

SPENCER A RATHUS

PSYCH⁶

INTRODUCTORY PSYCHOLOGY

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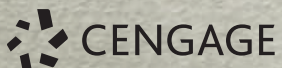




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SPENCER A. RATHUS



Australia • Brazil • Mexico • Singapore • United Kingdom • United States



PSYCH⁶

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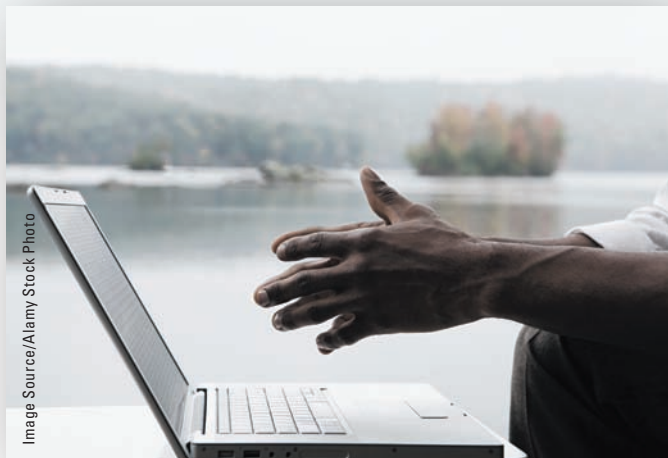


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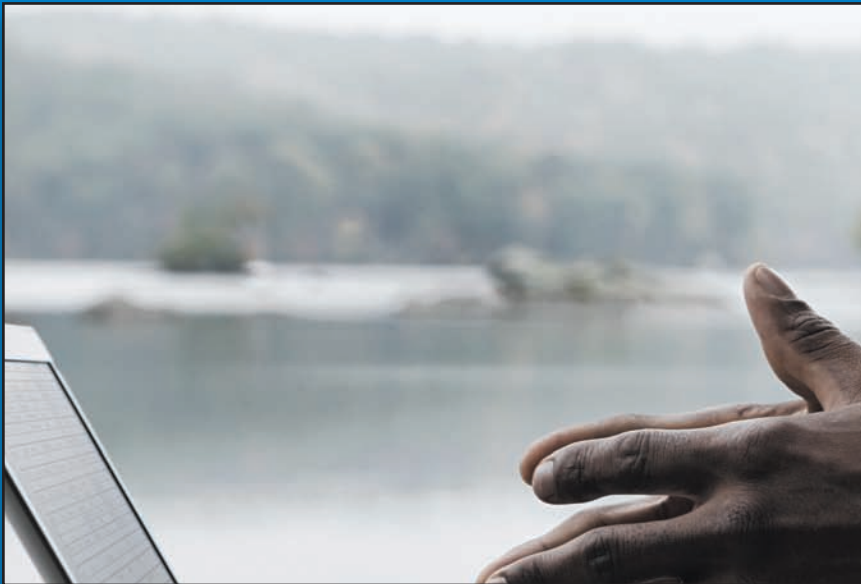
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1

What Is Psychology?

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LEARNING OUTCOMES

After studying this chapter, you will be able to...

- 1-1 Define psychology and describe what psychologists do.
- 1-2 Describe the origins of psychology and discuss people who have made significant contributions to the field.
- 1-3 Identify the theoretical perspectives from which psychologists today view behavior and mental processes.
- 1-4 Outline the scientific method, and explain the relationship between samples and populations.
- 1-5 Explain how psychologists engage in research—including methods of observation, correlation, and experimentation—to learn about behavior and mental processes.
- 1-6 Discuss ethical standards that govern psychological research and practice with humans and animals.
- 1-7 Identify and discuss principles of critical thinking.

My favorite place: The checkout counter of the supermarket. After being buffeted about by the crowds in the aisles and trying to convince myself that I really will survive until the people in line ahead of me are checked out, I am rewarded by the display of all the supermarket tabloids. The headlines cry out. Each week, there are 10 new sightings of Elvis and 10 new encounters with extraterrestrials. There are 10 new “absolutely proven effective” ways to take weight off and 10 new ways to conquer stress and depression. There are 10 new ways to tell if your partner has been cheating and, of course, 10 new predictions by astrologers and psychics.

Extraterrestrials regularly kidnap us Earthlings. Although they possess the technology to leap between the stars, aliens must apparently prod and poke us to figure out how we work. While we update our iPhones with the latest apps and music, tabloid drawings suggest that aliens have been flying the same model flying saucer for decades. Their sense of style is nothing to text home about.

Although we can find some humor in tales of abduction by aliens, psychologists and other scientists are interested in the questions these tales raise about human nature and the distinction between sensationalism and science. What do we know about people who claim to have been abducted by aliens? How can we sort truth from fiction and decide whether we will believe them?

Psychologists who have studied claimed alien kidnappings conclude that the kidnappings never occurred. However, the people making the claims are not necessarily mentally ill, nor are they necessarily lying (Ladd & Borshuk, 2013). By and large, these are people who have



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Truth or Fiction?

The world is flooded with sense and nonsense. How can you sort out truth from fiction?

remembered their experiences while undergoing therapy, often under hypnosis. Tales of alien abduction are widely known throughout our culture, so it is not at all surprising that the “memories” of people who claim to have been inducted by aliens would tend to coincide (Meyersburg et al., 2009; Swami et al., 2009).

Abductees generally claim that they are awakened in their sleep by the aliens and unable to move. Psychologists know that many of our voluntary muscles—the ones involved in movement—are “paralyzed” when we sleep, which is why we usually don’t thrash

about (and assault our bed partners) when we dream (Torontali et al., 2014; Finkelstein, 2017).

Hallucinations—seeing and hearing things that are not really there—are quite common as we are waking from a sleep-paralyzed state, and it seems that the reported experiences of “abductees” fit the pattern.

TRUTH OR FICTION?

WHAT DO YOU THINK? FOLKLORE, COMMON SENSE, OR NONSENSE? SELECT T FOR “TRUTH” OR F FOR “FICTION,” AND THEN CHECK THE ACCURACY OF YOUR ANSWERS AS YOU READ THROUGH THE CHAPTER.

- T F** Men receive the majority of doctoral degrees in psychology.
- T F** More than 2,000 years ago, Aristotle wrote a book on psychology with contents similar to those in the book you’re now reading.
- T F** The ancient Greek philosopher Socrates suggested a research method that is still used in psychology.
- T F** Even though she had worked to complete all the degree requirements, the first female president of the American Psychological Association turned down the doctoral degree that was offered to her.
- T F** You could survey millions of voters and still not accurately predict the outcome of a presidential election.
- T F** In many experiments, neither the participants nor the researchers know who is receiving the real treatment and who is not.

Psychologists also know that people are quite open to suggestion (Loftus, 2017; Vyse, 2014). Memories are not perfect snapshots. When trial witnesses are asked leading questions—questions that might encourage them to recall events in a certain way—the opposing attorney will usually object (“Leading the witness, your Honor”). Sometimes, the person interviewing the supposed kidnap victim asks leading questions, looking for experiences with aliens.

All in all, “UFO memories may be constructed from bits and pieces of sleep-related hallucinations, nightmares, and media attention, and fixed solidly into place with the suggestion of hypnosis and the validation of support groups” (Clark & Loftus, 1996). “Abductees” may also be trying to escape, temporarily, from their humdrum lives—as might be buyers of supermarket tabloids (Finkelstein, 2017).

Psychologists have thus worked to explain how it can be that many people report being abducted

by aliens and being subjected to tests by them. But is there *scientific evidence* that people have been abducted by aliens? In sum, when we subject the stories in the supermarket tabloids to scientific analysis, we usually find that they fall short of any reasonable standards of evidence.

This book will take you on a journey. It’s not a journey into outer space. It’s a journey into the inner space of thinking critically about the world around you, about stories and arguments made by other people, about human behavior and mental processes. In our overview of reported alien abductions, we touched on people’s memories, the state of consciousness known as sleep, hallucinations, hypnosis, the search for stimulating events, social influences on witnesses, and the effects of social support and the media. All these, and much, much more, lie within the province of psychology. We will see who psychologists are, what they do, what they have learned, and perhaps most important, how they sort out truth from fiction.

1-1 PSYCHOLOGY AS A SCIENCE

Psychology is the scientific study of behavior and mental processes. Topics of interest to psychologists include the nervous system, sensation and perception, learning and memory, intelligence, language, thought, growth and development, personality, stress and health, psychological disorders, ways of treating those disorders, sexual behavior, and the behavior of people in social settings such as groups and organizations.

Sciences have certain goals. Psychology, like other sciences, seeks to describe, explain, predict, and control the events it studies. Psychology thus seeks to describe, explain, predict, and control behavior and mental processes. Note that the goal of *controlling* behavior and

mental processes doesn’t mean that psychologists seek ways to make people do their bidding, like puppets on strings. Rather, psychologists seek to understand the factors that influence

behavior and apply this knowledge for the public good—for example, to help individuals cope with problems such as anxiety and depression.

When possible, descriptive terms and concepts—such as anxiety and depression—are interwoven into **theories**. Theories propose reasons for relationships among events, as in perception of a threat can arouse feelings of anxiety. They allow us to derive explanations and predictions. Many psychological theories combine statements about behavior (such as eating or aggression), mental processes (such as attitudes and mental images), and biological processes. For instance, many of our responses to drugs such as alcohol and marijuana can be measured as overt behavior, and they are presumed to reflect our (mental) expectations of the drugs and the biological effects of the drugs themselves.

A satisfactory psychological theory allows us to predict behavior. For instance, a theory of hunger should allow us to predict when people will or will not eat. If our observations cannot be adequately explained by, or predicted from, a given theory, we should consider revising or replacing that theory.

psychology the science that studies behavior and mental processes

theory a set of hypothesized statements about the relationships among events

The remainder of this chapter presents an overview of psychology as a science. You will see that psychologists have diverse interests and fields of specialization. We discuss the history of psychology and the major perspectives from which today's psychologists view behavior. Finally, we consider the research methods psychologists use to study behavior and mental processes.

1-1a WHAT PSYCHOLOGISTS DO

Psychologists share a keen interest in behavior, but they may differ markedly in other ways. Psychologists engage in research, practice, and teaching. Some researchers engage primarily in basic, or pure, research. **Pure research** is undertaken because the researcher is interested in the research topic. Pure research has no *immediate* application to personal or social problems and has therefore been characterized as research for its own sake. However, although pure research is sparked by curiosity and the desire to know and understand, today's pure research frequently enhances tomorrow's way of life. For example, pure research on learning and motivation in pigeons, rats, and monkeys done early in the 20th century has found applications in today's school systems. It has shown, for example, that learning often takes time and repetition and also profits from "booster shots" (repetition after the learning goal has been reached). Pure research into the workings of the nervous system has enhanced knowledge of disorders such as epilepsy, Parkinson's disease, and Alzheimer's disease. Other psychologists engage in **applied research**, which is designed to find solutions to specific personal or social problems.

Many psychologists do not conduct research. Instead, they *practice* psychology by applying psychological knowledge to help individuals change their behavior so that they can meet their own goals more effectively. Still other psychologists primarily teach. They share psychological knowledge in classrooms, seminars, and workshops. Psychologists may also engage in all three: research, practice, and teaching.

1-1b FIELDS OF PSYCHOLOGY

Psychologists are found in a number of specialties. Although some psychologists wear more than one hat, most carry out their functions in the following fields.

Clinical psychologists help people with psychological disorders adjust to the demands of life. Clinical psychologists evaluate problems such as anxiety and depression through interviews and psychological tests. They help clients resolve problems and change

self-defeating behavior. For example, they may help clients face "threats," such as public speaking, by exposing them gradually to situations in which they make presentations to actual or virtual groups (see virtual therapy in Chapter 13). Clinical psychologists are the largest subgroup of psychologists (see Figure 1.1). *Counseling psychologists*, like clinical psychologists, use interviews and tests to define their clients' problems. Their clients typically have adjustment problems but not serious psychological disorders. For example, clients may have trouble making academic or vocational decisions; LGBT clients may have difficulty coping with prejudice and discrimination.

School psychologists are employed by school systems to identify and assist students who have problems that interfere with learning. They help schools make decisions about the placement of students in special classes. *Educational psychologists*, like school psychologists, attempt to facilitate learning, but they usually focus on course planning and instructional methods for a school system rather than on individual children. Educational psychologists research issues such as how learning is affected by psychological factors such as motivation and intelligence, sociocultural factors such as poverty and acculturation, and teachers.

Developmental psychologists study the changes—physical, cognitive, social, and emotional—that occur throughout the life span. They attempt to sort out the influences of heredity and the environment on development.

Personality psychologists identify and measure human traits and determine influences on human thought processes, feelings, and behavior. They are particularly concerned with issues such as anxiety, aggression, sexual orientation, and gender roles.

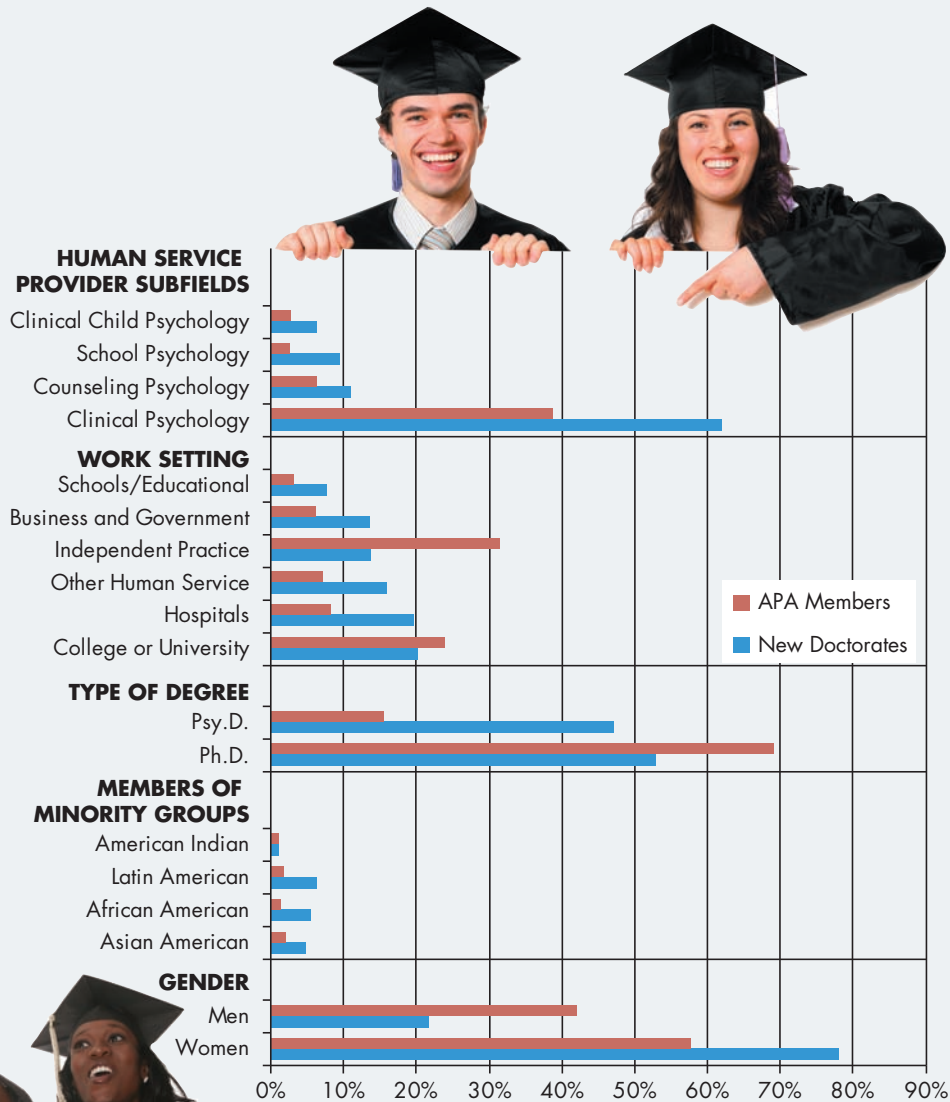
Social psychologists are concerned with the nature and causes of individuals' thoughts, feelings, and behavior in social situations. Whereas personality psychologists tend to look within the person to explain behavior, social psychologists tend to focus on social influences.

Environmental psychologists study the ways that people and the environment—the natural environment and the human-made environment—influence one another. For example, we know that extremes of temperature and loud noises interfere with learning in school. Environmental psychologists study ways to encourage people to recycle and to preserve bastions of wilderness.

pure research research conducted without concern for immediate applications

applied research research conducted in an effort to find solutions to particular problems

FIG.1.1 THE PSYCHOLOGISTS: PSYCHOLOGISTS WITH NEW DOCTORATES VERSUS MEMBERS OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION (APA)



More women and members of ethnic minorities are entering the field of psychology today. The percentage of new psychologists with Psy.D. degrees is also growing.

Source: Adapted from the American Psychological Association (2009). *Doctoral Psychology Workforce Fast Facts*. Health Service Provider Subfields. Center for Workforce Studies. Retrieved from <http://research.apa.org/fastfacts-09.pdf>. © Copyright 2009 APA Center for Workforce Studies. Washington, DC; and from American Psychological Association (2014). 2013 APA Directory. Compiled by Center for Workforce Studies, Tables 1, 2, 3, 4. APA Center for Workforce Studies. Washington, DC.

Psychologists in all specialties may conduct experiments. However, those called *experimental psychologists* specialize in basic processes such as the nervous system, sensation and perception, learning and memory, thought, motivation, and emotion.

For example, experimental psychologists have studied what areas of the brain are involved in processing math problems or listening to music. They use people or animals, such as pigeons and rats, to study learning.



The Origins of Aggression?

Why are TV crime shows so popular? Why are people fascinated by psychopaths? Why do so many boys and men enjoy playing video games such as *Grand Theft Auto*, *God of War*, *Call of Duty*, and *Battlefield*? Psychologists investigate the origins of aggression and violence. They have found that aggressive people and mass murderers are more likely to play violent video games. Does this mean that violent video games cause violent behavior? Could it also mean that violent individuals are more likely to seek out the games? Could both be true? (More on this in Chapter 5.)

Industrial psychologists focus on the relationships between people and work. *Organizational psychologists* study the behavior of people in organizations such as businesses. *Human factors psychologists* make technical systems such as automobile dashboards and computer keyboards more user-friendly. *Consumer psychologists* study the behavior of shoppers in an effort to predict and influence their behavior. They advise store managers on how to lay out the aisles of a supermarket in ways that boost impulse buying, how to arrange window displays to attract customers, and how to make newspaper ads and television commercials more persuasive.

Health psychologists study the effects of stress on health problems such as headaches, cardiovascular disease, and cancer. Health psychologists also guide clients toward healthier behavior patterns, such as exercising and quitting smoking.

FICTION

T **F** Men receive the majority of doctoral degrees in psychology.

It is not true that men receive the majority of doctoral degrees in psychology. Women do.

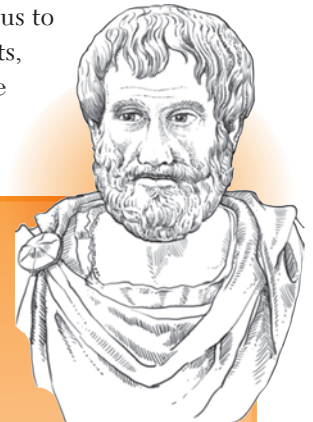
Forensic psychologists apply psychology to the criminal justice system. They deal with legal matters such as whether a defendant was sane when he or she committed a crime. Forensic psychologists may also treat psychologically ill offenders, consult with attorneys on matters such as picking a jury, and analyze offenders' behavior and mental processes. They may conduct research on matters ranging from evaluation of eyewitness testimony to methods of interrogation.

Sport psychologists help athletes concentrate on their performance and not on the crowd, use cognitive strategies such as positive visualization (imagining themselves making the right moves) to enhance performance, and avoid choking under pressure.

1-2 HISTORICAL FOUNDATIONS OF PSYCHOLOGY

Have you heard the expression “Know thyself”? It was proposed by the ancient Greek philosopher Socrates about 2,500 years ago. Psychology, which is in large part the endeavor to know ourselves, is as old as history and as modern as today. Knowledge of

the history of psychology allows us to appreciate its theoretical conflicts, its place among the sciences, the evolution of its methods, and its social and political roles.



ARISTOTLE

Although he lived 2,400 years ago, the Greek philosopher Aristotle made many contributions to contemporary psychology:

- ▶ He argued that science could rationally treat only information gathered by the senses.
- ▶ He enumerated the so-called five senses of vision, hearing, smell, taste, and touch.
- ▶ He explored the nature of cause and effect.
- ▶ He pointed out that people differ from other living things in their capacity for rational thought.
- ▶ He outlined laws of associationism that have lain at the heart of learning theory for more than two millennia.
- ▶ He also declared that people are motivated to seek pleasure and avoid pain—a view that remains as current today as it was in ancient Greece.

Another ancient contributor to psychology was the Greek philosopher Aristotle (384–322 BCE). In a treatise on psychology, Aristotle argued that human behavior, like the movements of the stars and the seas, is subject to rules and laws. Then he delved into his subject matter topic by topic: personality, sensation and perception, thought, intelligence, needs and motives, feelings and emotion, and memory.

TRUTH

T F More than 2,000 years ago, Aristotle wrote a book on psychology with contents similar to those of the one you're now reading.

It is true that Aristotle wrote a book on psychology with contents similar to the one you're now reading more than 2,000 years ago. In fact, the outline for PSYCH could have been written by Aristotle.

Other ancient Greek philosophers also contributed to psychology. Around 400 BCE, Democritus suggested that we could think of behavior in terms of a body and a mind. (Contemporary psychologists still talk about the interaction of biological and mental processes.) He pointed out that our behavior is influenced by external stimulation. Democritus was one of the first to raise the question of whether there is free will or choice. Putting it another way, where do the influences of others end and our “real selves” begin?

Socrates suggested that we should rely on rational thought and **introspection**—careful examination of one's own thoughts and emotions—to gain self-knowledge. He also pointed out that people are social creatures who influence one another.

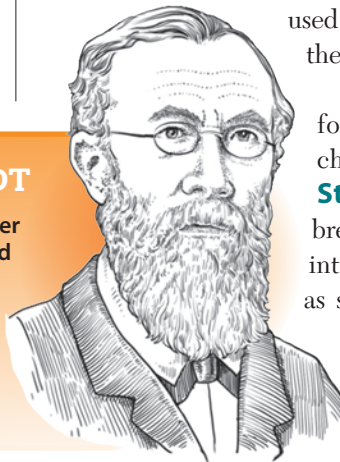
Had we room enough and time, we could trace psychology's roots to thinkers farther back in time than the ancient Greeks, and we could trace its development through the great thinkers of the Renaissance. As it is,

introspection deliberate looking into one's own cognitive processes to examine one's thoughts and emotions

structuralism the school of psychology that argues that the mind consists of three basic elements—sensations, feelings, and images—that combine to form experience

WILHELM WUNDT

Wilhelm Wundt, the founder of structuralism, attempted to break down conscious experience into sensations such as sight and taste, emotions, and mental imagery.



TRUTH

T F The ancient Greek philosopher Socrates suggested a research method that is still used in psychology.

Yes, Socrates did suggest a research method that is still used in psychology—introspection. The method is based on Socrates' advice to “Know thyself,” which has remained a motto of psychology ever since.

we must move on to the development of psychology as a laboratory science during the second half of the 19th century. Some historians set the marker date at 1860. It was then that Gustav Theodor Fechner (1801–1887) published his landmark book *Elements of Psychophysics*, which showed how physical events (such as lights and sounds) stimulate psychological sensations and perception. Fechner also showed how we can scientifically measure the effect of these events. Most historians set the debut of modern psychology as a laboratory science in the year 1879, when Wilhelm Wundt established the first psychological laboratory in Leipzig, Germany.

1-2a STRUCTURALISM

The German psychologist Wilhelm Wundt (1832–1920) looked as if he were going to be a problem child. He did poorly in elementary school—his mind would wander—and he had to repeat a grade. Eventually he attended medical school because he wanted to earn a good living. But he did not like working with patients and dedicated himself to philosophy and psychology.

Like Aristotle, Wundt saw the mind as a natural occurrence that could be studied scientifically, like light, heat, and the flow of blood. Wundt used introspection to try to discover the basic elements of experience.

Wundt and his students founded the school of psychology called *structuralism*. **Structuralism** attempted to break conscious experience down into *objective* sensations, such as sight or taste, and *subjective* feelings, such as emotional responses, and mental images such as memories or dreams. Structuralists

believed that the mind functions by combining objective and subjective elements of experience.

1-2b FUNCTIONALISM

Toward the end of the 19th century, psychologist William James (1842–1910) became a major figure in the development of psychology in the United States. He focused on the relation between conscious experience and behavior. He argued, for example, that the stream of consciousness is fluid and continuous. Introspection convinced him that experience cannot be broken down into objective sensations and subjective feelings as the structuralists maintained.

William James was a founder of the school of **functionalism**, which focused on behavior as well as the mind or consciousness. Functionalists looked at how our experience helps us function more adaptively in our environments—for example, how habits help us cope with common situations. (When eating with a spoon, we do not create an individual plan to bring each morsel of food to our mouths.) They also turned to the laboratory for direct observations as a way to supplement introspection. Structuralists tended to ask, “What are the pieces that make up thinking and experience?” In contrast, functionalists tended to ask, “How do behavior and mental processes help people adapt to the requirements of their lives?”

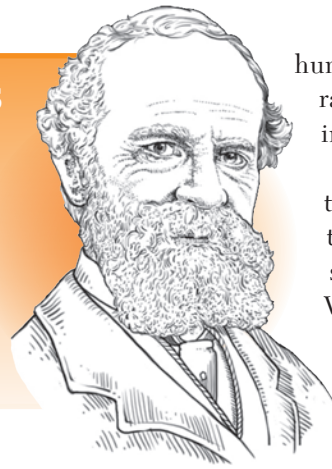
James was also influenced by Charles Darwin’s (1809–1882) theory of evolution. Earlier in the 19th century, the British naturalist Darwin had argued that organisms with adaptive features—that is, the “fittest”—survive and reproduce. Functionalists adapted Darwin’s theory and proposed that adaptive behavior patterns are learned and maintained. Maladaptive behavior patterns tend to drop out, and only the fittest behavior patterns survive. These adaptive actions tend to be repeated and become habits. James wrote that “habit is the enormous flywheel of society.” Habit keeps the engine of civilization running.

1-2c BEHAVIORISM

Imagine you have placed a hungry rat in a maze. It meanders down a pathway that ends in a T. It can then turn left or right. If you consistently reward the rat with food for turning right at this point, it will learn to turn right when it arrives there, at least when it is

WILLIAM JAMES

William James wrote the first modern psychology textbook in 1890. He wrote, “I wished, by treating Psychology like a natural science, to help her become one.”



hungry. But what does the rat *think* when it is learning to turn right?

Does it seem absurd to try to place yourself in the “mind” of a rat? So it seemed to John Broadus Watson (1878–1958), the founder of American behaviorism. Watson was asked to consider the contents of a rat’s “mind” as

one of the requirements for his doctoral degree, which he received from the University of Chicago in 1903. Functionalism was the dominant view of psychology at the University of Chicago, and functionalists were concerned with the stream of consciousness as well as observable behavior. But Watson (1913) believed that if psychology were to be a natural science, like physics or chemistry, it must limit itself to observable, measurable events—that is, to behavior alone—hence the term *behaviorism*.

Behaviorism is the school of psychology that focuses on learning observable behavior. The term *observable* refers to behaviors that are observable by means of specialized instruments, such as heart rate, blood pressure, and brain waves. These behaviors are *public*—they can be measured easily and different observers would agree about their existence and features. Given their focus on behavior, behaviorists define psychology as the scientific study of *behavior*, not of *behavior and mental processes*.

B. F. Skinner (1904–1990) also contributed to behaviorism. He believed that organisms learn to behave in certain ways because they have been **reinforced** for doing so—that is, their behavior has a positive outcome. He demonstrated that laboratory animals can be trained to carry out behaviors through strategic use of reinforcers, such as food. He trained rats to turn in circles, climb ladders, and push toys across the floor. Because Skinner demonstrated that remarkable combinations of behaviors could be taught by means of reinforcement, many psychologists adopted the view that, in principle, one could

functionalism the school of psychology that emphasizes the uses or functions of the mind rather than the elements of experience

behaviorism the school of psychology that defines psychology as the study of observable behavior and studies relationships between stimuli and responses

reinforcement a stimulus that follows a response and increases the frequency of the response