Why Do Research?

Perhaps you have young children, or siblings or nieces/nephews, or maybe you will have children in the future. Any parent will tell you that the eating habits of children are a major concern. In the United States, the rapid increase in childhood obesity and diabetes is a public health issue. Children are greatly influenced by advertising, and one-half of all advertising for children is for food. Research (Gantz, et al. 2007) found that children ages 2 through 7 see an average of 12 food ads per day on TV (30 hours per year) whereas those ages 8 to 12 see an average of 21 food ads per day (50 hours per year). The study found that most of the advertised food is snacks, candy, or fast food. Only 4 percent of ads are for dairy products, 1 percent is for fruit juices, and no ads are for fruits or vegetables. Perhaps this is why several nations ban advertising that targets children. One well-known fast food chain has been especially successful in using branding to attract children (or their parents) as customers. "Branding" is when a company or other organization actively attaches its name, usually with a logo, to products or services and aggressively promotes them to the public. This is to create a strong mental and emotional connection within potential consumers. As of 2007, McDonald's had more than 30,000 restaurants serving 50 million people in more than 119 countries each day. Researchers (Robinson et al. 2007) looked at the impact of McDonald's on the food choices made by young children (ages 3 to 5). They placed two sets of food items in front of the children; one food item (milk, French fries, hamburger, chicken nuggets, and baby carrots) was in a McDonald's wrapper, and the other was not. They asked, "Can you tell me which is from McDonald's?" to make certain the children saw the difference. They next asked the children to take one bite and taste each food item, then tell the researchers whether the food was the same or one tasted better than the other. In fact, the food was identical. The researchers also asked parents about television viewing habits and fast food restaurant visits. Results (see Figures 1.1 and 1.2) showed that more children said that the item in the McDonald's package tasted better for all five food items. Note that McDonald's did not sell baby carrots at the time of this study. In addition, children whose parents had taken them to McDonald's were most likely to prefer McDonald's. The researchers concluded that by the age of 5, children internalized the McDonald's brand as an

**◼ Figure 1.1   Bar Chart from Robinson Study**

Number of television sets in the household as a moderator of taste preferences. Total preference scores may range from -1 (preferred the unbranded food in all comparisons) to 1 (preferred the McDonald's branded food in all comparisons).

Number of Television Sets in the Household
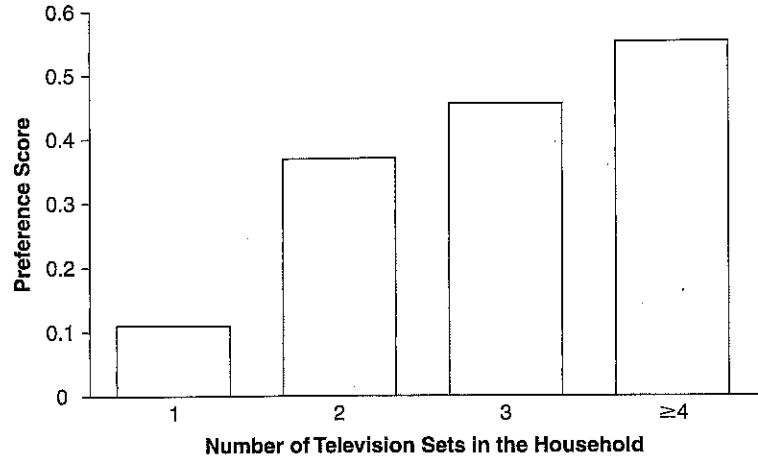
Source: "Effects of Fast Food Branding on Young Children's Taste Preferences." Thomas N. Robinson, MD, MPH; Dina L. G. Borzekowski, EdD; Donna M. Matheson, PhD, Helena C. Kraemer, PhD. Archives of Pediatric and Adolescent Medicine 2007; 161 (8):792–797.

◼ Figure 1.2   Bar Chart from Robinson Study

Frequency of eating at McDonald's as a moderator of taste preferences. Total preference scores may range from -1 (preferred the unbranded food in all comparisons) to 1 (preferred the McDonald's branded food in all comparisons).

Meals From McDonald's
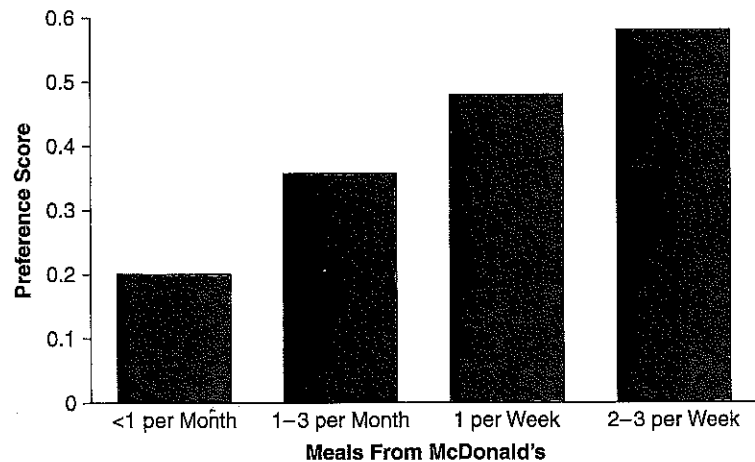
Source: "Effects of Fast Food Branding on Young Children's Taste Preferences." Thomas N. Robinson, MD, MPH; Dina L. G. Borzekowski, EdD; Donna M. Matheson, PhD, Helena C. Kraemer, PhD. Archives of Pediatric and Adolescent Medicine 2007; 161 (8):792–797.

indicator of superior food taste. These two studies help us understand how young children in the United States make food choices. We can conduct studies on many topics, such as children's food choices, to understand what is happening in the social world. We may or may not use study findings to make improvements in our daily lives or society—doing so requires taking social-political action. By learning how researchers conduct such studies, you will be in a better position to make decisions and choices for yourself, your family, and community.

ON WHAT BASIS DO YOU MAKE DECISIONS?

You make thousands of choices and decisions every day. Most are trivial, such as what to have for breakfast; when to call a friend; whether to purchase pink, white, or blue facial tissue; and which TV show to watch. Other decisions are important and have consequences for your personal and family life, your role as a citizen and community member, or your career. Studies suggest that most of us make decisions by using a mix of common sense; advice from experts, friends, and family; past experiences; cultural literacy; and school knowledge. Some of us also use religious faith, personal prejudice and values, horoscopes and lucky numbers, guesswork, or folklore.

You might ask, how will a book on social research help me make decisions? Although social research does not have all the answers, often it can help you to

- Make better decisions about your daily life (such as, What type of person should I marry? What is the best way to raise my child? Why are many people getting divorced?).
- Understand events in the larger world around you (such as, Why do students shoot their teachers? Do drug courts really work?).
- Decide professional issues (such as, Which product is likely to sell the most? How do I find out whether my employees are happy? Which children's reading program is most effective?).

Research is a process in which people use specific principles and techniques to create knowledge. It also refers to a body of knowledge (i.e., information, ideas, or theories) built up over time, and a way to look at information, questions, or issues. You have probably heard of people doing research, or you may have read research findings or done some research. The various aspects of research are interrelated.

Making It Practical Looking at the Word *Research*

What do you think of when you hear the word *research*?

_____ *It is fun and exciting.* Yes, research allows you to exercise your creativity and discover new things, which is almost always fun.

_____ *It is difficult and mysterious.* Yes, research has some difficult parts that may seem mysterious until you learn about them, but most aspects of research are easy to grasp.

_____ *It is practical and relevant.* Yes, it can yield results you can use and make a difference in real life.

_____ *It is valuable and rewarding.* This is usually true. Properly conducted research can have a big payoff for life decisions you make, workplace effectiveness, and job prospects.

_____ *It is a waste of time and effort.* Not exactly. Research can take time and effort, but it is rarely a waste if done properly.

_____ *It is always correct.* No, it is not always right, but it is more likely to be right than the alternatives, such as relying on tradition, authority or your personal experience. It is useful to distinguish between better and worse research.

HOW DO WE KNOW WHAT WE KNOW?

Ways of Knowing Without Research

As just mentioned, most people make decisions without doing research, checking out research results, or looking at issues with a research orientation. Most of the time, this turns out fine, especially for trivial decisions. Yet many psychological studies suggest that few of us are great decision makers. We often misjudge or use distorted thinking and are not even aware of our misjudgment or bias. This is where research comes in. Research reduces misjudgment, bias, and distorted thinking.

Research produces valuable information and expands understanding, but it is not 100 percent foolproof. It does not guarantee perfect results every time or yield "absolute truth." However, in a head-to-head comparison with all the other ways we reach decisions, research wins hands down. This is why professional organizations, highly educated people, and most leaders rely on research when they make important decisions. Centuries ago, people went to oracles, looked at the leaves at bottom of a teacup, or consulted the stars to make major decisions. Today, people in all fields—medicine, business, education, law enforcement, public policy—instead look to research publications or study findings.

Relying on research is not always simple. You may have heard the dozens of contradictory and confusing research-based recommendations about health and diet in the mass media. You may ask, What is so great about research if there is so much disagreement? In reality, a lot of what fills the mass media using the terms *research* or *scientific* does not involve scientific research. Unfortunately, it is legal to use the word *research* in the media when technically no real research backs a statement. Some of what you hear may be research backed, but it could be selective or incomplete, overstated or distorted. The media "noise machine" jumbles together many different types of statements. It is little wonder that many people are skeptical of research. Media distortion of research or social issues can be confusing. You may hear of a terrible problem in the mass media, but closer inspection and a little research may reveal that it was seriously distorted (see Tips for the Wise Consumer).

By the time you read this book, you have already had many years of schooling. You have undoubtedly heard about research and science during the many years you sat in classrooms, did homework, and read textbooks. Unless you had talented, enthusiastic teachers, you might have had an unpleasant experience or developed "research phobia." Maybe it was smelly science labs or challenging math tests without enough preparation time. In many schools, only about 10 percent of students (the brains, eggheads, nerds, or geeks) really get into research and science. Many other students see it as being irrelevant or strange at best. Some are frightened or intimidated by the idea of scientific research. Perhaps when you hear "scientific research" you have images of the fictional mad scientist from science fiction stories or horror movies.

Many people believe that only college professors, people with medical or Ph.D. degrees, and high-powered professional scientists can do research. Maybe you watched a famous researcher being interviewed on television or picked up an obscure research publication filled with incomprehensible jargon, statistics, and exotic formulas. You may feel that research is beyond you and that it has little relevance for your daily life or career. Yet many students, after just one class in doing research, can use the techniques, insights, and information-gathering skills to improve decision making.

One purpose of this book is to show you that empirical social research is not frightening, is not beyond you, and can be relevant. Yes, doing research can be hard

Ffoto Fictions/Taxi/Getty Images

Tips for the Wise Consumer Media Reports Are Not Always Accurate

Have you seen the missing children photos on milk cartons or posters? Most people are very concerned about abducted and missing children. They believe it is a huge and growing problem. President Ronald Reagan brought it to national attention and called it the nation's most dire problem, based on statistics showing that 1.5 million children are abducted and 50,000 are never found. Numerous television news shows repeated this "fact." The TV show *America's Most Wanted* repeated the numbers and claimed, "This country is littered with mutilated, decapitated, raped and strangled children" (Glassner 1999:63). But is this true? An official Justice Department report (1999) shows that caretakers (parent, guardian, babysitter, etc.) thought 1.3 million children were missing, but they only reported 800,000 cases to an official agency or the police. Of the 800,000, only 115 fit the stereotypical kidnapping by a stranger (Department of Justice 2002). Although 115 missing children is a serious issue, it is dramatically different from claims of over 1 million missing children. Horror stories in the media shape the public's attention and have intense emotional appeal. Most people accept such stories as true and base their actions on them. Few take the time to look calmly and carefully at the research-backed evidence to determine the actual situation. Before you make decisions, it may be wise to do some independent investigation and find out whether the horror stories are true or not.

PA /Topham/The Image Works

work. It allows little room for being sloppy, lazy, "spaced out," or careless. Research takes concentration, serious thinking, rigor, and self-discipline. In this respect, it is not unique. Making great music or art, cooking fantastic food, growing an outstanding garden, starting up a new business, providing excellent health care, being a star athlete, or repairing highly complex machinery all take concentration, serious thinking, rigor, and self-discipline. Doing research takes rigor, but it is also a creative, exciting, and fun process.

If research is better than the alternative ways to get answers such as asking a friend, relying on some supposed expert, or guessing, you may well ask, Why don't more people learn to do research and use it in their lives? A simple answer is ignorance. If you do not know it, you cannot use it. However, people may also reject the results or method of research not from ignorance, but because the results, or how people got to the results, contradict a deep-held belief, a traditional way of doing things, or because it goes against peer pressure or "what everybody knows."

Some people turn away from research because it does not guarantee 100 percent perfect answers all the time. They misunderstand a key feature of research: **Research is an ongoing process of searching and working toward the truth.** Knowledge from research slowly accumulates over time. Although it is not perfect, it still beats the alternative ways of producing knowledge. If you want to find best answers in real life, then research is for you.

Large numbers of people, even in the United States in the twenty-first century,[1] continue to believe in things that research repeatedly demonstrates to be false, such as the following:

- UFOs and ESP (extrasensory perception)
- Horoscopes and astrology
- Unscientific thinking about age of the earth or basic forces of nature
- Goblins, demons, witches, evil spirits, and devils

Although the average level of schooling in the population has risen, many people cling to invented stories or magical-fantasy thinking. Studies suggest that average reading comprehension, critical thinking skills, basic social-geographic knowledge, and understanding of scientific research in the public have changed little (Pew Research Center Report 2007). Why? Part of the answer is that not everyone continues to practice and apply the knowledge, skills, or thinking acquired in their school years later in their daily life or job decisions. Another part of the answer is a simple matter of numbers. Imagine that 25,000 educated people want to be better informed. They read a book written by an expert who carefully researched a topic for six years. At the same time, 100 million people, who are just a little lazy, go out to watch an entertaining, glitzy 90-minute movie on the same topic. The movie contains inaccurate and distorted information. Most people's views and thinking are based on inaccurate and distorted information from the movie. Just because most people believe something is true does not make it true. A good reason for you to learn to think critically and to conduct research properly is so you do not follow what most other people think when it is wrong.

Developing Critical Thinking Skills

The word *critical* has three common meanings: (1) being very important, or being an urgent need; (2) being highly negative or antagonistic and looking for flaws; and (3) being very aware, judging carefully, and questioning by not accepting just anything that comes along. The *critical* in critical thinking refers to the last meaning, although the first one also fits. **Critical thinking** is a way to think and see things. Psychologists and others who study how we think have cataloged a long list of common misperceptions or logical fallacies. Just as we can become misled when we look into a distorted mirror, we can fall for these fallacies. Here are two common ones for the sake of illustration.

- Gambler's fallacy—We tend to think that if something has not occurred for a long time, it will soon happen. If you flip a fair coin six times and get heads, the odds that the next flip will result in tails is actually no greater than the odds for heads.
- Attribution error—We tend to attribute or assign blame for negative outcomes to others or outside forces, but believe we are personally responsible for positive outcomes.

Critical thinking helps us avoid common fallacies. It also discourages us from rushing to arrive at a fixed, closed or set answer. Many people feel uncomfortable with ambiguity or an open-ended process of searching. They want the absolute correct answer, here and now. Critical thinking warns us that there is rarely one quick, simple correct answer.

Critical thinking points to the value of looking at a question, issue, or evidence from more than one point of view. It tells us that adopting a single perspective or point of view often blinds us to important aspects of a question, issue, or problem.

Critical thinking leads us to uncover hidden assumptions. Assumptions—unstated premises or untested starting points—are necessary, and we use them all the time. There is nothing wrong with having assumptions. However, assumptions tend to block off certain avenues of inquiry while favoring others. Problems can arise when we fail to recognize or examine our assumptions. Critical thinking tells us to notice assumptions and see that they can limit choices. If we adopt alternative assumptions, the outcome may be very different. Here is a simple example (see Making It Practical: Recognizing Assumptions).

critical thinking a highly aware perspective that tries to avoid fallacies, reveal assumptions, adopt multiple viewpoints, and keep an open mind while questioning simple solutions.

Making It Practical **Recognizing Assumptions**

Often debates or disagreements reach an impasse because participants are using different assumptions. Revealing hidden assumptions can shift the discussion and allow a resolution or at least clarify the real issue. For example, two executives, Mark and Susan, disagree over whether to advance product X or product Y. Product X costs less to produce, has a three-year life expectancy, and yields a $10 profit for each item sold. Product Y has slightly higher production costs but is of higher quality. It lasts six years and yields an $8 profit per item. Mark favors item X. He projects that it will sell 10,000 units to produce $100,000 in total profits. Susan favors item Y. She projects that it will sell 15,000 units for $120,000 in total profits. Their disagreement is not over cost or profits, but over time horizon and customer loyalty. Mark assumes a two-year time frame and thinks that retaining customers and building brand loyalty are minor concerns. Susan assumes a longer time frame and that building brand loyalty among customers is important.

Here is another example: A school district creates two charter schools. The new principals of each try to create a high-quality learning environment. After the schools were operational for ten years, 75 percent of students from both charter schools entered a four-year college and equal numbers went on to highly successful careers. However, the principals of each school recruited students differently. Whereas Principal A assumed that academics alone were important, Principal B assumed that having a socially diverse classroom and student cooperation skills were equally as important as academic test scores. Principal A recruited based on academic test scores alone, taking top-scoring students. Principal B recruited half the students based on academics and half based on other talents (art, athletics, drama, music, or volunteering) or strong motivation. In Principal A's school, 85 percent of students entering came from one section of town, Eliteville, where high-income, well-educated people lived. Principal B's charter school had only 30 percent of its students from Eliteville; 70 percent came from all over the community.

Social research uses critical thinking and a particular form of argument. The word *argument* here does not mean shouting down another person. It means a set of logically connected statements that start simple and end with a clear conclusion that pulls everything together. We use two major types of arguments in discussions and descriptions about how things are now, why social events or behaviors happen, and what might be the best way to resolve an issue or problem based on likely consequences. One type uses moral, religious, or ideological reasoning, and the other uses critical thinking and systematic **empirical evidence**.

/Many students in my classes and much of the public confuse the two types of argument. They do not easily recognize a key distinction between the two types: Research arguments greatly rely on systematic empirical evidence, whereas arguments based on a moral position, religious doctrine, or ideological values do not. We examine this distinction in the next section.

empirical evidence evidence of actual events occurring in the world that come from direct or indirect observations.

Summary Review **Four Features of Critical Thinking**

- Avoid logical fallacies; practice careful thinking using "cold logic."
- Maintain an open mind and look at all aspects of an issue; be cautious about simple, fast and easy solutions offered for serious issues.
- Do not get locked into a single point of view; look at issues from multiple perspectives.
- Examine hidden assumptions; be aware of your assumptions and their implications.

Learning from History Religion and Research
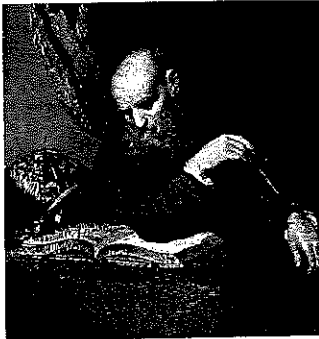
Mary Evans Picture Library/The
Image Works

Research usually wins out over horoscopes, lucky numbers, or superstition, but organized religion is a more sensitive subject. Most people, especially in the United States, profess a belief in God and feel attached to a specific religion (usually Judeo-Christian). Scientific research and religion, including non-Judeo-Christian religious beliefs like Islam and Buddhism, can disagree. This is nothing new. In fact, it has been going on at least since Galileo Galilei (1564–1642). Although he tried to remain loyal to his religion, Galileo was committed to research, honesty, and truth. These caused him to reject a blind allegiance to philosophical and religious authority. Based on careful research and systematic empirical evidence, he changed his views on how the world works. He insisted the earth went around the sun and not vice versa, as religious authorities at the time held. Because he opposed established doctrine, authorities placed him under house arrest and banned his books. Today we recognize that Galileo was right, and in time religious authorities relaxed their views and changed their position.

The science versus religion conflict is easily overdrawn. At one extreme are some highly devout people who reject all science and believe only in religious faith. Whether it is gravity, age of the earth, medical care, causes of crime, or whatever, they believe that religion alone has the only true answers. At the other extreme are some nonreligious people who think all religion is false and believe in science alone. Whether it is social justice, moral decisions of right or wrong, life after death, or whatever, they feel that only science has the true answers. Most people, including most scientists, fall in between the extremes. Religious extremists of any religion (Christianity, Islam, Hinduism, or others) and science extremists each think they have all the answers, but most people think that both sides have value and each side addresses certain issues better than the other.

Science-based research is better at providing answers for some questions whereas religion may be better for others.

Science cannot tell moral right from wrong, whether there is a God, whether we have a soul, or what happens after death. In the past, religious authorities made rather foolish statements about astronomy, biology, and many social issues (such as supporting slavery). The line between what belongs to religion or to science is always shifting. At one time, science only dealt with the physical world (planets, chemistry, or plants) and religious thinking dominated all social issues. As research techniques and scientific thinking advanced, people applied them to social issues—such as why crime rates rise and whether children raised in certain ways are better adjusted. Over time, people were less likely to accept the old answers, such as that errant behavior is caused by the devil or original sin. Increasingly, they looked to research-based answers such as increased economic distress, child rearing without strong, clear values, or a breakdown of community ties.

Research answers many questions that overlap with religious-moral issues. Research cannot answer questions such as, Should I marry John? Is abortion immoral? Is the death penalty right or wrong? Should same-sex marriage be allowed? Will prayer help cure my mother's cancer? However, it can answer related questions: If one marries someone with a background of emotional instability and excessive alcohol or illegal drug use, is one likely to experience physical abuse and divorce? Do women who have an abortion experience less or more social, educational, and economic success? Does having a death penalty lower murder rates? Do children raised by same-sex couples grow up to be as well adjusted as those raised by opposite-sex couples? Does praying for a person end the spread of cancer? Answers to these questions may help you make decisions about moral and religious concerns but do not provide a fixed moral answer.

Suppose you found that the death penalty has no effect on reducing murder rates. You may still want to keep it for other reasons (e.g., revenge or religious beliefs). At least if you know the research findings, you can choose to base your decision on the facts or something else (e.g., moral or religious belief). Suppose studies showed that praying for a seriously ill person has no impact on recovery rates. You may still want to pray for other reasons. Perhaps it makes you feel better and gives your life focus, or it may help give the ill person a feeling of hope, and that may indirectly aid in recovery. In short, research and other moral-religious reasoning differ, but they are often compatible.

WHAT IS EMPIRICAL SOCIAL RESEARCH?

Research takes many forms. For example, I want to purchase a new car. I "research" by reading several magazine articles about features of the various autos, I visit the showroom and test drive cars, I go online to examine reports on crash test safety

or mechanical reliability, I compare specifications such as leg room length or tire size. The topic of this book, empirical social research, involves gathering information, but it is much more than that.

We use the word *research* in the following four ways:

1. Research is closely reading and studying specific documents. You identify certain documents and then read and reread the documents (religious texts such as the Bible or Koran, legal texts such as the Constitution or court decisions, literary texts such as novels, artistic texts such as paintings or music scores) to attain a deeper understanding, to reveal patterns and themes, or to find ultimate truth.
2. Research is gathering preexisting information from academic journals or official government reports and making sense of it. You first search for and collect information, then evaluate what you found, and finally synthesize the findings. During the process, you do not treat all information equally. You may weigh some evidence (your friend says a car looks cool) differently than other evidence (test driving the car or reading about its rate of mechanical failure).
3. Research is a process of applying accepted techniques and principles. The process is to ask questions in certain ways, gather information systematically, observe in detail, measure precisely, draw a sample, analyze using statistics, or perform experiments.
4. Research is applying critical thinking and adopting an orientation. You adopt a critical thinking attitude and skeptical perspective. You examine assumptions, consider alternatives, and do not accept what you see at face value. You reflect on how you and others arrived at decisions.

Empirical social research can involve all four of these activities. It is also an ongoing process of accumulating information, with results stated in terms of likelihood or probabilities and not as fixed absolutes. Because it is evidence based, findings change over time as the accumulated evidence reveals new insights and understandings. These features of research can create frustration. You may ask, What is the use of doing research if it does not give me an answer now? It may give an answer, but a provisional one. Leading professionals rely on research because it is better than the alternatives, and its answers tend to improve over time. What we, as a society or all humanity, knew last year may differ little from this year. However, what research tells us today differs quite a bit from what we knew 20 years ago for many questions and issues.

Some people get frustrated because research findings are not fixed and unchanging. Because research relies on empirical evidence, its statements or theories[2] about events can change if there is new or better evidence. All research-based statements, findings, or theories are provisional. They only stand as long as most of the evidence backs them. Moreover, the quality and amount of evidence determines the amount of confidence we place in a statement, idea, or theory.

Some people get frustrated because research findings are in the form of chance-like statements. They want a more definitive answer than "teacher attention is likely to affect a child's learning"; "providing flexible benefits or work hours increases the likelihood of high employee satisfaction"; or "being overweight increases the chances you will develop diabetes." People may like 100 percent certainty, but most research findings are stated in chance terms. Despite the comfort of simple, fixed answers, as an adult you probably already learned that such answers are extremely rare for complex issues in the real world. Although research does not offer us 100 percent certainty, it is better than the alternatives and it improves our understanding over time. Studies suggest that few of us are good at evaluating the risks and probabilities of things we do every day: the risk of getting injured or killed, the probability of winning the lottery, the likelihood that we will make a profit in the stock market, and so forth. Moreover, we tend to resist learning quickly from our misjudgments. Luckily, research has built-in features to improve the evaluation of risk and probabilities of events occurring.

What Evidence?

As stated previously, social research relies on systematic empirical evidence. We use evidence all the time and evaluate it in daily life. Would you accept a third-hand rumor as good evidence? Would you trust a written statement witnessed and co-signed by two neutral observers as evidence over an oral statement made without any witnesses? Courts of law have rules of evidence that outline what is acceptable and what is not. In many areas of life, we adopt standards of what counts as good, legitimate evidence. We have rules about how to interpret or assign meaning to evidence. Without a set of standards and rules, different people might look at the same evidence but arrive at different conclusions. For this reason, social research provides rules of evidence—how to collect it, what counts as good evidence, and how to interpret it. We can have more confidence in research when we have a lot of strong evidence versus scanty or very weak evidence.

Research requires you to look at empirical evidence (i.e., data or evidence that ultimately can be tied to something empirical—it can be seen, touched, smelled, heard, etc.). Moreover, we must collect the empirical evidence carefully and systematically according to generally accepted rules or standards. The standards of evidence are key. Suppose a person is in a boat going down the Colorado River in the Grand Canyon. An artist looks at the rock formations and sees beauty based on aesthetic standards. An environmentalist sees serious erosion based on standards of water flow and soil/rock removal. A geologist sees evidence of ancient geological shifts or volcanic action based on standards from the field of geology. A Native American sees evidence of messages from the Great Spirit based on standards from religious beliefs and folklore. Someone else sees evidence of UFO visits based on standards from reading lots of science fiction or fantasy literature. It is not enough to simply say *evidence*; standards for specific types of evidence are also needed.

David Muench/Corbis

This book discusses what constitutes stronger empirical evidence when doing social research. You may ask, Where do the standards come from? Over several decades, thousands of people have conducted many research studies, and other people have examined the studies looking for flaws. The standards we have today developed slowly as people evaluated, critiqued, and suggested areas for improvement in studies. A shorthand way to talk about the standards-creating process is to say that it comes from the operation of the scientific community.

Many standards for research evidence follow common sense. Suppose you have two samples of all the students at a large university. One sample contains 100 students and another contains 1000. Everything else about the samples is identical. Common sense says you should use the one with 1000 students. Suppose you want to find out a person's attitude about a subject. You can ask that person once in one way with a single question, or you can ask him or her in more than one way, with multiple questions and at multiple time points. Common sense tells you that asking with multiple ways, questions, and times is the better way to learn someone's true attitude on a subject. Other standards in research can get more technical or may not agree with common-sense thinking.

Evidence in social research takes two forms: **quantitative data** and **qualitative data**. Some people confuse the idea of strong evidence with the form of evidence. They hold the false notion that quantitative data are always stronger and qualitative data are always weaker. The standards are what determine whether evidence is strong, not whether the data come in a quantitative or qualitative form. Strong, solid evidence has less to do with being either quantitative or qualitative than with how carefully and systematically a researcher gathered the evidence.
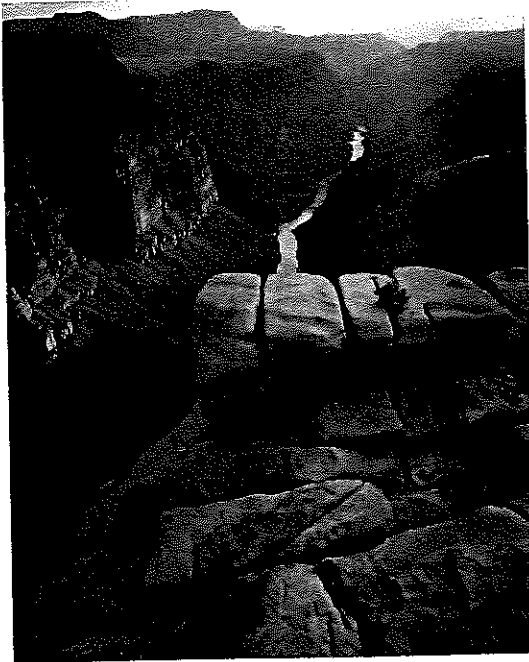
quantitative data evidence in the form of numbers.

qualitative data evidence in the form of visual images, words, or sounds.

Research Is a Process that Results in a Product

As stated previously, research is less a single thing than an ongoing process. The process has multiple parts or steps and adheres to guidelines. The parts come together and ultimately yield a product. The product of the research process is knowledge or information. In other words, research results are answers to questions. The outcome of the research process is the answer to a research question. Good research also stimulates new thinking and raises new questions, questions that you would not have imagined until you did the research. The research process's specific form will vary by topic area, form of evidence, and type of research question.

Varieties of Social Research

To conduct a study, you need to collect data using one or more specific techniques. This section gives you a brief overview of the major techniques. In later chapters, you will read about these techniques in detail and learn how to use them. Some techniques are more effective when addressing specific questions or topics. It takes skill, practice, and creativity to match a research question to an appropriate data collection technique.

Some people get locked into using one technique (such as questionnaire) and use it all the time, even when it is not as effective as other techniques. A good researcher is aware of the full range of techniques as well as their strengths and limitations. We can divide research techniques based on whether the data you are gathering are quantitative or qualitative. Of course, we can blend the various types as needed.

Quantitative Data Collection Techniques

Experiments. Experimental research closely follows the logic and principles found in natural science research. To conduct an experiment, you create a situation and examine its effects on study participants. You can conduct an experiment in laboratories or in real life with a relatively small number of people. Experiments require a well-focused research question. In the typical experiment, you divide the people being studied into two or more groups. Next, you treat both groups identically, except you do something with one group (but not the other): the "treatment." You measure the reactions of both groups precisely. By controlling the setting for both groups and giving only one group the treatment, you can conclude that any differences in the reactions of the groups are due to the treatment alone. The chapter opening study of young children presented with food in a McDonald's package or not used the experimental technique. Instead of treating the children differently, the researchers altered the food package.

Surveys. In survey research, you ask people questions in a written questionnaire (e-mailed or handed to people) or during an interview and then record their answers. Unlike the experiment, you do not manipulate a situation or condition. You simply ask many people numerous questions in a short time period. Typically, you later summarize answers to questions in percentages, tables, or graphs. Surveys give you a picture of what many people think or report doing. Often, a sample or a smaller group of selected people (e.g., 150 students) is used in survey research. If properly conducted, you can generalize results to a larger group (e.g., 5000 students) from which the smaller group was selected. Example studies 1 and 2 later in this chapter used survey research.

Content Analysis. Content analysis is a technique for examining information, or content, in written or symbolic material (e.g., pictures, movies, song lyrics, etc.). In content analysis, you first identify a body of material to analyze (e.g., books, newspapers, films, etc.). Next, you create a system for recording specific aspects of it. The system might include counting how often certain words or themes occur. Finally,

◀◀ Summary Review Quantitative and Qualitative Data Collection Techniques

Quantitative Data Collection Techniques
- Experiments
- Surveys
- Content analyses
- Existing statistics

Qualitative Data Collection Techniques
- Ethnographic field research
- Historical-comparative research

you record what was found in the material. Often you measure information in the content as numbers and present it as tables or graphs. This technique lets you discover features in the content of large amounts of material that might otherwise go unnoticed. The study cited earlier on children's television viewing habits is an example of a content analysis study.

Existing Statistical Sources. In existing statistics research, you first locate previously collected information. Often it is in the form of public documents, government reports, or previously conducted surveys. Next, you reorganize the information in new ways to address a research question. Locating sources can be very time consuming. You may not even know whether the information for your research question is available when you start a study. When you reexamine existing quantitative information, you may use various statistical procedures.

Qualitative Data Collection Techniques

Ethnographic Field Research. To conduct a field research study, you closely observe a small group of people over a length of time (e.g., weeks, months, years). Usually you begin with a loosely formulated idea or topic, not a fixed theory or hypothesis. You select a social group or natural setting for study, gain access and adopt a social role in the setting, and observe in great detail. You will get to know personally the people being studied and may conduct open-ended and informal interviews. In field research, it is important to take very detailed notes on a daily basis. After leaving the field site, you will reread the notes and prepare a written report. Part of Example Study 2, page 14, later in this chapter, used the ethnographic field research technique.

Historical-Comparative Research. In historical-comparative research, you examine aspects of social life in a past historical era or across different cultures. You may focus on one historical period or several, compare one or more cultures, or mix historical periods and cultures. As in field research, you combine theory building/ testing with data collection. You begin with a loosely formulated question that you refine during the research process. In this type of study, you gather a wide array of evidence. Evidence often includes existing statistics and documents (e.g., novels, official reports, books, newspapers, diaries, photographs, and maps). In addition, you may make direct observations or conduct interviews.

FIT THE QUESTION YOU WANT TO ANSWER WITH A TYPE OF SOCIAL RESEARCH

Newcomers to research struggle to connect a specific research question with a particular research technique. Often, you will need to reformulate or rephrase the question. Even then, it is not easy to match your question to a type of research. First, you should clarify the purpose of the research.

People conduct research with different goals or purposes. If you ask someone why he or she is conducting a study, you might get a range of responses: "My boss told me to"; "It was a class assignment"; "I was curious"; "My roommate thought it would be a good idea." There are nearly as many reasons to do research as there are researchers. We can organize the purposes of research based on what you are trying to accomplish—explore a new topic, describe a social phenomenon, explain why something occurs, or evaluate an outcome. Studies may have multiple purposes (e.g., both to explore and to describe), but one major purpose is usually dominant.

The four major purposes of research are as follows:

- Exploring a previously unknown, brand-new issue
- Describing in depth some issue, situation, or relationship
- Explaining why an event or situation happens or occurs in specific ways
- Evaluating whether a program/policy works

Exploring

In **exploratory research**, you examine a new area that no one has studied. Your goal is to formulate precise questions for future research. Exploratory research is often a first stage in a sequence of studies. You may need to conduct an exploratory study to find out enough to design and execute a second, more systematic and extensive study. Exploratory research addresses the "what?" question: "What is this social activity really about?"

Exploratory researchers tend to use qualitative data. They are not wedded to a specific theory or research question. Exploratory research adds focus but rarely yields definitive answers. If you conduct an exploratory study, you may get frustrated and feel it is difficult because there are few guidelines to follow. Everything is potentially important, the steps are not well defined, and the direction of inquiry changes frequently. You need to be creative, open minded; and flexible; adopt an investigative stance; and explore all sources of information.

Describing

Perhaps you may have an idea or question about a topic—a new marketing plan, a way to improve patient care, a way to deliver a client service, a way to help a group of new students, and so forth. Often, someone studied a similar topic somewhere at some time, but you want to learn about it in a specific place. The goal of **descriptive research** is to present a picture of the specific details of a situation, social setting, or relationship. It focuses on the "how?" and "who?" questions ("How did it happen?" "Who is involved? Which group is increasing faster?"). A great deal of social research is descriptive. Much of the social research found in scholarly journals or used for making policy decisions is descriptive.

exploratory research research into a new topic to develop a general understanding and refining ideas for future research.

descriptive research research that presents a quantitative or qualitative picture of an event, activity, or group.

Example Study Box 1 **Social Bonds and Internet Pornography Use**

Stack, Wasserman, and Kern (2004) conducted a descriptive study on pornography use on the Internet among Americans. Based on survey data from 531 people, they found that the greatest users were people with weak social bonds. Social bonds include religious, marital, and political ties. Heavy adult users of pornography tended to be males in unhappy marriages and who had few ties to organized religion. Pornography users were also more likely to have engaged in nonconventional sexual behavior (i.e., had an extramarital affair or engaged in paid sex) but not other forms of social deviance, such as illegal drug use.

Descriptive and exploratory research can blend together in practice. For a descriptive study, you begin with a well-defined subject and conduct a study to describe it accurately. The outcome is a detailed picture of the subject. It may indicate the percentage of people who hold a particular view or engage in specific behaviors—for example, that 8 percent of parents physically or sexually abuse their children. A descriptive study can also tell you which types of people engage in which activities (such as finding out that young males really enjoy one type of music whereas older females really dislike it).

Explaining

When you have a well-recognized issue and already have a description of it, you might wonder why things are the way they are (why do younger males like this type of music but not older females?) **Explanatory research** identifies the sources of social behaviors, beliefs, conditions, and events; it documents causes, tests theories, and provides reasons. It builds on exploratory and descriptive research. For example, an exploratory study discovers a new type of child abuse by parents; a descriptive study documents that 10 percent of parents abuse their children in this new way and describes the kinds of parents and conditions for which it is most frequent; an explanatory study

explanatory research research that attempts to test a theory or develop a new accounting of why activities, events, or relations occur as they do.

▶▶ Example Study Box 2 **Abuse and Marriage**

Cherlin, Burton, Hurt, and Purvin (2004) conducted an explanatory study to learn why some women have difficulty forming stable marriages or cohabitation relationships. The researchers surveyed a random sample of 2402 women and gathered ethnographic field qualitative data in low-income neighborhoods in three cities, Boston, Chicago, and San Antonio. They considered many factors, including experience with sexual or physical abuse. The researchers tested the hypothesis that women with a history of abuse, as children or adults, are less likely to marry than those without such histories. They found that abused women have fewer social supports and resources to resist or avoid abusive partners. Also, previously abused women tend to harbor feelings of self-blame, guilt, and low self-esteem that inhibit the formation of a healthy romantic relationship. An abusive experience creates emotional distance and a hesitancy to make long-term commitments. The researchers found that adult women who had experienced abuse were less likely to be married and tended to enter into a series of unstable, transitory relations. The 1996 welfare reform law, the Personal Responsibility and Work Opportunity Reconciliation Act, emphasizes marriage and presents it as a fundamental good. When the U.S. Congressional debates discussed rules to encourage marriage for all unmarried women who received welfare payments, this study's findings were introduced. Rather than always encouraging marriage as a simplistic solution, the findings suggest reducing sexual/physical abuse while encouraging healthy and stable marriages. Despite the study's general implications, the mass media ignored the study results and did not report them (see American Sociological Association, *Footnotes*, May/June 2005).

Bonnie Kamin/PhotoEdit Inc.

may focus on why certain parents are abusing their children in this manner. It may test two competing theories about why some people become abusive parents.

Evaluating

Researchers design an **evaluation research** study to find out whether a program, a new way of doing something, a marketing campaign, a policy, and so forth is effective—in other words, "Does it work?" Large bureaucratic organizations (e.g., businesses, schools, hospitals, government, large nonprofit agencies) often conduct evaluation studies to demonstrate the effectiveness of what they are doing. The specific research techniques in an evaluation study are no different from other kinds of research. The difference lies in the purpose of the research, which is typically to use evaluation results in a practical situation (although there are exceptions, as Example Study Box 3: Evaluating D.A.R.E. suggests).

An evaluation study might ask questions such as, Does a Socratic teaching technique improve learning over the lecture method? Does a law-enforcement program of mandatory arrest reduce spouse abuse? Does a flextime program raise employee productivity? Evaluation researchers usually measure the effectiveness of a program, policy, or way of doing something and often by using multiple research techniques (e.g., a survey and field research). If they can, many evaluation researchers like to use the experiment technique. Practitioners involved with a policy or program may conduct evaluation research on their own or do so at the request of outside decision makers. Outside decision makers sometimes place limits on the research, fix boundaries on what a study can look at, or pressure for a particular finding. This may create ethical dilemmas for a researcher.

Even if an evaluation study yields clear evidence about a program's effectiveness, people may not use the results. At times, people ignore solid empirical evidence

evaluation research applied research that is designed to learn whether a program, product, or policy does what it claims to do.

▶▶ Example Study Box 3 **Evaluating D.A.R.E.**

Perhaps you have participated in a Drug Abuse Resistance Education (D.A.R.E.) program. Established in 1983, D.A.R.E. operates in about 80 percent of all U.S. school districts. It focuses on elementary schools, with middle and high school curricula reinforcing the early lessons. The D.A.R.E. elementary school curriculum, usually in the fifth or sixth grade, consists of 17 lessons taught by trained uniformed police officers. The lessons teach students about various drugs and provide decision-making and peer pressure resistance skills. Many evaluation studies[3] have followed students who participated in D.A.R.E. programs and compared them to students who did not; the studies have looked at the five to seven years after program participation. The studies suggest that drug use differs little between the two sets of students. In short, participation in the program does not achieve its primary goal, to reduce illegal drug use among teens. Despite repeated evidence that it does not work, the program continues to be popular among parents, school officials, local businesses, and police. After 25 years and several billion dollars, the ineffective program continues, for social and political reasons, because of a strong desire to reduce drug use, and because there are few other accepted drug abuse education alternatives.
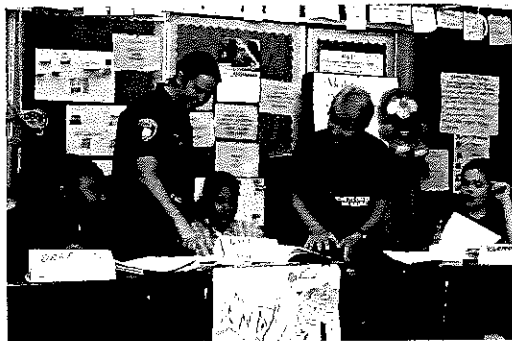
Rachel Epstein/PhotoEdit Inc.

■ Figure 1.3   Selection from General Accounting Office Letter on Evaluations of the D.A.R.E. Program

G A O
Accountability * Integrity * Reliability

United States General Accounting Office
Washington, DC 20548
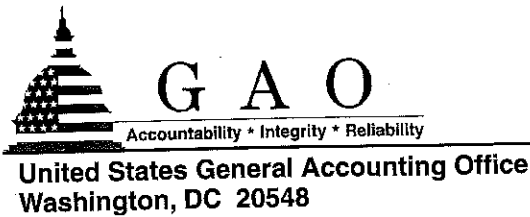
January 15, 2003

The Honorable Richard J. Durbin
United States Senate

Subject: Youth Illicit Drug Use Prevention: DARE Long-Term Evaluations and Federal Efforts to Identify Effective
         Programs

Dear Senator Durbin:

The use of illicit drugs, particularly marijuana, is a problem among our nation's youth. The adverse effects of illicit drug use play a role in school failure, violence, and antisocial and self-destructive behavior. A recent national survey[1] showed that for 1996 through 2002, more than 30 percent of tenth and twelfth grade students reported using marijuana in the past year. Further, about 20 percent of high school seniors reported using marijuana within the past 30 days. In fiscal year 2000, the federal government spent over $2.1 billion on illicit drug use prevention activities for youth, according to the Office of National Drug Control Policy (ONDCP).

Many programs are designed to help prevent and reduce illicit drug use among youth. Often, these programs also address the use of other substances, such as alcohol and tobacco. Youth drug abuse prevention programs are implemented in school, family, and community settings. School-based prevention programs are the most prevalent because schools provide easy access to children and adolescents. The most widely used school-based substance abuse prevention program in the United States is the Drug Abuse Resistance Education (DARE) program,[2] which is funded by a variety of sources, including private, federal, and other public entities. DARE's primary mission is to provide children with the information and skills they need to live drug- and violence-free lives through programs at the elementary school, middle school, and high school levels. The DARE program is usually introduced to children in the fifth or sixth grade. According to research literature, concerns have been raised about the effectiveness of the DARE fifth and sixth grade curriculum in preventing illicit drug use among youth. As agreed with your staff, this report contains information you requested on (1) the results of evaluations on the long-term effectiveness of the DARE elementary school curriculum in preventing illicit drug use among children and (2) federal efforts to identify programs that are effective in preventing illicit drug use among children.

To identify evaluations on the effectiveness of DARE at preventing illicit drug use among children, we searched social science, business, and education databases, which included the Department of Health and Human Services' (HHS) National Institutes of Health's (NIH) National Library of Medicine, for evaluations of DARE published in professional journals. We identified articles published in the 1990s on six evaluations of the DARE elementary school curriculum that included illicit drug use as an outcome measure and that also met key methodological criteria for our review, such as a long-term evaluation design and the use of intervention and control groups for comparisons. The six long-term evaluations that we discuss in this report were conducted at different times up to 10 years after student participants were initially surveyed. The six evaluations are based on three separate studies in three states. We reviewed each of the six evaluations and summarized the results of our review. We also held discussions with the researchers who conducted the evaluations. We did not independently validate the research designs or verify the results of evaluations on the effectiveness of the DARE program. (Enclosure I contains citations for the articles on evaluations of the DARE elementary school curriculum that we reviewed and enclosure II describes the methodology we used to select the evaluations).

To determine federal efforts to identify programs that are effective in preventing youth illicit drug use, we interviewed federal officials and reviewed documentation on efforts by HHS and the Department of Education (Education) to recognize programs that demonstrate success in reducing illicit drug use among children and adolescents. We did not independently verify the results of prevention programs recognized by the federal agencies. We conducted our work from January through December 2002 in accordance with generally accepted government auditing standards.

---

[1]Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman, Monitoring the Future National Results on Adolescent Drug Use: Overview of Key Findings, 2001, NIH Publication No. 02-5105 (Bethesda, Md.: National Institute on Drug Abuse, 2002).
[2]The DARE program is administered by DARE America—a nonprofit foundation.

■ Figure 1.3   *Continued*

In brief, the six long-term evaluations of the DARE elementary school curriculum that we reviewed found no significant differences in illicit drug use between students who received DARE in the fifth or sixth grade (the intervention group) and students who did not (the control group). Three of the evaluations reported that the control groups of students were provided other drug use prevention education. All of the evaluations suggested that DARE had no statistically significant long-term effect on preventing youth illicit drug use. Of the six evaluations we reviewed, five also reported on students' attitudes toward illicit drug use and resistance to peer pressure and found no significant differences between the intervention and control groups over the long term. Two of these evaluations found that the DARE students showed stronger negative attitudes about illicit drug use and improved social skills about illicit drug use about 1 year after receiving the program. These positive effects diminished over time.

We are sending copies of this report to the Secretary of HHS, the Secretary of Education, the Director of the Office of National Drug Control Policy, and others who are interested. We will also make copies available to others upon request. In addition, the report is available at no charge on GAO's Web site at http://www.gao.gov.

If you or your staff have questions about this report, please contact me at (202) 512-7119 or James O. McClyde at (202) 512-7152. Darryl W. Joyce and David W. Bieritz made key contributions to this report.

Sincerely yours,

Marjorie Kanof

Marjorie E. Kanof
Director, Health Care—Clinical and Military Health Care Issues

and make decisions based on other factors—such as moral, political, and personal reasons. Despite clear evidence, they will continue programs found to be ineffective or end highly effective ones (see Example Study Box 2: Abuse and Marriage).

   Your research topic and interest often determine the purpose of a study, and the purposes of a study tend to go hand in hand with specific research techniques. Experiments are most effective for explanatory purposes and popular for evaluation research. Researchers use survey techniques in descriptive or explanatory purposes. They can use content analysis for exploratory and explanatory purposes but primarily use it for descriptive purposes. Researchers use existing statistics research for all three purposes, but they most frequently use it for a descriptive purpose.

Summary Review Purposes of Research

Type of Study	Purpose	Stage in Learning Process	Question	Main Audience	Outcome
Exploratory	Learn about something entirely new and unknown	Earliest	What?	Varies; usually a researcher	General ideas and research questions
Descriptive	Provide details on something known	Middle	Who? When? How?	Varies	Factual details and descriptions
Explanatory	Build a new or test an existing explanation	Late	Why?	Professional researchers	Test a theory; compare explanations
Evaluation	Determine the effectiveness of a program or policy	Late	Does it work?	Practitioners and policy makers	Practical recommendations

Researchers use field research most often for exploratory and descriptive purposes. Historical-comparative research can be use for all three purposes separately or together.

Ethical and political conflicts tend to arise in evaluation research because people may have opposing interests in the findings. Research findings can affect who gets or keeps a job, they can build political popularity, or they may help promote an alternative program. If you conduct a serious evaluation study of a program and find it to be ineffective and a waste of time and money, people who make a living carrying out that program may become unhappy with you. They may express their displeasure by attacking you personally or criticizing your methods of research. This teaches us something else about research: Research produces knowledge, and knowledge can be powerful. New knowledge can aid decision making; it can also upset people who are benefiting from ignorance.

HOW TO USE RESEARCH

Research has two orientations. Some researchers adopt a detached, purely scientific, and academic orientation; they try to advance general knowledge over the long term. Others are more activist, pragmatic, and interventionist oriented; they try to solve specific, immediate problems. This is not a rigid separation. Researchers in both orientations cooperate and maintain friendly relations, and some individuals move from one orientation to another over time.

Basic Research

Basic social research advances fundamental knowledge. Basic researchers focus on refuting or supporting theories that explain how the social world operates, what makes things happen, why social relations are a certain way, and why society changes. Basic research is the source of most new scientific ideas and ways of thinking about the world. It is also the source of most new and advanced research techniques.

Many nonscientists criticize basic research and ask, "What good is it?" They consider it a waste of time and money. Although basic research often lacks a practical short-term application, it provides a foundation for knowledge that advances understanding in many policy areas, problems, or areas of study. Also, basic research is the source of most of the tools, methods, theories, and ideas about underlying causes of how people act or think used by applied researchers. It provides the major breakthroughs that lead to significant advances in knowledge; it is the painstaking study of broad questions that has the potential to shift how we think about a wide range of issues. It may have an impact for the next 50 to 100 years.

Frequently, the usefulness of basic research appears years or decades later. Practical applications may be apparent only after many accumulated advances in basic knowledge build up over time. For example, in 1984 Alec Jeffreys, a geneticist at the University of Leicester in England, was engaged in basic research studying the evolution of genes. As an indirect accidental side effect of a new technique he developed, he discovered how to produce what is now called human DNA "fingerprints" or unique markings of the DNA of individuals. This was not his intent. He even said he would have never thought of the technique if DNA fingerprints had been his goal. Others created applied uses of the technique and now DNA analysis is widely used technique by criminal investigators. Today's standard crime investigation technique was an unintended outcome of basic research into a different issue over two decades ago.

basic research research to extend basic understanding and fundamental knowledge about the world by creating and testing theories.

applied research research to answer a specific practical question and give usable answers in the short term.

Applied Research

Applied social research addresses a specific concern or offers solutions to a problem identified by an employer, club, agency, social movement, or organization. Applied social researchers rarely worry about building, testing, or connecting findings

to a larger theory, developing a long-term general understanding, or carrying out a large-scale investigation that might span years. Instead, they conduct a quick, small-scale study that provides practical results for immediate use. Although applied research can be of any type, most often it is descriptive or evaluative.

People employed in businesses, government offices, health care facilities, social service agencies, political organizations, and educational institutions often conduct applied research and use the results in decision making. Applied research affects decisions such as the following: Should an agency start a new program to reduce the wait time before a client receives benefits? Should a police force adopt a new type of response to reduce spousal abuse? Should a political candidate emphasize his or her stand on the environment instead of the economy? Should a company market a skin care product to mature adults instead of teenagers?

Researchers are the primary consumers of basic research. The consumers of applied research findings are practitioners—such as teachers, counselors, and social workers—or decision makers—such as managers, agency administrators, and public officials. Often, someone other than the researcher who conducted the study uses the results for his or her own purposes. The decision makers using the results may or may not use them wisely. Because applied research has immediate implications or involves controversial issues, such as teen sexuality or drug use, it is more likely than basic research to generate conflict and ignite social controversy (see Example Study Box 4: Teenage Sex Education).

Your primary goal when doing research is to find out what is really happening, but many practitioners who use applied research findings have other interests or priorities. For example, a famous social researcher, William Whyte (1984), conducted applied research in a factory in Oklahoma and in restaurants in Chicago. In both cases, he found that the practitioners were uninterested in his findings or wanted to suppress them. In the first case, the management was interested only in defeating a union, not in learning anything about employment relations. In the second case,

## Example Study Box 4 **Teenage Sex Education**

Peter Dench/Corbis

Teen pregnancy rates in the United States are among the highest in the developed world. By their eighteenth birthday, 6 in 10 teen girls and 5 in 10 teen boys have had sexual intercourse, usually without birth control. Nearly 80 percent of the fathers of babies born to teen mothers do not marry their babies' mothers. Sexual activity among young teens is a concern of parents, health officials, religious leaders, educators, and politicians. There is a broad consensus that a problem exists, but people differ on solutions. Almost everyone favors some type of sex education. They differ over its content. Most health care professionals and educators favor comprehensive sex education (also called abstinence-plus). It teaches teens about the social and biological aspects of adult sexuality, sexual diseases, and forms of birth control. Conservative politicians and some religious organizations favor abstinence-only education. It promotes chastity until marriage and does not teach about birth control. Perhaps you have participated in a sex education program that promoted abstinence. Even if you have not participated, you may have heard of such programs. In 1996, the

■ Figure 1.4   Teen Sex Education

% of teens aged 15–19
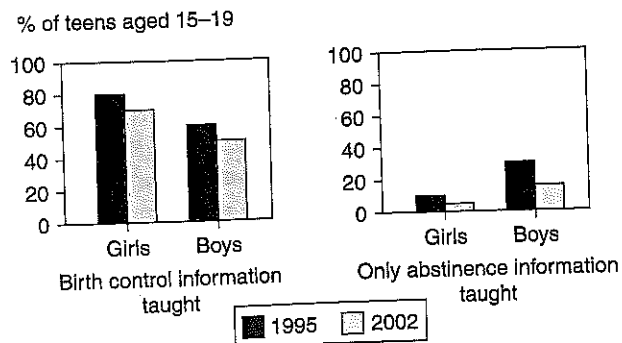
(*Facts on Sex Education in the United States,* Guttmacher Institute, December 2006)

U.S. Congress authorized $50 million per year for abstinence-only programs. States added matching money, and all states created such programs. Today, over $128 million of federal money goes to abstinence-only programs each year. By 2002, one in four teens had received abstinence-only education. What has been its effect? From 1995 to 2002, as more teens received abstinence-only education, fewer of them knew about birth control (Guttmacher Institute 2006). After years of abstinence-only programs, many of them faith based, some people began to ask, Do these programs work? Several studies provided consistent answers: Abstinence-only programs showed no lasting impact on reducing teen sexual activity, and teens in them know less about sexual diseases than teens in other programs (http://www.advocatesforyouth.org/publications/stateevaluations/index.htm, March 26, 2008). After these studies, most health organizations (such as the American Medical Association, the American Academy of Pediatrics, the National Institutes of Health, the Institute of Medicine, and the Office of National AIDS Policy) backed comprehensive sex education. They are not alone, 82 percent of the U.S. public support comprehensive sex education (*Archives of Pediatric and Adolescent Medicine,* November 2006). In April 2007, an independent research company, Mathematica Policy Research, Inc., released the most rigorous large-scale study on abstinence-only education (Mathematica Policy Research 2007). Again, it showed that the programs do not work. Some people called for ending the programs. Nonetheless, others reaffirmed their support for abstinence-only programs, largely for moral or other reasons. Proponents of abstinence-only programs say study results that show no effect actually mean that the programs have not been intense or long enough. Rejecting the evidence, they favor even more abstinence-only programs. What do you think? Has the U.S. government wasted nearly $1 billion on a failed program, or is abstinence-only the best way to address issues of teen sexual behavior and pregnancy? As you learn more about the process of social research, you will be better prepared to answer such questions.

restaurant owners only wanted to make their industry look good and did not want any findings about the nitty-gritty of the industry's operations to appear in public.

STEPS IN THE RESEARCH PROCESS

Social research proceeds in a sequence of steps. There is some minor variation, but most studies follow the seven steps discussed here. First, you begin the research process by selecting a topic. This is a general area of study or issue, such as improving elder care, marketing to a new customer base, reducing injuries on an athletic field, reducing domestic abuse, or identifying corrupt corporate elites. Most

topics are too broad for conducting a study. This makes the second step crucial: You must narrow the topic, or focus it into a specific research question (e.g., "Are people who marry younger more likely to engage in physical abuse of a spouse under conditions of high stress than those who marry older?"). As you learn more about a topic, you can better narrow its focus. This means you need to look at past studies, or "the literature," on a topic or question. You will also want to develop a possible answer, or hypothesis, and testable theory to explain the process can be important at this stage.

Third, after specifying a research question, you develop a detailed plan on how to carry out the study. This step requires you to make decisions about the practical details of doing research (e.g., whether to use a survey or qualitative observing in the field, how many subjects to use, etc.). To prepare a design, you need to be familiar with various research techniques and their strengths or limitations. Only after completing the design stage can you gather the data (e.g., ask people the questions, record answers, etc.), which is step 4 is the process. After you have carefully collected the data, the fifth step is to analyze the data. This helps you see patterns in data. Data analysis enables you to give meaning to, or to interpret, the data, which is step 6 (e.g., "People who marry young and grew up in families with abuse have higher rates of physical domestic abuse than those with different family histories"). Lastly, in step 7 you must prepare a report that describes the study's background, how you conducted it, and what you discovered. An essential final step in the research process is telling other people what you discovered and how you conducted the study.

The seven-step process shown in Figure 1.5 is oversimplified. In practice, you rarely complete one step and then leave it behind to move to the next step. Rather, it is an interactive process and the steps blend into each other. What you do in a later step might stimulate you to reconsider and slightly adjust your thinking in a previous one. The process allows some flowing back and forth before reaching an end. The seven steps are followed for each research project.

Research is an ongoing enterprise. It builds on past research and contributes a larger, collectively created body of knowledge and understanding. One specific study is only a small part of the larger whole. Except for a very narrow applied question, we rarely end at just one study. The research process requires a constant addition of new studies and findings. A single researcher might work on multiple research projects at once, or several researchers may collaborate on one project. Likewise, one research project may result in one research report or several, and sometimes several smaller projects are described in a single report.

▧ **Figure 1.5   Steps in the Research Process**
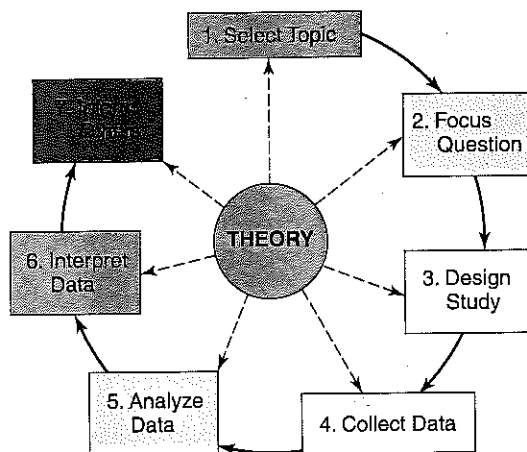
Source: Neuman, W. Lawrence 2007. *Basics of Social Research,* 2nd ed. Allyn & Bacon.

WHAT HAVE YOU LEARNED?

In this chapter, you learned that research is a powerful way to improve decision making. Research is not 100 percent foolproof, but it is better than the alternatives. It reduces misjudgment, bias, and distorted thinking. Research is often rigorous and time-consuming. Research uses critical thinking. Critical thinking is a perspective and a way to see things. By using critical reasoning skills, you will be more careful about what you accept as true. Critical reasoning will help you to be a better consumer of research: it rejects putting "blind faith" in research. It encourages you to understand how research works and to develop an ability to evaluate the quality of research. Many students, after just one basic class in doing research, can use the techniques, insights, and information-gathering skills to improve their decision making.

There are many kinds of research. Empirical social research is an ongoing process of accumulating information. Its findings are stated in terms of probabilities, not as fixed absolutes. It is based on carefully gathered evidence that meets certain standards. The standards have been developed over many years of studies by many researchers who critiqued one another's research, so there is improvement over time.

Research is about answering questions. One way to fit research with a question is to consider the purpose of the research. There are four main purposes in doing research: exploring a previously unknown, brand-new issue; describing in depth some issue, situation, or relationship; explaining why an event or situation happens or occurs in specific ways; and evaluating whether a program/policy works. The evidence or data for research can be in a quantitative (numbers) or qualitative (words, images) form. The care and detail of gathering data, not its form (numbers versus word), determines whether the data are solid and trustworthy. Research is used both to build new knowledge (basic) and to address practical issues (applied). In either case, a research study generally follows a similar sequence of steps: You begin with a topic that is narrowed to a focused question. Next, you decide on details of a study design and how data collection will proceed. You analyze data for patterns, which are interpreted to address the original question. The final step is to communicate what you learned in the study and how you conducted the study. In the next chapter, we will examine how to plan and design a study.

KEY TERMS

applied research *18*
basic research *18*
critical thinking *6*
descriptive research *13*
empirical evidence *7*

evaluation research *15*
explanatory research *14*
exploratory research *13*
qualitative data *10*
quantitative data *10*

APPLY WHAT YOU'VE LEARNED

Activity 1

Go to the Web site Advocates for Youth, which provides a list of publications on the Web, both research studies showing that the programs do not work and reports by abstinence-only advocates.

The Web site is http://www.advocatesforyouth.org/abstinenceonly/index.htm

Look through the sources. Now create two columns, one for abstinence-only programs and one for alterna-tive programs. Under each column, list types of reasons and evidence given. Now explain on what basis each side is making its case.

Activity 2

Contact your local police department or a local elementary school to see whether it has a D.A.R.E. program. Now locate a police officer who conducts D.A.R.E. sessions and a school official (principal, vice

principal, teacher) where the program operates. Without telling them about all the research findings that show the program to be ineffective, ask what they think and whether they find the program valuable. Do they find it worthwhile? How do you reconcile the feelings and beliefs of local participants with the many studies and official reports?

Activity 3

Contact management of any major company (that employs over 1000 people), any large hospital (with over 250 beds), or a large city government (a city of over 250,000), and identify a policy or decision area. Ask the organization's management how they use research results in decision making.

REFERENCES

American Sociological Association. 2005.

Brown, Joel H., and Ita G. G. Kreft. 1998. "Zero Effects of Drug Prevention Programs: Issues and Solutions." *Evaluation Review.* 22:3–14.

Cherlin, Andrew, Linda Burton, Tera Hurt, and Diane Purvin. 2004. "The Influence of Physical and Sexual Abuse on Marriage and Cohabitation." *American Sociological Review* 69:768–789.

Gantz, Walter, Nancy Schwartz, James R. Angelini, and Victoria Rideout. 2007. *Food for Thought, Television Food Advertising to Children in the United States.* Menlo Park, CA. Henry J. Kaiser Family Foundation (March 2007).

Glassner, Barry. 1999. *The Culture of Fear: Why Americans Are Afraid of the Wrong Things.* New York: Basic Books.

Guttmacher Institute. 2006. "Facts on Sex Education" *In Brief* (online publication). December 2006. http://www .guttmacher.org/pubs/fb_sexEd2006.html

Mathematica Policy Research, Inc. 2007. *Impacts of Four Title V, Section 510 Abstinence Education Programs, Final Report.* Princeton, NJ: Mathematica Policy Research, Inc.

Pew Research Center Report. 2007. "Public Knowledge of Current Affairs Little Changed by News and Information Revolutions" http://people-press.org/reports/display.php3? ReportID=319

Robinson, Thomas N., Dina Borzekowski, Donna Mutheson, and Helena Kraemer. 2007. "Effects of Fast Food Branding on Young Children's Taste Preference." *Archives of Pediatrics and Adolescent Medicine* 161:792–796.

Stack, Steven, Ira Wasserman, and Roger Kern. 2004. "Adult Social Bonds and Use of Internet Pornography." *Social Science Quarterly* 85:75–88.

Tobler, Nancy, and Howard H. Stratton. 1997. "Effectiveness of School-Based Drug Prevention Programs: A Meta-Analysis of the Research." *Journal of Primary Prevention* 18: 71–128.

United States Department of Justice. 2002. *National Incidence Studies of Missing, Abducted, Runaway and Throwaway Children: National Estimates on Missing Children, an Overview* (October 2002). U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. http://www.missingkids.com/ en_US/documents/nismart2_overview.pdf

Whyte, William. 1984. *Learning from the Field.* Beverly Hills, CA: Sage.

Wysong, E., et al. 1994 "Truth and DARE: Tracking drug education to graduation and as symbolic politics." *Social Problems* 41:448–472.

Zagumny, M. J. and M. K. Thompson. 1997. "Does D.A.R.E. Work? An Evaluation in Rural Tennessee." *Journal of Alcohol and Drug Education* 42:32–41.

ENDNOTES

1. See Harris Poll of 889 Americans conducted in November 2005 at http://www.harrisinteractive.com/harris_poll/ index.asp?PID=618

2. Theories are systematic, abstract, general explanations about why events occur or how some aspect of the world operates. They contain assumptions, arguments, and a set of interconnected ideas.

3. For some of the many studies showing the ineffectiveness of D.A.R.E., see Brown, Joel H., and Ita G. G. Kreft (1998),Tobler and Stratton (1997), Wysong et al. (1994), and Zagumny and Thompson (1997).