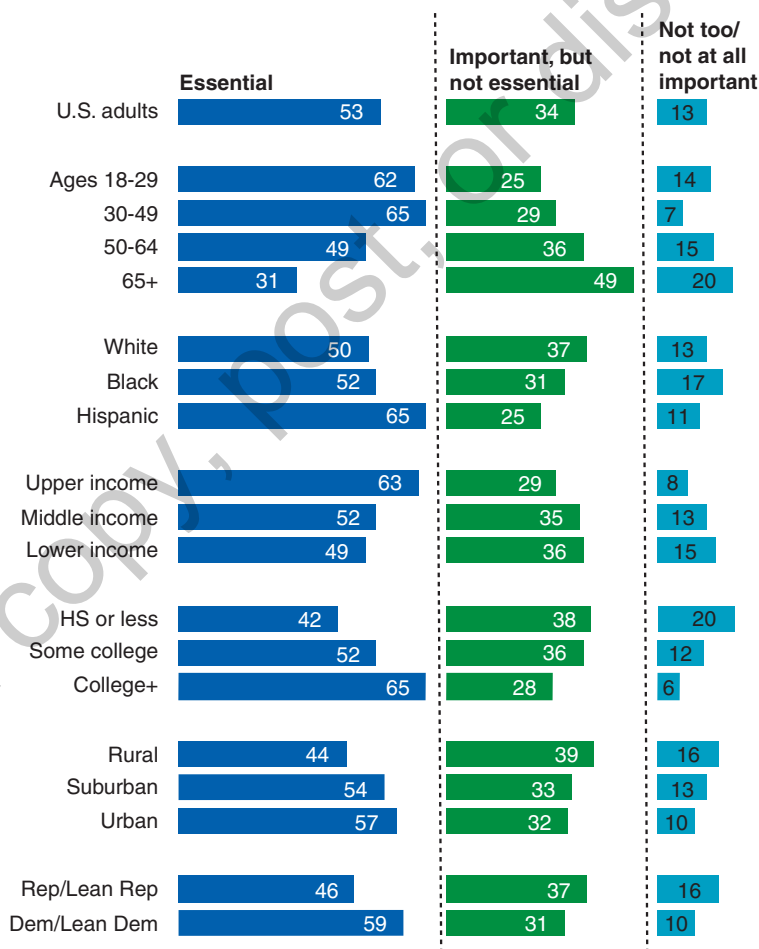
Source: "7% of Americans Don't Use the Internet. Who Are They?" Pew Research Center, Washington, DC (April 2, 2021) https://www.pewresearch.org/fact-tank/2021/04/02/7-of-americans-dont-use-the-internet-who-are-they/ and "Americans' Internet Access: 2000–2015." Pew Research Center, Washington, DC. (June 26, 2015) http://www.pewinternet.org/2015/06/26/americans-internet-access-2000-2015/.

(34%) to them during the pandemic. Adults under 50, Hispanics, those with high incomes and with a college education rated the Internet as more important to them during the pandemic compared to those older, not Hispanic, and having less education and income. Those in urban areas and those who identified more as Democratic also rated the Internet as more important than their counterparts (see Figure 1.3). Was the Internet essential for you during the pandemic?

FIGURE 1.3   ■   Importance of Internet During Pandemic by Social Characteristics

Hispanic adults, college graduates and adults under 50 are especially likely to say the internet has been essential during the coronavirus outbreak

% of U.S. adults who say the internet has been ___ for them personally during the coronavirus outbreak

	Essential	Important, but not essential	Not too/ not at all important
U.S. adults	53	34	13
Ages 18-29	62	25	14
30-49	65	29	7
50-64	49	36	15
65+	31	49	20
White	50	37	13
Black	52	31	17
Hispanic	65	25	11
Upper income	63	29	8
Middle income	52	35	13
Lower income	49	36	15
HS or less	42	38	20
Some college	52	36	12
College+	65	28	6
Rural	44	39	16
Suburban	54	33	13
Urban	57	32	10
Rep/Lean Rep	46	37	16
Dem/Lean Dem	59	31	10

Note: White and black adults include only those who are non-Hispanic. Hispanics are of any race. Family income tiers are based on adjusted 2018 earnings. Those who did not give an answer are not shown.

Source: Vogels, Emily, Andrew Perrin, Lee Rainie, and Monica Anderson. April 2020. "53% of Americans Say the Internet Has Been Essential During the COVID-19 Outbreak." Washington, DC: Pew Research Center.

4. *How well did online social connections substitute for in-person social interaction?* Chad E. Kee (2021) sought to answer this question by adding a research component to his graduate class in higher education leadership at Morgan State University in Baltimore. Systematic analysis of student reflection papers during the Spring 2020 semester identified five main themes, including "experiencing loss of power and control"—reflected in statements like, "In this new reality, work-life balance has become work-life integration and it's definitely harder for me to compartmentalize"—and "managing feelings of anxiety and fear"—as one student described it, "an overwhelming concern about how we are going to 'get back to normal,' and panic that we may not be able to." Sound familiar? The Pew Research Center (2020) found that younger adults and those with more education were much more likely to have had a social gathering online with friends or family during the pandemic than those who were 50 or above or had less than a college degree. Did you get together with friends or family online? How did that experience compare to in-person get-togethers before the pandemic?

Did your personal experiences lead you to expect different answers to these questions? You have just learned that younger people use the Internet more than do older people. Does this variability lead you to be cautious about using your own experience as a basis for estimating the behavior of others (#2)? Have you heard others say the Internet became essential for them during the pandemic? Is it safe to draw general conclusions from this anecdotal evidence (#3)? Have you observed differences in how satisfying electronic forms of communication have been to different people (#4)?

We cannot avoid asking questions about our complex social world or trying to make sense of our position in it. The more that you begin to "think like a social scientist," the more such questions will come to mind—and that's a good thing! But in our everyday reasoning about the social world our own prior experiences and orientations can have a major influence on what we perceive and how we interpret these perceptions. As a result, one person may see someone posting a message on Facebook as being typical of what's wrong with modern society, but another person may see the same individual as helping people "get connected" with others. We need to move beyond first impressions and gut reactions to more systematic methods of investigation.

Motives for Social Research

Similar to you, social scientists have friends and family, observe other persons' social ties, and try to make sense of what they experience and observe. For most, that's the end of it. But for some social scientists, the quality and impact of social ties has become a major research focus. What motivates selection of this or any other particular research focus? Usually, it's one or more of the following reasons:

- *Policy motivations.* Many government agencies, elected officials, and private organizations seek better descriptions of social ties in the modern world so they can identify unmet strains in communities, deficits in organizations, or marketing opportunities. Public health officials may need information for planning vaccination campaigns in different communities. Law enforcement agencies may seek to track the connections between criminal gangs and the effect of social cohesion on the crime rate. Military leaders may seek to strengthen unit cohesion. These policy guidance and program management needs can stimulate numerous

research projects. As Kathleen Cooper and Nancy Victory (2002) said in their foreword to a U.S. Department of Commerce report on the Census Bureau's survey of Internet use,

This information will be useful to a wide variety of policymakers and service providers. . . help all of us determine how we can reach Americans more effectively and take maximum advantage of the opportunities available through new information technologies. (p. iii)

● Academic *motivations.* Questions about changing social relations have stimulated much academic social science. More than one hundred years ago, Émile Durkheim (1951/1897) linked social processes stemming from urbanization and industrialization to a higher rate of suicide. More than fifty years ago, David Reisman (1969/1950) considered whether the growing role of the mass media, among other changes, was leading Americans to become a "lonely crowd." Similar to this earlier research, contemporary investigations of the effect of computers and the Internet are often motivated by a desire to understand influences on the strength and meaning of social bonds. Did online social connections during the pandemic perform the same functions as face-to-face social relationships (Schutt et al.)? The desire to understand better how the social world works is motivation enough for many social scientists (Hampton and Wellman 2001):

It is time to move from speculation to evidence. . . . The growth of computer-mediated communication (CMC) introduces a new means of social contact with the potential to affect many aspects of personal communities. . . . This article examines . . . how this technology affected contact and support. (pp. 477, 479)

● *Personal motivations.* Some social scientists who conduct research on social ties feel that by doing so they can help improve the quality of communities, the effectiveness of organizations, or the physical and mental health of many social groups. Social scientists may become interested in social ties as a result of exposure to problems in the social world or by watching the challenges their children face learning remotely or for many other reasons, including finding themselves without many friends after a career move. Can you imagine a college student, in later years, developing an interest in research on poverty in other countries as a result of a study abroad experience?

AVOIDING ERRORS IN REASONING ABOUT THE SOCIAL WORLD

How can we avoid errors rooted in the particularities of our own backgrounds and improve our reasoning about the social world? The pandemic exposed deep differences between people in perceptions about COVID-19's spread and in reasoning about its social implications. Charges of "fake news" and challenges of "expert authority" served as a constant reminder of how important it is to avoid errors and improve our reasoning. Let's begin by identifying the different processes involved in learning about the social world and the types of errors that can result as we reason about the social world.

When we learn about the social world, we engage in one or more of four processes: (1) *observing* through our five senses (seeing, hearing, feeling, tasting, or smelling); (2) *generalizing* from what we have observed to other times, places, or people; (3) *reasoning* about the connections between

different things we have observed; and (4) *reevaluating* our understanding of the social world on the basis of these processes. It is easy to make mistakes with each of these processes. It's also important to realize that we learn about the social world while we are participating in it. We often observe the social world indirectly, through images and actions we see in the media—ranging from Tweets to TV—and our generalizing, reasoning, and reevaluating always reflect the thoughts and feelings of others—ranging from those who have taught us in the past to those who seek to convince us in the present.

My favorite example of the errors in reasoning that occur in the nonscientific, unreflective discourse about the social world that we hear on a daily basis comes from a letter to famous advice columnist Ann Landers. The letter was written by someone who had just moved with her two cats from the city to a house in the country. In the city, she had not let her cats outside and felt guilty about confining them. When they arrived in the country, she threw her back door open. Her two cats cautiously went to the door and looked outside for a while, then returned to the living room and lay down. Her conclusion was that people shouldn't feel guilty about keeping their cats indoors—even when they have the chance, cats don't really want to play outside. Do you see this person's errors in her approach to:

- *Observing?* She observed the cats at the outside door only once.

- *Generalizing?* She observed only two cats, both of which previously were confined indoors.

- *Reasoning?* She assumed others feel guilty about keeping their cats indoors and that cats are motivated by feelings about opportunities to play.

- *Reevaluating?* She was quick to conclude that she had no need to change her approach to the cats.

You don't have to be a scientist or use sophisticated research techniques to avoid these four errors in reasoning. If you recognize these errors for what they are and make a conscious effort to avoid them, you can improve your own reasoning about the social world. In the process, you will also be implementing the admonishments of your parents (or minister, teacher, or any other adviser) to avoid stereotyping people, to avoid jumping to conclusions, and to look at the big picture. These are the same errors the methods of social science are designed to help us avoid. We need to need to follow the advice to think for ourselves, but we also have to be open to critical examination of our perceptions and thoughts.

Observing

One common mistake in learning about the social world is **selective observation**—choosing to only look at or listen to things that are in line with our preferences or beliefs. The disagreements during the early months of the pandemic over hydroxychloroquine as a preventive treatment provided striking examples of the problem.

In a May 2020 cabinet meeting, former president Trump was quoted as saying,

Hydroxychloroquine is used by thousands and thousands of front-line workers, so that hopefully they don't catch this horrible disease or whatever you want to call it.

But the American Medical Association reported that it "does not know of any tracking or surveys examining personal use of hydroxychloroquine among health workers." The American

Nurses Association said it "has not received reports from nurses or other front-line health care workers utilizing hydroxychloroquine as a preventative treatment for COVID-19." However, *The New York Times* (Qiu May 2020) story revealing these events also reported earlier in the year that some doctors had been taking and hoarding hydroxychloroquine before the Food and Drug Administration issued a warning about it and studies questioned its value. There were also thousands of health care and clinical workers participating in clinical trials to test the value of hydroxychloroquine.

So the former president's remarks seemed to represent observations selected to support his position rather than an attempt to observe all of the available evidence. The lesson is that if we acknowledge only the instances that confirm our predispositions, we are victims of our own selective observation.

Our observations can also simply be inaccurate. If, after a quick glance inside the local pharmacy, you think there are 14 persons waiting in the vaccine line, when there are actually 17, you have made an **inaccurate observation**. If you hear a speaker say that "for the oppressed, the flogging never really stops," when what she said was, "For the obsessed, the blogging never really stops" (Hafner 2004), you have made an inaccurate observation.

Tito's Vodka quickly corrected a claim made in someone's Tweet based on an inaccurate observation about the use of their product as a hand sanitizer (Figure 1.4). Partisan politicking has made such fact-checking a very big and very necessary business.

Such errors occur often in casual conversation and in everyday observation of the world around us. In fact, our perceptions do not provide a direct window onto the world around us, for what we think we have sensed is not necessarily what we have seen (or heard, smelled, felt, or tasted). Even when our senses are functioning fully, our minds have to interpret what we have sensed (Humphrey 1992). The optical illusion in Figure 1.5, which can be viewed as either two faces or a vase, should help you realize that perceptions involve interpretations. Different observers may perceive the same situation differently because they interpret it differently.


FIGURE 1.4 ■ Tito's Vodka Corrects a Tweet

Source: ©Twitter.com

FIGURE 1.5 ■ An Optical Illusion
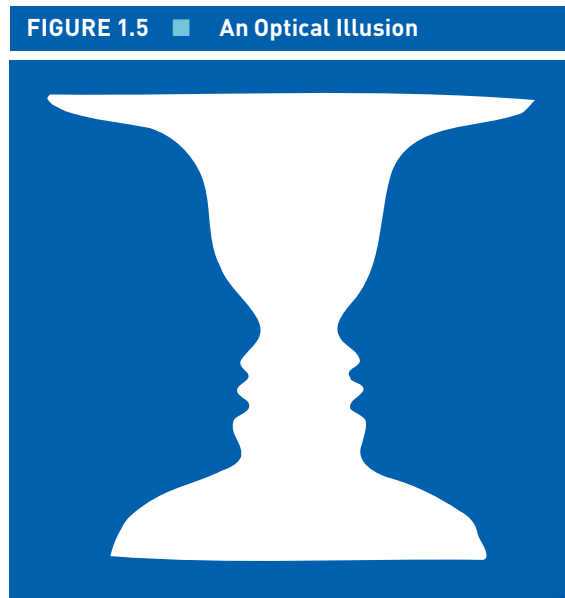
Generalizing

Overgeneralization occurs when we conclude that what we have observed or what we know to be true for some cases is true for many more or all cases (see Figure 1.6). We are always drawing conclusions about people and social processes from our own interactions with them and perceptions of them or based on information about a limited number of examples. Overgeneralization was part of the problem after the CDC identified 17 cases (ultimately, a total of 28) of potentially lethal blood clots among those who had received the Johnson & Johnson COVID-19 vaccine (Miller and Reuters 2021, "Johnson & Johnson vaccine linked to 28 cases of blood clots, CDC

FIGURE 1.6 ■ The Difference Between Selective Observation and Overgeneralization

Overgeneralization:
"Those people
are never satisfied."

Selective Observation:
"Those people
are never satisfied."
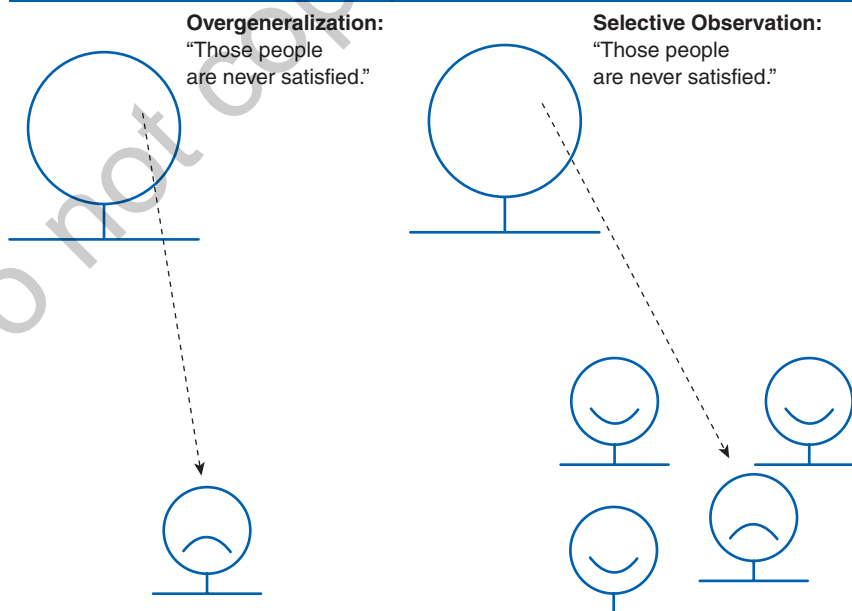
reports" [nbcnews.com]). Acceptance of the vaccine plummeted after this pause, even though more than 8 million people had received the vaccine without complications, which results in a tiny risk of 1.9 cases per million (Krieger May 2021, "The fall from grace for Johnson & Johnson's COVID-19 vaccine" [mercurynews.com]; MIT Medical May 2021, "J&J is a-ok". [| MIT Medical]). The fear that the harm might generalize to many others could not be easily dispelled.

Thanks to the Internet and social media, we can easily find many other examples of overgeneralization. Here's one posted by a frequent blogger who was called for jury duty (http://busblog. tonypierce.com/2005/06/yesterday-ihad-to-go-to-jury-duty-to.html, posted on June 17, 2005):

> yesterday i had to go to jury duty to perform my civil duty. *unlike most people* i enjoy jury duty because i find the whole legal process fascinating, especially when its unfolding right in front of you and you get to help decide yay or nay.

Do you know what the majority of people think about jury duty? According to a Harris Poll, 75% of Americans consider jury service to be a privilege (Grey 2005), so the blogger's generalization about "most people" is not correct. Do you ever find yourself making a quick overgeneralization like that?

Reasoning

When we prematurely jump to conclusions or argue on the basis of invalid assumptions, we are using **illogical reasoning**. Verbal and physical assaults on Asian Americans since the pandemic began provide many examples of such illogical reasoning (as well as of disregard for others).

> A 30-year-old videographer in Syracuse, N.Y., said he was still shaken from a trip to the grocery store last week, when the man ahead of him in the checkout line shouted at him, "It's you people who brought the disease." (Tavernise and Oppel 2021. Spit On, Yelled At, Attacked: Chinese-Americans Fear for Their Safety (nytimes.com).

Is it logical to think that a woman walking to the gym or a person who directs a hospital emergency room or a magazine writer "brought the disease" because they have Asian backgrounds? Do you know the so-called "Spanish flu" that caused the 1918 pandemic did not originate in Spain at all, but most likely in a town in Kansas (Barry 2005)? Would it have been logical for people in other countries to start attacking Americans for having "brought the flu" as it spread around the world?

It is not always so easy to spot illogical reasoning. As you learned above, by 2021, only 7% of American households reported not using the Internet. Would it be reasonable to propose they don't participate in the "information revolution" simply because they think it is a waste of time? In fact, many low-income households lack the financial resources to buy a computer or maintain an online account and so they use the Internet much less frequently—as you saw in Figure 1.2. Conversely, an unquestioned assumption that everyone wants to connect to the Internet may overlook some important considerations; for example, 17% of nonusers of the Internet in 2002 said the Internet has made the world a worse place, so they may not use it because they don't like what they believe to be its effects (UCLA Center for Communication Policy 2003:78). Logic that seems impeccable to one person can seem twisted to another.

Reevaluating

Resistance to change, the reluctance to reevaluate our ideas in light of new information, may occur for several reasons:

- *Ego-based commitments.* We all learn to greet with some skepticism the claims by leaders of companies, schools, agencies, and so on that people in their organization are happy, that revenues are growing, and that services are being delivered in the best possible way. We know how tempting it is to make statements about the social world that conform to our own needs rather than to the observable facts. It can also be difficult to admit we were wrong once we have staked out a position on an issue. Barry Wellman (Boase et al. 2006:1) recounts a call from a reporter after the death of four "cyber addicts." The reporter was already committed to the explanation that computer use had caused the four deaths; now, he just wanted an appropriate quote from a computer-use expert, such as Wellman. But the interview didn't last long:

    The reporter lost interest when Wellman pointed out other causes might be involved, that "addicts" were a low percentage of users, and no one worries about "neighboring addicts" who chat daily in their front yards. (Boase et al. 2006:1)

- *Excessive devotion to tradition.* Some degree of devotion to tradition is necessary for the predictable functioning of society. Social life can be richer and more meaningful if it is allowed to flow along the paths charted by those who have preceded us. Some skepticism about the potential for online learning once served as a healthy antidote to unrealistic expectations of widespread student enthusiasm (Bray 1999). But too much devotion to tradition can stifle adaptation to changing circumstances. When we distort our observations or alter our reasoning so we can maintain beliefs that "were good enough for my grandfather, so they're good enough for me," we hinder our ability to accept new findings and develop new knowledge. Of course, there was nothing "traditional" about maintaining social ties through e-mail when this first became possible in the late 20th century. Many social commentators assumed the result of increasing communication by e-mail would be fewer social ties maintained through phone calls and personal contact. As a result, it was claimed, the social world would be impoverished. But subsequent research indicated that people who used e-mail more also kept in touch with others more in person and by phone (Benkler 2006:356; Boase et al. 2006).

- *Uncritical agreement or disagreement with authority.* If we do not have the courage to evaluate critically the ideas of those in positions of authority or, conversely, to consider that their statements could ever be right, we will have little basis for complaint if they exercise their authority over us in ways we don't like or if we fail to reap the benefits of decisions that could benefit us. And, if we do not allow new discoveries to challenge our beliefs, our understanding of the social world will remain limited. Was it partly uncritical agreement with authorities "on our side" that led to such disagreements about Russia's role in the 2016 presidential election? A March 2018 poll in the United States found that 82% of Democrats believed Russia spread fake news to help Donald Trump win the 2016 election (agreeing with U.S. intelligence agencies), and 66% believed Russia tampered with the vote tallies (without any evidence). Conversely, just 29% of Republicans agreed Russia spread fake news stories to help Trump (disagreeing with the intelligence agencies), and just 18% believed Russia tampered with the votes (agreeing with the intelligence agencies) (Nyhan 2021).

Now take just a minute to reexamine the issues about social ties, Internet use, and even the 2016 election. Did you grasp at a simple explanation even though reality is far more complex?

Did your own ego and feelings about your similarities to or differences from others influence your beliefs? Did you weigh carefully the opinions of people with access to information you didn't have? Could knowledge of research methods help improve your own understanding of the social world? Do you see some of the challenges social science faces?

SCIENCE AND SOCIAL SCIENCE

Science relies on logical and systematic methods to answer questions, and it does so in a way that allows others to inspect and evaluate its methods. In this way, scientific research develops a body of knowledge that is continually refined, as beliefs are rejected or confirmed on the basis of testing empirical evidence.

"Trust the science" was often used to justify policy decisions during the pandemic, but in such a polarized political period, such "trust" often meant different things to different people. An international survey in the year before the pandemic began found that just over one third of residents of the United States and 19 other developed nations have "a lot" of trust that scientists do what is right for the public; most of the rest have "some" trust (39% in the U.S.) rather than "not too much" or no trust (21% in the U.S.) (Funk, Kennedy, and Johnson 2020).

The value that scientific research has added to the human experience ranges from the clothes we wear to the vehicles we use and the smartphones we have and the vaccines that protect us. So why isn't there more trust in science? One reason is that science also provided the knowledge for nuclear weapons, climate change, and tools for invading privacy. It's not entirely surprising this legacy makes some people suspicious.

Another reason is that scientific knowledge is continually refined and so can change over time. For example, early in the pandemic, experience with other viruses led scientists at the U.S. Centers for Disease Control and Prevention (CDC) to believe that COVID-19 could be spread easily by touching contaminated surfaces. When this proved to be wrong after additional evidence was collected, guidelines were, appropriately, changed. This doesn't mean the initial belief was "not scientific" or the scientific method doesn't work (van der Bles et al. 2020). Science is an ongoing, cumulative process. Would masks help to prevent infection with COVID-19? Early in the pandemic, the body of scientific evidence based on other epidemics or pandemics led many to believe mask-wearing would not help (Greenhalgh et al. 2020). But new evidence on the COVID-19 pandemic rapidly changed scientists' beliefs about that.

RESEARCH IN THE NEWS

Science of Virus Keeps Evolving and Frustrating

"Americans are living with science as it unfolds in real time," *New York Times* health and science reporter Apoorva Mandaville observed. We have all looked eagerly for the latest news on rates of infection with the coronavirus, evidence of the effects of infection, and ways to stay safe. Yet the findings of scientific research have not been simple or consistent, whether they have come from the CDC, the WHO, university-based researchers, or others. Research-based guidelines have changed during the pandemic about contaminated surfaces, about the frequency of viral evolution, and about mask wearing. Experts have disagreed among themselves at times on some of these issues, leaving some Americans feeling "bewildered and bamboozled" and disillusioned with science.

Mandaville points to popular lack of understanding of science as a major source of such disillusion. Science normally progresses gradually to an improved understanding of complex

physical and social processes through multiple investigations by many different scientists who share findings at conferences and criticize and evaluate each other's work prior to publication and public release. This process has been short-circuited due to the need to develop public guidelines as quickly as possible in the midst of a deadly, rapidly spreading viral threat. Mandaville suggests that health officials need to counter the "pseudoscience and lies" spread through social media about the pandemic by correcting misunderstandings about science and clearly communicating current uncertainties when new findings are publicized.

For Further Thought?

1. Have you and your friends become more or less confident in science during the pandemic?

2. How could social science research identify better means for communicating scientific findings?

News source: Mandavilli, Apoorva. 2021. "Science of Virus Keeps Evolving and Frustrating." *The New York Times*, August 23:A1, A17.

The Scientific Approach

The sciences—physical (e.g., physics), natural (e.g., biology), social (e.g., sociology)—share an approach developed over centuries and was formalized in the 17th and 18th centuries by philosophers such as Francis Bacon (1561–1626) and early scientists, including Galileo (1564–1642) and Newton (1643–1727). The central element of this approach (often called the "scientific method" or the "scientific attitude") is investigating phenomena in the world by testing ideas about them with observations of those phenomena—empirical data. Will two stones of different weight fall at the same or different speeds? Test it out—by dropping them (Galileo). Is white light composed of a mixture of different colors? Test it out—with a prism (Newton).

We can summarize this central element of the scientific approach with two words:

- *Empiricism.* Science focuses on phenomena in the real world that can be observed directly or indirectly.

- *Objectivity.* The goal of science is an objective assessment of evidence—freedom from bias due to personal background or pressures. What this means in practice is a commitment to "intersubjectivity": accepting as scientifically trustworthy only evidence that receives support from other scientists.

Most scientists seek to maintain several other standards to increase their ability to conduct research that is empirical and objective (or intersubjective) (Grinnel 1992; Popper 1968; Wallace 1983):

- *Falsifiability.* Scientific ideas can be put to a test and potentially shown to be false.

- *Theoretical.* Science seeks general explanations for phenomena.

- *Community.* Scientific research is conducted in a community of scientists who share and challenge each other's findings and beliefs.

- *Simplicity.* A proposed explanation is preferred over others if—other things being equal—it is simpler.

The basic idea is that scientists test their explanations (falsifiability) in ways that stand up to critique by other scientists (community) and that make sense in relation to other scientific

findings (theoretical) without being more complicated than necessary (simplicity). We will return to the scientific approach in more detail in the next chapter.

Social science relies on scientific methods to investigate individuals, societies, and social processes. It is important to realize that when we apply scientific methods to understanding ourselves, we often engage in activities—asking questions, observing social groups, or counting people—that are similar to things we do in our everyday lives. However, social scientists develop, refine, apply, and report their understanding of the social world more systematically, or "scientifically," than Joanna Q. Public—or some who just tweet their opinions or post a compelling blog entry.

- Social science research methods can reduce the likelihood of overgeneralization by using systematic procedures for selecting individuals or groups to study that are representative of the individuals or groups to which we want to generalize.

- To avoid illogical reasoning, social researchers use explicit criteria for identifying causes and for determining whether these criteria are met in a particular instance.

- Social science methods can reduce the risk of selective or inaccurate observation by requiring that we measure and sample phenomena systematically.

- Because they require that we base our beliefs on evidence that can be examined and critiqued by others, scientific methods lessen the tendency to develop answers about the social world from ego-based commitments, excessive devotion to tradition, or unquestioning respect for authority.

Even as you learn to appreciate the value of social science methods, however, you shouldn't forget that *social* scientists face three specific challenges:

1. The objects of our research are people like us, so biases rooted in our personal experiences and relationships are more likely to influence our conclusions than if we are studying stars in the sky or weeds in the sea.

2. Those we study can evaluate us, even as we study them. As a result, research participants' decisions to "tell us what they think we want to hear" or, alternatively, to refuse to cooperate in our investigations can produce misleading evidence.

3. In physics or chemistry, research subjects (objects and substances) may be treated to extreme conditions and then discarded when they are no longer useful. However, social (and medical) scientists must concern themselves with the way their human subjects are treated in the course of research (much could also be said about research on animals, but this isn't the place for that).

The current period of heightened political polarization has increased these challenges. It is too easy to quickly categorize statements as on "our side" or "their side" and then to judge their accuracy accordingly (Druckman et al. 2021). Even beliefs in the trustworthiness of science are polarized in the United States, with 62% of those who lean ideologically left trusting scientists a lot, compared to just 20% of those who lean ideologically right (Funk et al. 2020). As one result, Democrats were much more likely to see COVID-19 as a major threat to the health of the U.S. public—as did public health scientists—than Republicans (Tyson 2021). Understanding the scientific method is not just an academic matter!

Unfortunately, we cannot assume that others understand the scientific method or much less, that evidence generated in scientific investigations should be valued. Sage advice about this in relation to another politically polarized issue—police shootings—was offered by Dr. Lawrence W. Sherman, Wolfson Professor of Criminology Emeritus at the University of Cambridge Institute of Criminology and former president of the American Academy of Political and Social Science as well as former distinguished university professor at the University of Maryland.

> It is, after all, irrational to think that better evidence should win out, just because it is scientifically better than the alternative. Like police legitimacy, better evidence must sell itself in a public dialogue, every day, even with setbacks.

Pseudoscience or Science

We must also be on guard against our natural tendency to be impressed with knowledge that is justified with what sounds like scientific evidence but which has not really been tested. **Pseudoscience** claims are not always easy to identify, and many people believe them (Shermer 1997:33).

Are you surprised that more than half of Americans believe in astrology, with all its charts and numbers and references to stars and planets, even though astrological predictions have been tested and found baseless (Shermer 1997:26)? Are any of your beliefs based on pseudoscience?

But does it matter if we base our understanding of the social (and natural) worlds on the results of disciplined, documented tests of ideas in relation to empirical evidence—the scientific approach? Take a look at Figure 1.7. It shows that counties with a higher percentage of people fully vaccinated had lower rates of hospitalization for COVID-19 in early August 2021. The data
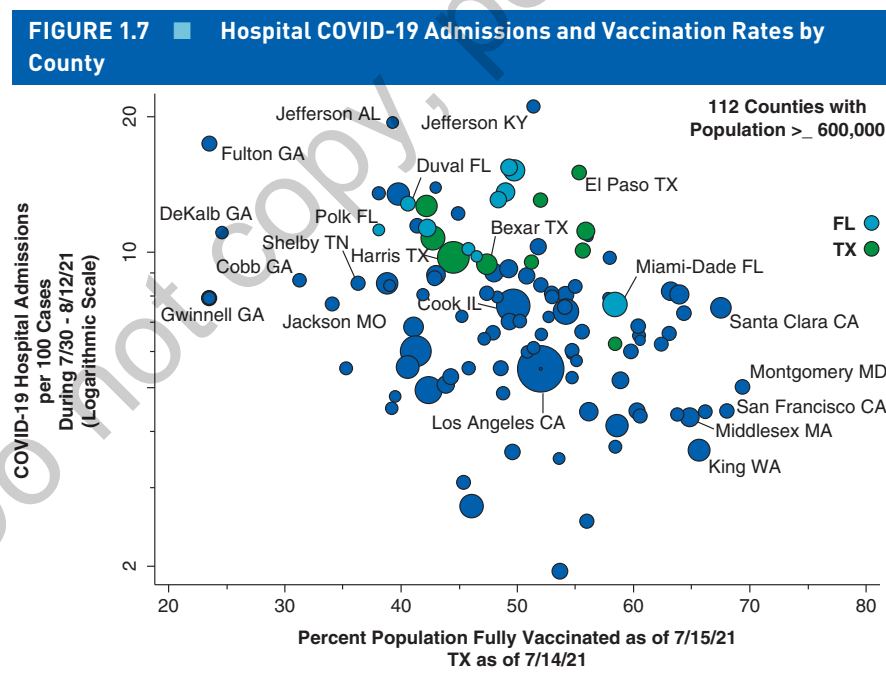
FIGURE 1.7 ■ Hospital COVID-19 Admissions and Vaccination Rates by County

comes from a site managed by the U.S. Department of Health & Human Services (healthdata.gov) and was analyzed by a professor and medical doctor at the Massachusetts Institute of Technology. The article describes the data and methods of the statistical analysis in detail. Of course, it is only one article that presents just one slice of the picture about COVID-19 and vaccination and the author notes various other limitations, but it provides a clear foundation for the conclusion "that vaccination substantially reduces disease severity" (Harris 2021:8–9).

By the time you finish your study of how to investigate the social world, I hope you will appreciate the value of using the methods of science to understand the problems of society (and maybe even to improve your own health).

TYPES OF SOCIAL RESEARCH

Whatever the motives, there are four types of social research projects. This section illustrates each type with projects from the large body of research about various aspects of social ties.

Descriptive Research

Defining and describing social phenomena of interest is a part of almost any research investigation, but **descriptive research** is often the primary focus of the first research about some issue. Descriptive questions asked in research on social ties have included the following: What is the level of particular types of social ties in America (McPherson et al. 2006)? How has the frequency of different forms of social contact changed over time in Australia (Patulny and Seaman 2017)? What social and cultural patterns characterize disadvantaged neighborhoods (Harding 2007)? Measurement (the topic of Chapter 4) and sampling (Chapter 5) are central concerns in descriptive research. Survey research (Chapter 8) is often used for descriptive purposes. Some comparative research also has a descriptive purpose (Chapter 15).


Example: What is the extent of vaccine hesitancy?

In a report based on our National Science Foundation-funded survey of Boston residents during the pandemic, Lee Hargraves, director of the University of Massachusetts Boston's Center for Survey Research and others on our team (2021) described the extent of vaccine hesitancy and its variation across racial and ethnic groups. Our survey of Boston adults included the following question:

If a vaccine against the coronavirus becomes available, do you plan to get vaccinated?

- Definitely
- Probably
- Probably not
- Definitely not

We found that, in Summer 2020, one in five Boston adults did *not* plan to get vaccinated. Among Black respondents, this fraction rose to almost half, compared to one quarter of Latinx respondents and just one in ten white and Asian/Pacific Islander respondents. As indicated in Figure 1.8, Hargraves et al. (2021) also found that vaccine hesitancy declined dramatically among college graduates and those with advanced degrees.

FIGURE 1.8 ■ Vaccine Hesitancy by Education

Planning to get the vaccine

■ Definitely   ■ Probably   ■ Definitely or Probably Not
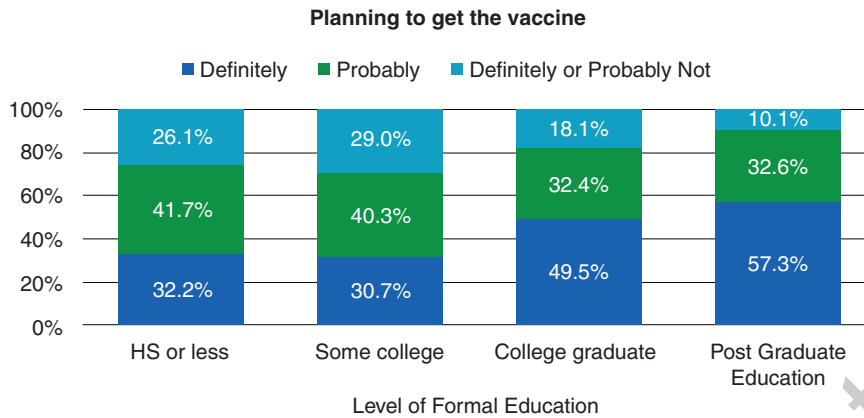
Source: Hargraves et al. 2021. "Living in Boston During COVID-19: Vaccination Planning and Hesitancy." Report #5. NSF-Report 5 Vaccination Hesitation (10JAN2021) v2.4 (umb.edu).

Exploratory Research

Exploratory research seeks to find out how people get along in the setting under question, what meanings they give to their actions, and what issues concern them. The goal is to learn "What is going on here?" and to investigate social phenomena without explicit expectations. This purpose is associated with the use of methods that capture large amounts of relatively unstructured information or that take a field of inquiry in a new direction. For example, researchers investigating social ties occurring through the Internet have had to reexamine the meaning of "community," asking whether cyberspace interactions can constitute a community that is seen as "real and essential" to participants (Fox and Roberts 1999:644). "How is identity—true or counterfeit—established in online communities?" asked Peter Kollock and Marc Smith (1999:9). Exploratory research such as this frequently involves qualitative methods, which are the focus of Chapters 10 and 11, as well as special sections in many other chapters.

Example: How did young people experience the early months of the pandemic?

Portuguese social scientists Cátia Branquinho et. al (2020) were impressed with the dramatic impact of the pandemic on adolescents and wondered about teens' thoughts and experiences.

Branquinho and her colleagues decided to explore this question by conducting a survey in April and May 2020 that included eight open-response questions. Six hundred seventeen youth returned completed questionnaires. Using a systematic process, the researchers identified comments about biological, psychological, and social issues, with many negative consequences in these areas and some positive impacts (see Figure 1.9). For example, in the social area, one student said,

> Being in the 12th year, I am missing many moments that I waited for this year, whether be the finalists' trip or the ball or just being able to say goodbye to the secondary as I thought (Branquinho et al. 2020:2748).

FIGURE 1.9 ■ Types of Impacts of the Pandemic on Students
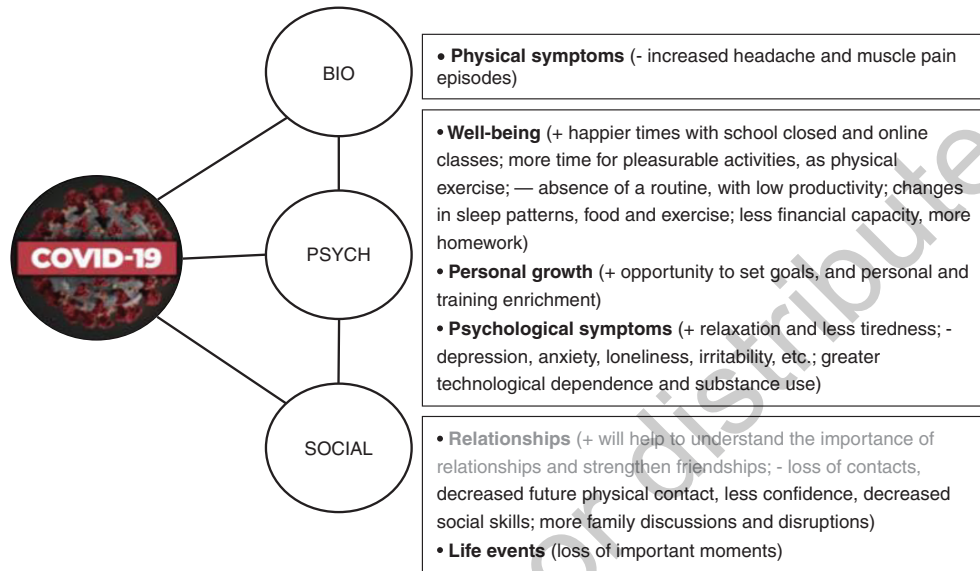
Source: Branquinho, Cátia, Colette Kelly, Lourdes C. Arevalo, Anabela Santos, and Margarida Gaspar de Matos. 2020. "'Hey, We Also Have Something to Say': A Qualitative Study of Portuguese Adolescents' and Young People's Experiences Under COVID-19." *Journal of Community Psychology* 48(8):2744.

Branquinho et al. (2020) concluded that one impact of the pandemic was loss of social competencies due to less contact with others and missing key events like proms and trips.

Explanatory Research

Many philosophers of science consider explanation the premier goal of any science. **Explanatory research** seeks to identify the causes and effects of social phenomena and to predict how one phenomenon will change or vary in response to variation in some other phenomenon. I focus on ways of identifying causal effects in Chapter 6. Explanatory research often involves experiments (see Chapter 7) or surveys (see Chapter 8), both of which are most likely to use quantitative methods.

Example: What effect did the pandemic have on adolescents' mental health?

Natasha Magson et al. (2021) at Marquarie University in Sydney, Australia, sought to understand how the pandemic affected adolescents' mental health, why this effect occurred, and which factors increased or decreased mental health difficulties. For this purpose, they surveyed 248 adolescents before the pandemic and then two months after the Australian government-imposed restrictions after the pandemic began. The surveys included questions about anxiety, distress, life satisfaction, disruptions in schooling, media exposure, interpersonal conflict, and social connectedness.

Magson and her coauthors (2021) found that anxiety and distress had increased and life satisfaction had declined in the early months of the pandemic, although only by modest

amounts. The declines were more pronounced with girls than boys. The researchers also found that adolescents who felt more socially connected maintained better mental health, and those who followed the rules more by staying at home reported more life satisfaction. The researchers concluded that disruption to social connections caused more distress among adolescents than the virus itself (see Figure 1.10).

FIGURE 1.10 ■ Factors Contributing to COVID-19 Related Distress Among Adolescents
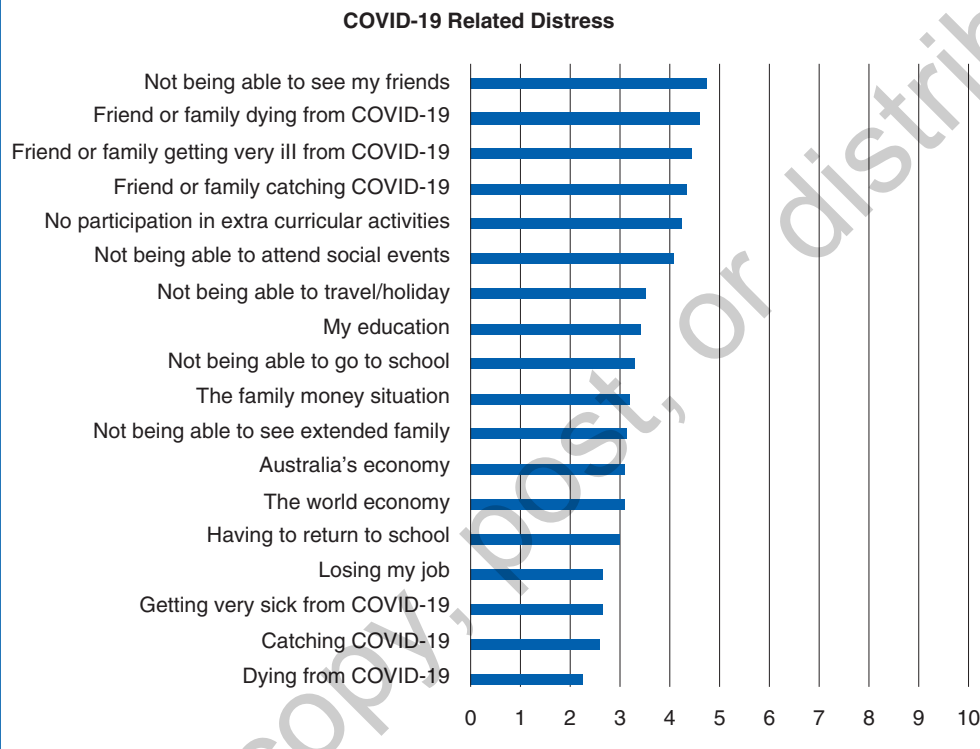
COVID-19 Related Distress

Evaluation Research

Evaluation research seeks to determine the effects of programs, policies, or other efforts to affect social patterns, whether by government agencies, private nonprofits, or for-profit businesses. This is a type of explanatory research because it deals with cause and effect, but it differs from other forms of explanatory research because evaluation research focuses on one type of cause: programs, policies, and other conscious efforts to create change (Lewis-Beck, Bryman, and Liao 2004:337). This focus raises some issues that are not relevant in other types of explanatory research, as explained in more detail in Chapter 13.

Concern regarding the potential impact of alternative policies regarding the Internet provided an impetus for new evaluation research.

Example: Do lockdowns during a pandemic change trust in government and science?

Covid-19 Related Distress

Strict government-imposed lockdowns to limit the spread of the coronavirus generated controversy and often halted regular social life as the pandemic spread around the globe. In the Netherlands, Oude Groeniger et al. (2021) evaluated the impact of the Dutch lockdown in mid-March 2020. Survey responses in the ongoing Longitudinal Internet Studies for the Social Sciences (LISS) allowed them to compare levels of trust before and after the imposition of the lockdown.

February 27, 2020, was the day of the first positive case of COVID-19 reported in the Netherlands. By March 12, the number of cases was increasing rapidly, and the Dutch prime minister, healthcare minister, and the government's scientific advisory board announced a lockdown, including restrictions on public gatherings, limitations on visiting, work-from-home arrangements when possible, and a stay-at-home order for those with symptoms.Groeniger and his coauthors (2021) found that trust in government was declining before the lockdown, but after it was imposed, trust in government rose by 18%. Trust in science had been greater to begin with but still rose by 6% after the lockdown began.

STRENGTHS AND LIMITATIONS OF SOCIAL RESEARCH

Using social scientific research methods to develop answers to questions about the social world reduces the likelihood of making everyday errors in reasoning. The various projects we have reviewed in this chapter illustrate this point:

- A clear definition of the population of interest increased the researchers' ability to draw conclusions without overgeneralizing findings to groups to which they did not apply. Use of a data set based on a broad, representative sample of the population enabled the Pew researchers (2020) Hargraves et al. (2021) and Groeniger et al. (2021) to describe attitudes during the pandemic in specific populations—adults in the United Staes, in Boston, or the Netherlands, respectively—rather than among some unknown set of their friends or acquaintances. The researchers' careful review of their sample design and the representativeness of the samples they obtained helps prevent overgeneralization to groups that were not actually studied.

- The use of surveys in each of these studies in which each respondent was asked the same set of questions reduced the risk of selective or inaccurate observation, as did careful attention to a range of measurement issues.

- The risk of illogical reasoning was reduced by carefully describing each stage of the research, clearly presenting the findings, and carefully testing the bases for cause-and-effect conclusions. For example, Magson et al. (2021) carefully compared the role of different factors that might have increased and decreased adolescents' mental health during the pandemic.

- Resistance to change was overcome in these studies by adhering to elements of the scientific method. For example, Magson et al. (2021) discussed possible alternative explanations for their findings (falsifiability), while Groeniger et al. (2021) compared

findings across different groups to determine whether more complex explanations were needed of behavioral change (simplicity). The publications by all the researchers help other researchers critique and learn from their findings (community) as well as inform the general public.

Nevertheless, I would be less than honest if I implied that we enter the realm of pure truth and light when we conduct social research or when we rely solely on the best available social research. Research always has some limitations and some flaws (as does any human endeavor), and our findings are always subject to differing interpretations. Social research permits us to see more, to observe with fewer distortions, and to describe more clearly to others what our opinions are based on, but it will not settle all arguments. Others will always have differing opinions, and some of those others will be social scientists who have conducted their own studies and drawn different conclusions.

In this way, one research study often leads to another, and another, each one improving on previous research or examining a research question from a somewhat different angle. Part of becoming a good social researcher involves learning to evaluate critically each research study and to weigh carefully the entire body of research about a research question before coming to a conclusion. And we have to keep an open mind about alternative interpretations and the possibility of new discoveries. The social phenomena we study are often complex, so we must consider this complexity when we choose methods to study social phenomena and when we interpret the results of these studies.

ALTERNATIVE RESEARCH ORIENTATIONS

In addition to deciding on the type of research they will conduct, social researchers also must choose among several alternative orientations to research.

Quantitative and/or Qualitative Methods

Different research methods provide different perspectives on social phenomena and so have different strengths and weaknesses. The most general distinction is between quantitative and qualitative research methods. Groeniger et al. (2021) analyzed the number of different responses to the same survey questions; we say this study used **quantitative methods**. Numerical data were also used in the descriptive survey about reactions to the pandemic (Pew 2021), as well as in the Hargraves et al. (2021) study about vaccine hesitancy and the Magson et al. (2021) research on adolescent mental health. In contrast, Branquinho et al. (2020) and Kee (2021) read and categorized text or written comments. Because the researchers focused on written or spoken text and its meaning, and did not attempt to quantify what they were studying, we say they used **qualitative methods**.

Quantitative methods are most often used when the motives for research are explanation, description, or evaluation. Exploration is more often—although by no means always—the motive for using qualitative methods. I highlight several other differences between quantitative and qualitative methods in Chapter 2. Chapters 10 and 11 present qualitative methods in much more detail.

Important as it is, I don't want to place too much emphasis on the distinction between quantitative and qualitative orientations or methods. Social scientists often combine these methods to enrich their understanding of the social world (Campbell and Russo 1999:141).

Philosophical Perspectives

Your preferences for particular research methods will be shaped in part by your general assumptions about how the social world can best be investigated—by your social research philosophy. The scientific approach reflects the belief that there is an objective reality apart from the perceptions of those who observe it. This is the philosophy traditionally associated with natural science and with the belief that scientists must be objective and unbiased to see reality clearly (Weber 1949:72). **Positivism** asserts that a well-designed test of a specific prediction—for example, the prediction that social ties decrease among those who use the Internet more—can move us closer to understanding actual social processes. Quantitative researchers are often guided by a positivist philosophy.

Postpositivism is a philosophy that is closely related to positivism because it also assumes an external, objective reality, but postpositivists acknowledge the complexity of this reality and the limitations and biases of the scientists who study it (Guba and Lincoln 1994:109–111). For example, postpositivists may worry that researchers who are heavy computer users themselves will be biased in favor of finding positive social effects of computer use. As a result of concerns such as this, postpositivists do not think we can ever be sure that scientific methods allow us to perceive objective reality as it actually is. Instead, they believe the goal of science is to achieve **intersubjective agreement** among scientists about the nature of reality (Wallace 1983:461). We can be more confident in the conclusions of the community of social researchers than in those of any individual social scientist (Campbell and Russo 1999:144).

Interpretivism is a research philosophy that emphasizes the importance of understanding subjective meanings people give to reality. Unlike positivism and postpositivism, interpretivism does not assume that social processes can be identified objectively.

Some qualitative researchers are guided by an interpretivist philosophy. You will learn more about different philosophical orientations in Chapter 10.

Basic Science or Applied Research

The effort to figure out what the world is like and why it works as it does—academic motivations—is the goal of **basic science** (Hammersley 2008:50). The Magson et al. (2021) study is a good example.

Social research may also have more immediate, practical concerns. Evaluation research like that conducted by Groeniger et al. (2021) on the effect of the lockdown by the Dutch government seeks to determine the impact of one or more programs or policies. This knowledge can then lead to practical changes, such as encouraging the use of lockdowns or alternatives to them. Evaluation research and other social research projects motivated by practical concerns are termed **applied research**.

Whether you think you would prefer a basic or applied orientation in social research, you have lots of company.

The Role of Values

The positivist and postpositivist philosophies consider value considerations to be beyond the scope of science: "An empirical science cannot tell anyone what he should do—but rather what he can do—and under certain circumstances—what he wishes to do" (Weber 1949:54). The idea is that developing valid knowledge about how society *is* organized or how we live our lives does not tell us how society *should* be organized or how we *should* live our lives. The determination of empirical facts should be a separate process from the evaluation of these facts as satisfactory or

unsatisfactory (Weber 1949:11). The idea is not to ignore value considerations but to hold them in abeyance during the research project until results are published.

There has always been tension between this "value-free" orientation to social research and a more "value-conscious" or even activist approach. In the 19th century, sociologist Lester Frank Ward (who subsequently became the American Sociological Society's first president) argued that "the real object of science is to benefit man. A science which fails to do this, however agreeable its study, is lifeless" (Ward 1897:xxvii). However, the American Sociological Society president in 1929, William Fielding Ogburn, urged the value-free approach: "Sociology as a science is not interested in making the world a better place to live. . . . Science is interested directly in one thing only, to wit, discovering new knowledge" (Ogburn 1930:300–301). Does one approach make more sense to you?

By the time you finish *Investigating the Social World*, I know you'll have a good understanding of the difference between these orientations, but I can't predict whether you'll decide one is preferable. Maybe you'll conclude they each have some merit.

Whether you plan to conduct your own research projects, read others' research reports, or just think about and act in the social world, recognizing the strengths and limitations of specific research methods and different approaches to social research will give you greater confidence in your own opinions, improve your ability to evaluate others' opinions, and encourage you to refine your questions, answers, and methods of inquiry.

CONCLUSIONS

I hope this first chapter has given you an idea of what to expect from the rest of the book. My aim is to introduce you to social research methods by describing what social scientists have learned about the social world as well as how they have learned it. The substance of social science is inevitably more interesting than its methods, but the methods become more interesting when they're linked to substantive investigations. I have focused attention in this chapter on research about social ties; in subsequent chapters, I introduce research examples from other areas.

Investigating the Social World is organized into four sections. The first section, Foundations for Social Research, includes the introduction in Chapter 1, and then an overview of the research process in Chapter 2 and an introduction to issues in research ethics and writing research proposals in Chapter 3. In Chapter 2, I review how social scientists specify research questions for investigation, how they orient themselves to those questions with social theories, and how they review related prior research. Most of the chapter focuses on the steps involved in the overall research process and the criteria that researchers use to assess the quality of their answers to the original research questions. Several studies of police–citizen interaction illustrate the research process in Chapter 2. Chapter 3, on research ethics and research proposals, completes the foundation for our study of social research. I emphasize in this chapter the importance of ethical treatment of human subjects in research and identify the problems caused by projects that have not adhered to this standard. I also introduce in this chapter the process of writing research proposals, which I then continue in the end-of-chapter exercises throughout the book. In actual research projects, submission of a research proposal to an institutional review board for the protection of human subjects is often the final step in laying the foundation for a research project.

The second section, Fundamentals of Social Research, presents methods for conceptualization and measurement, sampling, and causation and other elements of research design that must be considered in any social research project. In Chapter 4, I discuss the concepts we use to think

about the social world and the measures we use to collect data about those concepts. This chapter begins with the example of research on race and racism, but you will find throughout this chapter a range of examples from contemporary research. In Chapter 5, I use controversies over the 2020 Census and challenges of recent political polling to identify challenges in achieving generalizable results in research. In Chapter 6, I use research on violence to illustrate how to design research to answer such causal research questions as "What causes violence?" I also explain in this chapter the decisions social researchers must make about two research design issues that affect our ability to draw causal conclusions: (1) whether to use groups or individuals as units of analysis and (2) whether to use a cross-sectional or longitudinal research design.

The third section, Basic Social Research Designs, introduces the three primary methods of data collection and related methods of data analysis. Experimental studies, the subject of Chapter 7, focus attention on testing causal effects and are used often by social psychologists, psychologists, and policy evaluation researchers. Survey research is the most common method of data collection in sociology, so in Chapter 8, I describe the different types of surveys and explain how researchers design survey questions. I highlight in this chapter the ways in which the Internet and cell phones are changing the nature of survey research and use for some examples a survey on the impact of the pandemic. Chapter 9, on quantitative data analysis, introduces the statistics used to analyze data collected with experimental and survey designs. Chapter 9 is not a substitute for an entire course in statistics, but it provides the basic tools you can use to answer most research questions. To make this chapter realistic, I walk you through an analysis of quantitative data on voting in the 2020 presidential election. You can replicate this analysis with data on the book's study site (if you have access to the SPSS statistical analysis program or an alternative statistical package, including some that make it possible to analyze data online). You can also learn more about statistics with the SPSS exercises at the end of most chapters and with the study site.

Qualitative methods have long been the method of choice in anthropology, but they also have a long tradition in American sociology and have become the favored method of many social researchers around the world. Chapter 10 shows how qualitative techniques can uncover aspects of the social world that we are likely to miss in experiments and surveys and can sometimes result in a different perspective on social processes. Chapter 11 then focuses on the logic and procedures of analyzing qualitative data. In these chapters, you will learn about research on work organizations, psychological distress, gender roles, classroom behavior, and disasters such as Hurricane Katrina.

The fourth section, Complex Social Research Designs, presents research designs that can involve combinations of one or more of the basic research designs. By the time you read Chapter 12, you should be convinced of the value of using different methods to help us understand different aspects of the social world. Chapter 12 takes this basic insight a few steps further by introducing the use of "mixed methods." This increasingly popular approach to research design involves a careful plan for combining qualitative and quantitative methods in a research project. Evaluation research, the subject of Chapter 13, is conducted to identify the impact of social programs or to clarify social processes involving such programs. Evaluation research often uses experimental methods, but survey research and qualitative methods can also be helpful in evaluation research projects. Chapter14 reviews the methods of secondary data analysis and the related approach that has come to be known as "Big Data." In this chapter, you will learn how to obtain previously collected data and to investigate important social issues such as differences between urban neighborhoods.

Historical and comparative methods, the subject of Chapter 15, may involve either quantitative or qualitative methods that are used to compare societies and groups at one point in time and to analyze their development over time. We will see how these different approaches have been used to learn about political change in transitional societies. I also explain the method of content analysis in this chapter; it can be used in historical and comparative research and provides another way to investigate social processes in an unobtrusive way.

Plan to read Chapter 16 carefully. Our research efforts are only as good as the attention given to our research reports, so my primary focus in this chapter is on writing research reports. I also present means for enhancing graphic displays to communicate quantitative results more effectively in research reports. In addition, I introduce meta-analysis—a statistical technique for assessing many research studies about a particular research question. By the end of the chapter, you should have a broader perspective on how research methods can improve understanding of the social world.

Each chapter ends with several helpful learning tools. Lists of learning goals, chapter highlights and key terms will help you review the ideas that have been discussed. Discussion questions will help you and your classmates apply and deepen your knowledge. Statistical exercises will introduce you to the process and logic of quantitative analysis and demonstrate its relevance to most of the chapter topics.

KEY TERMS

Applied research (p. 24)

Basic science (p. 24)

Descriptive research (p. 18)

Evaluation research (p. 21)

Explanatory research (p. 20)

Exploratory research (p. 19)

Illogical reasoning (p. 12)

Inaccurate observation (p. 10)

Interpretivism (p. 24)

Intersubjective agreement (p. 24)

Overgeneralization (p. 11)

Positivism (p. 24)

Postpositivism (p. 24)

Pseudoscience (p. 17)

Qualitative methods (p. 23)

Quantitative methods (p. 23)

Resistance to change (p. 12)

Science (p. 14)

Selective observation (p. 9)

Social science (p. 16)

HIGHLIGHTS

LO 1.1   Describe three common types of motivations for social research.

Three common types of motivations for social research are policy, academic, and personal motivations.

- Policy motivations include when public and private entities (e.g., government agencies) seek to better understand social ties to inform policy recommendations.
- Academic motivations reflect social scientists' desires to understand how the social world works.
- Personal motivations refer to social research conducted to address problems in the social world to which one has been exposed.

LO 1.2 Illustrate each of the four common errors involved in learning about the social world with a hypothetical example.

We can avoid making errors in four processes involved in learning about the social world in the following ways:

- Observing—not participating in selective observation (choosing to look only at things that are in line with our preferences or beliefs) or inaccurate observation (an observation based on faulty perceptions of empirical reality).
- Generalizing—avoiding overgeneralization (when we unjustifiably conclude that what is true for some cases is true for all cases).
- Reasoning—steer clear of illogical reasoning (when we prematurely jump to conclusions or argue based on invalid assumptions).
- Reevaluating—abstain from resistance to change (the reluctance to change our ideas in response to new information), perhaps related to ego-based commitments, excessive devotion to tradition, and uncritical agreement with authority.

LO 1.3 List components of the scientific approach.

The scientific approach involves investigating phenomena in the world by testing ideas about them with observations—empirical data—of those phenomena.

- Science uses logical, systematic, documented methods.
- Science investigates nature and natural processes.
- Science is the knowledge produced by these investigations.
- Science is an ongoing, cumulative process.
- Science is empirical and objective (or intersubjective).

LO 1.4 Compare the four types of social research.

Social research can be descriptive, exploratory, explanatory, or evaluative—or some combination of these.

- Descriptive research: Research in which social phenomena are defined and described
- Exploratory research: Research that seeks to find out how people get along in the setting under question, what meanings they give to their actions, and what issues concern them
- Explanatory research: Research that seeks to identify causes and effects of social phenomena and to predict how one phenomenon will change or vary in response to variation in some other phenomenon
- Evaluation research: Research that describes or identifies the impact of social policies and programs

LO 1.5 Assess the strengths and limitations of social research.

- The strengths of social research include a reduced likelihood of making everyday errors in reasoning.
- Social research permits us to see more, to observe with fewer distortions, and to describe more clearly to others what our opinions are based on.
- The limitations of social research include the fact that social research findings are always subject to differing interpretations and opinions.
- Social research cannot resolve value questions or provide permanent, universally accepted answers.

LO 1.6 Contrast these pairs of alternatives in social research: positivism and postpositivism; quantitative methods and qualitative methods; basic research and applied research.

- Positivism is the belief shared by most scientists, that there is a reality that exists quite apart from our own perception of it, that it can be understood through observation, and that it follows general laws.
- Postpositivism is a philosophical view that modifies the positivist premise of an external, objective reality by recognizing its complexity, the limitations of human observers, and therefore the impossibility of developing more than a partial understanding of reality.
- Quantitative methods include data that capture variation in social life in either numbers or attributes that can be ordered by magnitude.
- Qualitative methods include data based on actual observations of social life as participants experience it that do not often have a direct numerical interpretation.
- Basic science research focuses on expanding knowledge and providing results to other researchers.
- Applied research seeks to have an impact on social practice and to share results with a wide audience.

DISCUSSION QUESTIONS

1. Select a social issue that interests you, such as Internet use or crime. List at least four of your beliefs about this phenomenon. Try to identify the sources of each of these beliefs.

2. Does the academic motivation to do the best possible job of understanding how the social world works conflict with policy or personal motivations? How could personal experiences with social isolation or with Internet use shape research motivations? In what ways might the goal of influencing policy about social relations shape a researcher's approach to this issue?

3. Pick a contemporary social issue of interest to you. Describe different approaches to research on this issue that would involve descriptive, exploratory, explanatory, and evaluative approaches.

4. Review the strengths of social research. How convinced are you about each of them at this point?

5. Review each of the research alternatives. Do you find yourself more attracted to a quantitative or a qualitative approach? To a positivist, postpositivist, or interpretivist philosophy? To doing research to contribute to basic knowledge or to shape social policy? What do you think about value freedom as a standard for science?

SPSS EXERCISES

1. What personal motivation might you have for studying the level of concern about the COVID-19 pandemic? What might motivate other people to conduct research on this topic? What policy and academic motives might be important?

2. After you download one of the GSS2020 files and save it in a directory, open the GSS2020 file. In the SPSS menu, click on File, then on Open and Data, and then on the name of the data file in the directory where it is saved. How many respondents are there in this subset of the complete GSS file? (Scroll down to the bottom of the data set in Data View.) How many variables were measured? (Scroll down to the bottom of the Variable View in SPSS.)

3. What would you estimate as the level of concern about the COVID-19 pandemic in the United States in 2020? Now for your first real research experience in this text: Describe the distribution of concern about the COVID-19 pandemic (WRYCOVID_2). Obtaining the relevant data is as simple as "a, b, c, d, e."
   a. Click on Graphs.
   b. Click on Legacy Dialogs > Bar.
   c. Select "Simple" and "Summaries for groups of cases" under Data in Chart Area > Define.
   d. Place the WRYCOVID_2 variable in the box below "Category Axis:" and select "% of cases" under "Bar Represent."
   e. Click OK.

Now describe the distribution of concern about the COVID-19 pandemic. What percentage of the population was very concerned with the COVID-19 pandemic in 2020?