

Chapter 1

Introducing Psychology

Psychology is the *scientific study of mind and behavior*. The word “psychology” comes from the Greek words “psyche,” meaning *life*, and “logos,” meaning *explanation*. Psychology is a popular major for students, a popular topic in the public media, and a part of our everyday lives.

Television shows such as *Dr. Phil* feature psychologists who provide personal advice to those with personal or family difficulties. Crime dramas such as *CSI*, *Lie to Me*, and others feature the work of forensic psychologists who use psychological principles to help solve crimes. And many people have direct knowledge about psychology because they have visited psychologists, for instance, school counselors, family therapists, and religious, marriage, or bereavement counselors.

Because we are frequently exposed to the work of psychologists in our everyday lives, we all have an idea about what psychology is and what psychologists do. In many ways I am sure that your conceptions are correct. Psychologists do work in forensic fields, and they do provide counseling and therapy for people in distress. But there are hundreds of thousands of psychologists in the world, and most of them work in other places, doing work that you are probably not aware of.

Most psychologists work in research laboratories, hospitals, and other field settings where they study the behavior of humans and animals. For instance, my colleagues in the Psychology Department at the University of Maryland study such diverse topics as anxiety in children, the interpretation of dreams, the effects of caffeine on thinking, how birds recognize each other, how praying mantises hear, how people from different cultures react differently in negotiation, and the factors that lead people to engage in terrorism. Other psychologists study such topics as alcohol and drug addiction, memory, emotion, hypnosis, love, what makes people aggressive or helpful, and the psychologies of politics, prejudice, culture, and religion. Psychologists also work in schools and businesses, and they use a variety of methods, including observation, questionnaires, interviews, and laboratory studies, to help them understand behavior.

This chapter provides an introduction to the broad field of psychology and the many approaches that psychologists take to understanding human behavior. We will consider how psychologists conduct scientific research, with an overview of some of the most important approaches used and topics studied by psychologists, and also consider the variety of fields in which psychologists work and the careers that are available to people with psychology degrees. I expect that you may find that at least some of your preconceptions about psychology will be challenged and changed, and you will learn that psychology is a field that will provide you with new ways of thinking about your own thoughts, feelings, and actions.

Despite the differences in their interests, areas of study, and approaches, all psychologists have one thing in common: They rely on scientific methods. *Research psychologists* use scientific methods to create new knowledge about the causes of behavior, whereas *psychologist-practitioners*, such as clinical, counseling, industrial-organizational, and school psychologists, use existing research to enhance the everyday life of others. The science of psychology is important for both researchers and practitioners.

In a sense all humans are scientists. We all have an interest in asking and answering questions about our world. We want to know why things happen, when and if they are likely to happen again, and how to reproduce or change them. Such knowledge enables us to predict our own behavior and that of others. We may even collect data (i.e., *any information collected through formal observation or measurement*) to aid us in this undertaking. It has been argued that people are “everyday scientists” who conduct research projects to answer questions about behavior (Nisbett & Ross, 1980).^[1] When we perform poorly on an important test, we try to understand what caused our failure to remember or understand the material and what might help us do better the next time. When our good friends Monisha and Charlie break up, despite the fact that they

appeared to have a relationship made in heaven, we try to determine what happened. When we contemplate the rise of terrorist acts around the world, we try to investigate the causes of this problem by looking at the terrorists themselves, the situation around them, and others' responses to them.

The Problem of Intuition

The results of these “everyday” research projects can teach us many principles of human behavior. We learn through experience that if we give someone bad news, he or she may blame us even though the news was not our fault. We learn that people may become depressed after they fail at an important task. We see that aggressive behavior occurs frequently in our society, and we develop theories to explain why this is so. These insights are part of everyday social life. In fact, much research in psychology involves the scientific study of everyday behavior (Heider, 1958; Kelley, 1967).^[2]

The problem, however, with the way people collect and interpret data in their everyday lives is that they are not always particularly thorough. Often, when one explanation for an event seems “right,” we adopt that explanation as the truth even when other explanations are possible and potentially more accurate. For example, eyewitnesses to violent crimes are often extremely confident in their identifications of the perpetrators of these crimes. But research finds that eyewitnesses are no less confident in their identifications when they are incorrect than when they are correct (Cutler & Wells, 2009; Wells & Hasel, 2008).^[3] People may also become convinced of the existence of extrasensory perception (ESP), or the predictive value of astrology, when there is no evidence for either (Gilovich, 1993).^[4] Furthermore, psychologists have also found that there are a variety of cognitive and motivational biases that frequently influence our perceptions and lead us to draw erroneous conclusions (Fiske & Taylor, 2007; Hsee & Hastie, 2006).^[5] In summary, accepting explanations for events without testing them thoroughly may lead us to think that we know the causes of things when we really do not.

Once we learn about the outcome of a given event (e.g., when we read about the results of a research project), we frequently believe that we would have been able to predict the outcome ahead of time. For instance, if half of a class of students is told that research concerning attraction

between people has demonstrated that “opposites attract” and the other half is told that research has demonstrated that “birds of a feather flock together,” most of the students will report believing that the outcome that they just read about is true, and that they would have predicted the outcome before they had read about it. Of course, both of these contradictory outcomes cannot be true. (In fact, psychological research finds that “birds of a feather flock together” is generally the case.) The problem is that just reading a description of research findings leads us to think of the many cases we know that support the findings, and thus makes them seem believable. *The tendency to think that we could have predicted something that has already occurred that we probably would not have been able to predict* is called the hindsight bias.

Why Psychologists Rely on Empirical Methods

All scientists, whether they are physicists, chemists, biologists, sociologists, or psychologists, use *empirical methods* to study the topics that interest them. Empirical methods include the processes of collecting and organizing data and drawing conclusions about those data. The empirical methods used by scientists have developed over many years and provide a basis for collecting, analyzing, and interpreting data within a common framework in which information can be shared. We can label the scientific method as *the set of assumptions, rules, and procedures that scientists use to conduct empirical research*.

Although scientific research is an important method of studying human behavior, not all questions can be answered using scientific approaches. Statements that cannot be objectively measured or objectively determined to be true or false are not within the domain of scientific inquiry. Scientists therefore draw a distinction between values and facts. *Values* are personal statements such as “Abortion should not be permitted in this country,” “I will go to heaven when I die,” or “It is important to study psychology.” *Facts* are objective statements determined to be accurate through empirical study. Examples are “There were more than 21,000 homicides in the United States in 2009,” or “Research demonstrates that individuals who are exposed to highly stressful situations over long periods of time develop more health problems than those who are not.”

Because values cannot be considered to be either true or false, science cannot prove or disprove

them. Nevertheless, as shown in Table 1.1 "Examples of Values and Facts in Scientific Research", research can sometimes provide facts that can help people develop their values. For instance, science may be able to objectively measure the impact of unwanted children on a society or the psychological trauma suffered by women who have abortions. The effect of capital punishment on the crime rate in the United States may also be determinable. This factual information can and should be made available to help people formulate their values about abortion and capital punishment, as well as to enable governments to articulate appropriate policies. Values also frequently come into play in determining what research is appropriate or important to conduct. For instance, the U.S. government has recently supported and provided funding for research on HIV, AIDS, and terrorism, while denying funding for research using human stem cells.

Table 1.1 Examples of Values and Facts in Scientific Research

Personal value	Scientific fact
Welfare payments should be reduced for unmarried parents.	The U.S. government paid more than \$21 billion in unemployment insurance in 2010.
Handguns should be outlawed.	There were more than 30,000 deaths caused by handguns in the United States in 2009.
Blue is my favorite color.	More than 35% of college students indicate that blue is their favorite color.
It is important to quit smoking.	Smoking increases the incidence of cancer and heart disease.

Source: Stangor, C. (2011). *Research methods for the behavioral sciences* (4th ed.). Mountain View, CA: Cengage.

Although scientists use research to help establish facts, the distinction between values and facts is not always clear-cut. Sometimes statements that scientists consider to be factual later, on the basis of further research, turn out to be partially or even entirely incorrect. Although scientific procedures do not necessarily guarantee that the answers to questions will be objective and unbiased, science is still the best method for drawing objective conclusions about the world around us. When old facts are discarded, they are replaced with new facts based on newer and more correct data. Although science is not perfect, the requirements of



empiricism and objectivity result in a much greater chance of producing an accurate understanding of human behavior than is available through other approaches.

[1] Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice Hall.

[2] Heider, F. (1958). *The psychology of interpersonal relations*. Hillsdale, NJ: Erlbaum; Kelley, H. H. (1967). Attribution theory in social psychology. In D. Levine (Ed.), *Nebraska symposium on motivation* (Vol. 15, pp. 192–240). Lincoln: University of Nebraska Press.

[3] Cutler, B. L., & Wells, G. L. (2009). Expert testimony regarding eyewitness identification. In J. L. Skeem, S. O. Lilienfeld, & K. S. Douglas (Eds.), *Psychological science in the courtroom: Consensus and controversy* (pp. 100–123). New York, NY: Guilford Press; Wells, G. L., & Hasel, L. E. (2008). Eyewitness identification: Issues in common knowledge and generalization. In E. Borgida & S. T. Fiske (Eds.), *Beyond common sense: Psychological science in the courtroom* (pp. 159–176). Malden, NJ: Blackwell.

[4] Gilovich, T. (1993). *How we know what isn't so: The fallibility of human reason in everyday life*. New York, NY: Free Press.

[5] Fiske, S. T., & Taylor, S. E. (2007). *Social cognition: From brains to culture*. New York, NY: McGraw-Hill.; Hsee, C. K., & Hastie, R. (2006). Decision and experience: Why don't we choose what makes us happy? *Trends in Cognitive Sciences*, 10(1), 31–37.