

U N I T
1

Approaches to Psychology

Contents

Chapter 1 **Introducing Psychology**

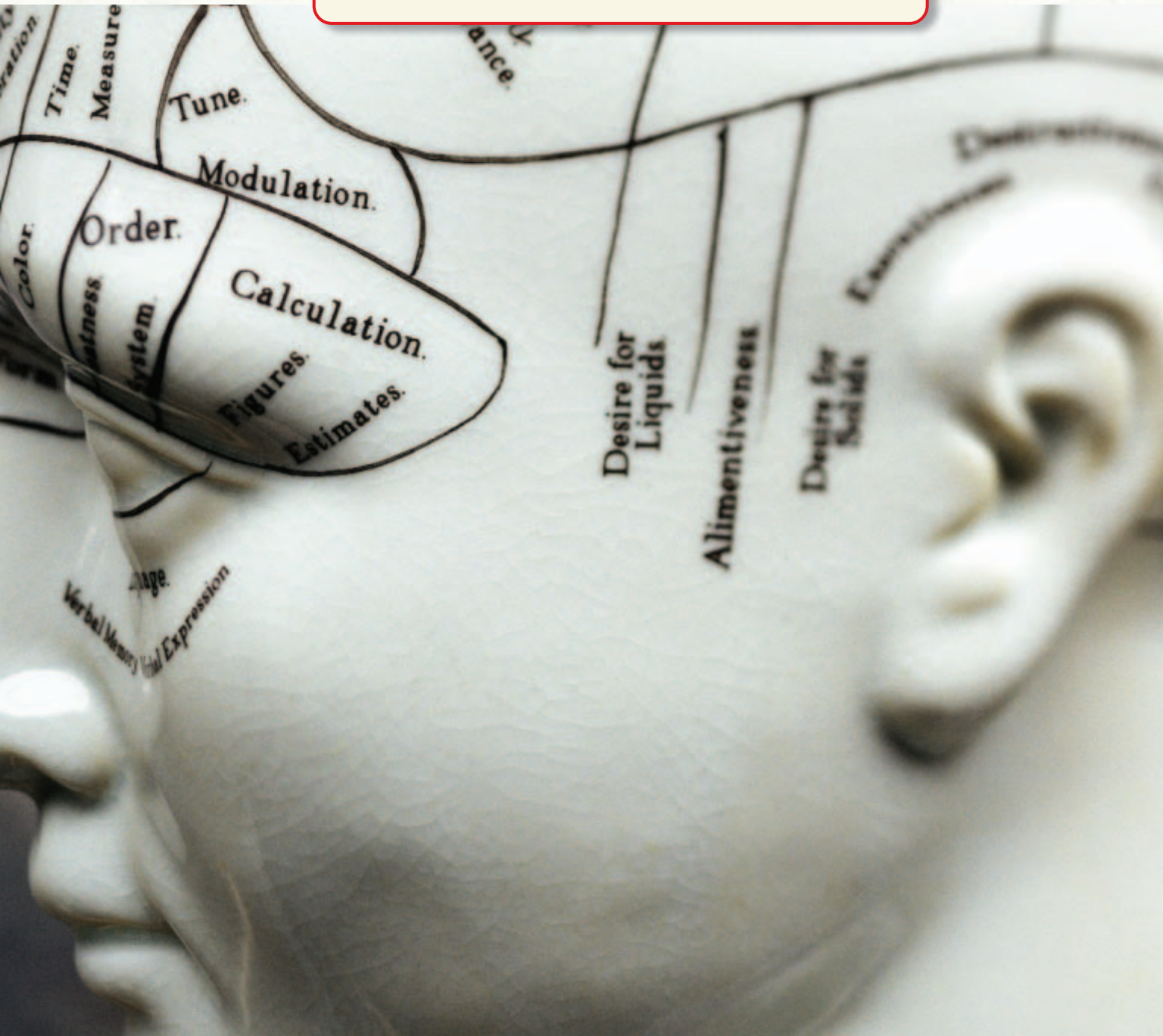
Chapter 2 **Psychological Research
Methods and Statistics**

Psychology is the study
of the human mind and
human behavior. ▶



Why It's Important

What do you expect to learn in this introductory psychology course? You may learn more about yourself and more about others. This unit will explain why psychologists study human and animal behavior. Psychologists attempt to explain and predict why people behave, feel, and think as they do. They attempt to learn ways in which people can improve the quality of life.



READINGS IN PSYCHOLOGY

These excerpts describe two experiments. The first experiment, related in *The Story of Psychology*, took place in an ancient time, when humans were just beginning to question the origin of their own thoughts. The second excerpt appeared in *History of Psychology* and details the attempts of one scientist to change the behavior of a wild boy.



Reader's Dictionary

Assyrians: people of an empire in the Middle East, c. 650 B.C.

spontaneously: arising naturally, without external influence

Phrygians: people of an ancient country located in Anatolia, or present-day Turkey

innate: existing in an individual from birth

inarticulate: incapable of understandable speech

erratic: strange; not normal

An EXPERIMENT in the SEVENTH CENTURY B.C.

BY MORTON HUNT

A most unusual man, Psamtik I, King of Egypt. During his long reign, in the latter half of the seventh century B.C., he not only drove out the Assyrians, revived Egyptian art and architecture, and brought about general prosperity, but found time to conceive of and conduct history's first recorded experiment in psychology.

The Egyptians had long believed that they were the most ancient race on earth, and Psamtik, driven by intellectual curiosity, wanted to prove that flattering belief. Like a good psychologist, he began with a hypothesis: If children had no opportunity to learn a language from older people around them, they would spontaneously speak the primal, inborn

language of humankind—the natural language of its most ancient people—which, he expected to show, was Egyptian.

To test his hypothesis, Psamtik commandeered two infants of a lower-class mother and turned them over to a herdsman to bring up in a remote area. They were to be kept in a sequestered cottage, properly fed and cared for, but were never to hear anyone speak so much as a word. The Greek historian Herodotus, who tracked the story down and learned what he calls “the real facts” from priests of Hephaestus in Memphis, says that Psamtik’s goal “was to know, after the indistinct babblings of infancy were over, what word they would first articulate.”

The experiment, he tells us, worked. One day, when the children were two years old, they ran up to the herdsman as he opened the door of their cottage and cried out “*Becos!*” Since this meant nothing to him, he paid no attention, but when it happened repeatedly, he sent word to Psamtik, who at once ordered the children brought to him. When he too heard them say it, Psamtik made inquiries and learned that *becos* was the Phrygian word for bread.

He concluded that, disappointingly, the Phrygians were an older race than the Egyptians.

We today may smile condescendingly; we know from modern studies of children brought up under conditions of isolation that there is no innate language



and that children who hear no speech never speak. Psamtik's hypothesis rested on an invalid assumption, and he apparently mistook a babbled sound for an actual word. Yet we must admire him for trying to prove his hypothesis and for having the highly original notion that thoughts arise in the mind through internal processes that can be investigated.

THE WILD BOY OF AVEYRON

BY DAVID HOTHERSALL

In 1799 [Phillipe] Pinel was asked to examine a wild boy, believed to be about twelve years old, who had been found by three hunters in the woods of Saint-Serin near Aveyron in southern France. From reports of hunters who had caught glimpses of him, it was believed that he had lived in the woods for some years. He was virtually naked, covered with scars, dirty, and inarticulate. Apparently he had survived on a diet of acorns and roots. He walked on all-fours much of the time and grunted like an animal. News of the capture of this wild boy caused a sensation in Paris. The newly formed Society of Observers of Man arranged for him to be brought to the capital for study. . . . Taken to Paris in 1800 and exhibited in a cage, the wild boy sat rocking back and forth and was completely apathetic. He was a great disappointment to the hordes of curious spectators. . . .

After examining the boy, Pinel concluded that far from being a noble savage, the boy was an incurable idiot. Despite this conclusion, one of Pinel's assistants, Jean-Marc-Gaspard Itard (1744–1835), undertook to care for the wild boy and to try to educate him. First he gave him a name, Victor, and then made a working assumption that Victor's behavior was due to his social isolation rather than the result of brain damage or some other organic condition. Itard had five aims:

1st Aim—To interest him in social life by rendering it more pleasant to him than the one he was then leading, and above all more like the life which he had just left.

2nd Aim—To awaken his nervous sensibility by the most energetic stimulation, and occasionally by intense emotion.

3rd Aim—To extend the range of his ideas by giving him new needs and by increasing his social contacts.

4th Aim—To lead him to the use of speech by inducing the exercise of imitation through the imperious law of necessity.

5th Aim—To make him exercise the simplest mental operations upon the objects of his physical needs over a period of time, afterwards inducing the application of these mental processes to the objects of instruction. (Itard, 1894)

So Itard undertook Victor's rehabilitation. With the assistance of a Madame Guerin, Itard succeeded, after truly heroic efforts, in teaching Victor to pay attention, to keep clean and to dress himself, to eat with his hands, to play simple games, to obey some commands, and even to read and understand simple words. However, despite all their efforts, Victor never learned to talk. At times he showed signs of affection, but often, and especially under stress, his behavior was erratic, unpredictable, and violent. Victor learned simple discriminations, but when they were made more difficult, he became destructive, biting and chewing his clothes, sheets, and even the chair mantlepiece. After working with Victor for five years, Itard gave up hope of ever attaining his goals. Victor's background and the "passions of his adolescence" could not be overcome. Victor lived with Madame Guerin until 1828, when he died at the age of forty.

Analyzing the Reading

1. What was Psamtik's hypothesis? Why was it invalid?
2. Why was Psamtik's experiment important even though his hypothesis was flawed?
3. **Critical Thinking** Do you think Itard's experiment was worthwhile? Why or why not?

CHAPTER
1

Introducing Psychology

PSYCHOLOGY JOURNAL

Think about your personal reasons for studying psychology. Write an entry in your journal of at least 100 words describing what you hope to gain from this experience. ■

PSYCHOLOGY *Online*



Chapter Overview

Visit the *Understanding Psychology* Web site at glencoe.com and click on **Chapter 1—Chapter Overviews** to preview the chapter.

Why Study Psychology?

Reader's Guide

■ Main Idea

Through the study of human and animal behavior, people can discover psychological principles that have the potential to enrich the lives of humans.

■ Vocabulary

- physiological
- cognitive
- psychology
- hypothesis
- theory
- basic science
- applied science
- scientific method

■ Objectives

- Describe the range of topics that are covered in an introductory psychology course.
- Cite the goals and scientific basis of psychology.

EXPLORING PSYCHOLOGY

Addicted to the Internet

It's 4 A.M. and "Steve" is engulfed in the green glare of his computer screen, one minute pretending he's a ruthless mafia lord masterminding a gambling empire, the next minute imagining he's an evil sorcerer or an alien life form.

Steve, a college student, is playing a . . . fictional Internet game that is played by sending online messages to other players. But as he continually logs on for hours, Steve finds himself sleeping through classes, forgetting his homework, and slipping into "Internet addiction" . . .

—from the *APA Monitor*

From a psychologist's point of view, Steve is demonstrating complex behavior. Steve stays on his computer from midnight until morning, often ignoring **physiological**, or physical, needs such as sleep and hunger. He engages in this behavior because of **cognitive**, or private, unobservable mental, reasons. For example, Steve may go online because he likes the intellectual challenge of outwitting the other players. Or Steve's behavior may be motivated by emotions—he goes online to avoid the pressures of college life. There may also be subconscious, emotional, and behavioral reasons. For instance, does the Internet reinforce his behavior? Does this Internet use reflect a weak self-concept? Learning about psychology can help you gain a better understanding of your own behavior, knowledge about how psychologists study human and animal behavior, and practical applications for enriching your life.

physiological: having to do with an organism's physical processes

cognitive: having to do with an organism's thinking and understanding

GAINING INSIGHT INTO BEHAVIOR

 **Reading Check**
What insights might you gain from studying psychology?

Psychology can provide useful insight into behavior. For example, suppose a student is convinced that he is hopelessly shy and doomed forever to feel uncomfortable in groups. Then he learns through social psychology that different kinds of groups tend to have different effects on their members. He thinks about this. He notes that although he is miserable at parties, he feels fine at meetings of the school newspaper staff and in the group he works with in the biology laboratory. In technical terms, he is much more uncomfortable in unstructured social groups than in structured, task-oriented groups. Realizing that he is uncomfortable only in some groups brings him relief. He is not paralyzingly shy; he just does not like unstructured groups. He is not alone in his feelings—and thinking about his feelings helps him gain confidence in himself.

ACQUIRING PRACTICAL INFORMATION

Most of the chapters in this book include material that has a practical application in everyday life. You will learn concrete and detailed ways to carry out a number of useful procedures psychologists have developed.

For example, Chapter 9 describes a systematic way of dispensing rewards and punishments that psychologists call shaping. You will definitely find this useful if you ever have to train a puppy. (You give the puppy a treat after it obeys a command.) You may find yourself wondering how you are shaping the behavior of people around you. Perhaps you have two friends who are always happy to join you for a soda or a movie but who never bring any money along. You have loaned them money many times, and just as many times, they have failed to pay you back. You

know they can afford to pay their share, and you have repeatedly told them so. They are good friends, however, so you end up paying their way again and again. In doing so, you are rewarding or reinforcing an undesirable behavior pattern. Is that what you really want to do?

Chapter 10 includes a description of several mnemonic devices, or memory aids, that help you retain information. The poem beginning “Thirty days has September,” which helps many people remember the number of days in

Figure 1.1 Psychology and You

Studying psychology may help you gain a better understanding of human behavior. *What is psychology?*



each month, is an example. With mnemonic devices, you usually associate each item on a list with something easier to remember, such as a picture, rhyme, or phrase. Although this may require time and effort, memory experts have shown that it is worth the trouble.

In reading about child development in Chapter 3, you may recall similar experiences you had in your own childhood. Chapter 16, on disturbance and breakdown, may help you understand difficult periods in your own life and in the lives of those around you.

OVERVIEW OF PSYCHOLOGY

Psychology is the scientific study of behavior and mental processes. Such study can involve both animal and human behaviors. When applied to humans, psychology covers everything that people think, feel, and do. Psychologists differ in how much importance they place on specific types of behavior. For example, some psychologists believe that you should study only behavior that you can see, observe, or measure directly. Steve's behavior of logging on and remaining on the Internet for hours at a time is an observable behavior. Some psychologists believe that our thoughts, feelings, and fantasies are also important, even though these processes are not directly observable. Steve may log on because he feels intimidated by others or by schoolwork, but psychologists cannot directly observe that these are the reasons that Steve is engaging in this behavior.

While psychologists may differ on which types of behavior are important, they do agree that the study of behavior must be systematic. The use of a systematic method of asking and answering questions about why people think, act, and feel as they do reduces the chances of coming to false conclusions. Consider the story of the blind men and the elephant. A long time ago, three very wise, but blind, men were out on a journey when they came across a sleeping elephant. Because they could not see the elephant, they did not know what was blocking their way, so they set about to discover what they could about the obstacle.

As it happened, each man put his hands on a different section of the elephant, examining it in great detail and with much thought. The first man, having felt the elephant's trunk, described a creature that was long, wormlike, and quite flexible. "No, no! You must be mistaken," said the second man, who was seated astride the elephant. "This creature is wide, very round, and does not move very much." The man who was holding one of the elephant's tusks added his description of a small, hard, pointed creature.



Why You Overreact

Your friend makes a simple comment about your hair or clothes, and you blow up, getting violently angry and feeling deeply hurt. Why? Emotions occur as the result of a physical stimulation paired with some social or personal event. If an emotional event occurs, but you do not have a physical reaction—such as a pounding heart or a tense stomach—you will not feel that emotion in the usual sense. Yet consider the following situation: You just drank two cans of caffeinated soda. Your heart is beating hard, and your stomach is tense. Then your friend makes a critical comment. When you hear the comment, you get angry—but you get angrier than usual because your body is already stimulated. If you are very tired, you may react mildly or not at all to an emotional event.

psychology: the scientific study of behavior that is tested through scientific research

Test your intuitions about behavior by answering true or false to the statements below.

Turn to page 12 to check your answers.

1. The behavior of most lower animals—insects, reptiles and amphibians, most rodents, and birds—is instinctive and unaffected by learning.
2. For the first week of life, a baby sees nothing but shades of gray-blue regardless of where he or she looks.
3. A child learns to talk more quickly if the adults around the child habitually repeat the word he or she is trying to say, using proper pronunciation.
4. The best way to get a chronically noisy child to settle down and pay attention is to punish him or her.
5. Slow learners remember more of what they learn than fast learners.
6. Highly intelligent people, geniuses, tend to be physically frail and socially isolated.
7. On the average, you cannot predict from a person's grades at school and college whether he or she will do well in a career.
8. Most stereotypes are completely true.
9. In small amounts, alcohol is a stimulant.
10. The largest drug problem in the United States, in terms of the number of people affected, is marijuana.
11. Psychiatry is a subdivision of psychology.
12. Most developmentally disabled people also have psychological disorders.
13. A third or more of the people suffering from severe psychological disorders are potentially dangerous.
14. Electroshock therapy is an outmoded technique rarely used in today's mental hospitals.
15. The more severe the disorder, the more intensive the therapy required to cure it; for example, schizophrenics usually respond best to psychoanalysis.
16. Nearly all the psychological characteristics of men and women appear to be inborn; in all cultures, for example, women are more emotional and sexually less aggressive than men.
17. No reputable psychologist takes seriously such irrational phenomena as ESP, hypnosis, or the bizarre mental and physical achievements of Eastern yogis.

Each of these men was correct in his description of what he felt, but in order to understand the elephant fully, they needed to combine their accumulated knowledge. The study of human behavior is similar. We cannot rely on simplistic explanations. In order to understand our observations, we have to combine the results of many psychological studies.

We each like to think we understand people. We spend time observing others (and ourselves) and form conclusions about people from our daily interactions. Sometimes the conclusions we draw, however, are not accurate because we are not systematic in our efforts.

The Goals of Psychology

As psychologists go about their systematic and scientific study of humans and animals, they have several goals. Overall, psychologists seek to do four things—describe, explain, predict, and influence behavior.

Description The first goal for any scientist or psychologist is to describe or gather information about the behavior being studied and to present what is known. For example, we described Steve's behavior at college.

Explanation Psychologists are not content simply to state the facts. Rather, they also seek to explain why people (or animals) behave as they

PSYCHOLOGY

Online



Student Web Activity

Visit the *Understanding Psychology* Web site at glencoe.com and click on **Chapter 1—Student Web Activities** for an activity about the study of psychology.

do. Such explanations can be called psychological *principles*—generally valid ideas about behavior. Psychologists propose these explanations as hypotheses. A **hypothesis** is an educated guess about some phenomenon. It is a researcher’s prediction about what the results of a study are expected to be. As research studies designed to test each hypothesis are completed, more complex explanations called theories are constructed. A **theory** is usually a complex explanation based on findings from a large number of experimental studies. Theories change as new data improves our understanding, and a good theory becomes the source of additional ideas for experiments. A number of theories taken together may validate or cause us to alter the principles that help explain and predict observed behavior.

Prediction The third goal of psychologists is to predict, as a result of accumulated knowledge, what organisms will do and, in the case of humans, what they will think or feel in various situations. By studying descriptive and theoretical accounts of past behaviors, psychologists can predict future behaviors.

Influence Finally, some psychologists seek to influence behavior in helpful ways. These psychologists are conducting studies with a long-term goal of finding out more about human or animal behavior. They are doing **basic science**, or research. Other psychologists are more interested in discovering ways to use what we already know about people to benefit others. They view psychology as an **applied science** and are using psychological principles to solve more immediate problems.

Psychologists who study the ability of infants to perceive visual patterns are doing basic research. They may not be concerned with the implication their findings might have on the design of a crib. Psychologists studying rapid eye movement in sleep research are also involved in basic science. If they discover that one individual has a sleep disturbance, they will try to understand and explain the situation, but they may not try to correct it. That is a job for applied scientists, such as clinical psychologists, industrial/organizational psychologists, counseling psychologists, or engineering psychologists.

An example of a psychologist involved in applying psychological principles rather than discovering them is a consultant to a

hypothesis: an assumption or prediction about behavior that is tested through scientific research

theory: a set of assumptions used to explain phenomena and offered for scientific study

basic science: the pursuit of knowledge about natural phenomena for its own sake

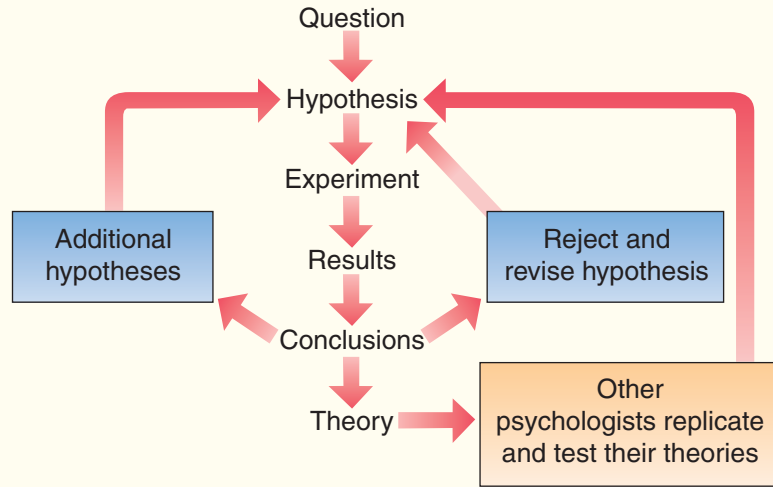
applied science: discovering ways to use scientific findings to accomplish practical goals

Figure 1.3 Gaining Perspective

Psychology involves gaining new perspectives on your own and others’ behavior. Upon examination, René Magritte’s painting *The Human Condition* becomes more and more complex. **How does your perspective of this painting change upon closer examination of it?**



Scientists investigate a question they have by using the scientific method. *What may occur after a psychologist reaches a conclusion?*



Answers to Figure 1.2

All of the statements in Figure 1.2 are false. As you read the different chapters in *Understanding Psychology*, you will learn more about the correct answers to these statements and the research that psychologists have conducted to demonstrate why these statements are false.

Reading Check

Define the concepts of principle and theory, and differentiate between the two.

scientific method: a general approach to gathering information and answering questions so that errors and biases are minimized

toy manufacturer. A toy manufacturer tries to develop toys that appeal to children. The manufacturer may apply, or use, psychological principles when designing those toys. Since the transfer of findings from basic to applied science can be tricky, the distinction between basic and applied science is important. The following example illustrates this.

Psychologists doing basic research have found that babies raised in institutions such as orphanages become seriously delayed in their physical, intellectual, and emotional development. Wayne Dennis (1960), among others, traces this to the fact that these babies have nothing to look at but a blank, white ceiling and white crib cushions, and are handled only when they need to be fed or changed. However, we have to be very careful not to apply this finding too broadly. Even though children who lack stimulation tend to develop poorly, it does not follow that providing infants with maximum stimulation will cause them to grow up emotionally sound and intellectually superior. Quite the contrary, most babies do best with a medium level of stimulation (White, 1969). Even more significantly, social interaction seems much more important than visual stimulation. Normal development is more likely to result from long-term interactions with a responsive caregiver (Rice, Cunningham, & Young, 1997). Basic science provides specific findings—what happens in one study conducted at one time and in one place.

THE SCIENTIFIC BASIS OF PSYCHOLOGY

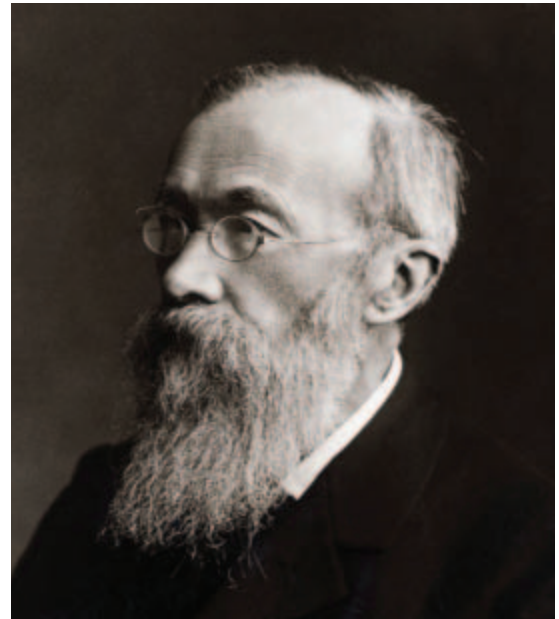
To ensure that data are collected accurately, psychologists rely on the **scientific method** (see Figure 1.4). In psychology, facts are based on data. The data are obtained from methods such as experiments, surveys,

and case studies. This means that psychologists reach their conclusions by identifying a specific problem or question, formulating a hypothesis, collecting data through observation and experimentation, and analyzing the data.

The scientific basis of psychology goes back many years. Today people are very sophisticated about scientific procedures, but that has not always been true. Wilhelm Wundt is credited with setting up the first psychology laboratory in Leipzig, Germany, in 1879. He proposed that psychological experience is composed of compounds, much like the compounds found in chemistry. Psychology, he claimed, has two kinds of elements—sensations and feelings. Wundt tried to test his statements by collecting scientific data.

Although Wundt's methods proved cumbersome and unreliable, the importance of Wundt's work is the procedure he followed, not the results he obtained. He called the procedure "introspection," and in psychology it led to what we now call the scientific method. Whereas in Wundt's introspection an individual observes, analyzes, and reports his or her own mental experiences, the scientific method developed as an objective method of observation and analysis. Researchers thus are better able to share and retest findings.

Although psychologists use the scientific method to test and support many theories, many questions about behavior remain unanswered. Psychological theories are continually reviewed and revised. New theories and technological developments are constantly generating new questions and new psychological studies.



Wilhelm Wundt

 **Reading Check**
What is the scientific method?

SECTION I

Assessment

- 1. Review the Vocabulary** What is the difference between a hypothesis and a theory?
- 2. Visualize the Main Idea** In a graphic organizer similar to the one below, list and describe the goals of psychology.
- 3. Recall Information** Why do psychologists use the scientific method?
- 4. Think Critically** How might a psychologist doing basic science and a psychologist practicing applied science differ in their approach to the issue of Internet addiction?



- 5. Application Activity** Use the four goals of psychology to outline how a psychologist might approach the following question: Why are you sitting here in psychology class when there are other things you could be doing?

A Brief History of Psychology

Reader's Guide

■ Main Idea

Psychology involves sets of questions, theories, methods, and possible answers that have been passed on and changed from generation to generation.

■ Vocabulary

- structuralist
- introspection
- functionalist
- psychoanalyst
- behaviorist
- humanist
- cognitivist
- psychobiologist

■ Objectives

- Explain important trends in the history of psychology.
- Identify various approaches to the study of psychology.

EXPLORING PSYCHOLOGY

The Science of Skull Bumps

S.S. . . . was sent to the State Prison for five years for assault and battery, with intent to kill, . . . Before his mind became deranged, he exhibited great energy of passion and purpose, but they were all of a low character, their sole bearing being to prove his own superiority as an animal. . . . The drawing shows a broad, low head, corresponding with such a character. The moral organs are exceedingly deficient, . . . If the higher capacities and endowments of humanity were ever found coupled with such a head as this, it would be a phenomenon as inexplicable as that of seeing without the eye, or hearing without the ear.

—from “**Mathew B. Brady and the Rationale of Crime: A Study in Daguerreotypes,**”
Library of Congress Quarterly Journal,
Madeleine B. Stern

In the 1800s Marmaduke B. Sampson wrote the account above to explain why crime occurs. According to Sampson, the behavior of S.S. was the direct result of the shape of his head. Phrenology—the practice of examining bumps on a person’s skull to determine that person’s intellect and character traits—became an important practice in the United States in the mid-1800s. Although this pseudoscience may appear ridiculous to us, modern scientists credit phrenology for encouraging study into the role of the brain in human behavior. Phrenology may have inspired scientists to consider the brain, instead of the heart, as responsible for human behavior.

structuralist: a psychologist who studied the basic elements that make up conscious mental experiences

introspection: a method of self-observation in which participants report their thoughts and feelings

formal field of study. Although he was trained in physiology—the study of how the body works—Wundt’s real interest was in the study of the human mind. Wundt was a **structuralist**, which means that he was interested in the basic elements of human experience. In his laboratory, Wundt modeled his research on the mind after research in other natural sciences he had studied. He developed a method of self-observation called **introspection** to collect information about the mind. In carefully controlled situations, trained participants reported their thoughts, and Wundt tried to map out the basic structure of thought processes. Wundt’s experiments were very important historically because he used a systematic procedure to study human behavior. This approach attracted many students who carried on the tradition of systematic research.

Functionalism

William James (1842–1910) taught the first class in psychology at Harvard University in 1875. James is often called the “father of psychology” in the United States. It took him 12 years to write the first textbook of psychology, *The Principles of Psychology* (1890). James speculated that thinking, feeling, learning, and remembering—all activities of the mind—serve one major function: to help us survive as a species. Rather than focusing on the structure of the mind as Wundt did, James focused on the functions or actions of the conscious mind and the goals or purposes of behaviors. **Functionalists** study how animals and people adapt to their environments. Although James was not particularly interested in experimentation, his writings and theories are still influential. In Chapter 12 you will learn more about James’s ideas on motivation and emotion.

Did You Know?

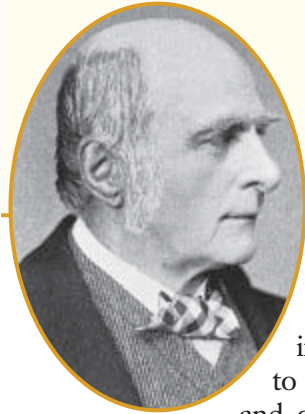
Studying Scientists Some researchers study how scientists do science. Their findings point out misconceptions:

- Scientists are not always objective. They sometimes ignore data that does not support their theories rather than impartially examining all available evidence.
- Some scientists are not all that open-minded. Critics accused Isaac Newton, Charles Darwin, and Albert Einstein of intolerance.
- The best scientists are not always the brightest. Studies demonstrate that no strong relationship exists between scientists’ IQs and their contributions.

functionalist: a psychologist who studied the function (rather than the structure) of consciousness

Inheritable Traits

Sir Francis Galton (1822–1911), a nineteenth-century English mathematician and scientist, wanted to understand how heredity influences a person’s abilities, character, and behavior. (*Heredity* includes all the traits and properties that are passed along biologically from parents to child.) Galton traced the ancestry of various eminent people and found that greatness runs in families. He therefore concluded that genius or eminence is a hereditary trait. This conclusion was like the blind men’s ideas about the elephant. Galton did not consider the possibility that the tendency of genius to run in distinguished families might be a result of the exceptional environments and socioeconomic advantages that also tend to surround such families. He also raised the question: Wouldn’t the world be a better place if we could get rid of the less desirable people? Galton encouraged “good” marriages to supply the world with talented offspring. Later, scientists all over the world recognized the flaws in Galton’s theory. A person’s heredity and environment interact to influence intelligence.

Figure 1.6**Sir Francis Galton**

Galton declared that the “most fit” humans were those with high intelligence. He assumed that the wealthiest people were also the most intelligent. **What factors did Galton fail to take into account in his studies?**

The data Galton used were based on his study of biographies. Not content to limit his inquiry to indirect accounts, however, he went on to invent procedures for directly testing the abilities and characteristics of a wide range of people. These tests were the primitive ancestors of the modern personality tests and intelligence tests.

Although Galton began his work shortly before psychology emerged as an independent discipline, his theories and techniques quickly became central aspects of the new science. In 1883 he published a book, *Inquiries into Human Faculty and Its Development*, that is regarded as the first study of individual differences. Galton’s writings raised the issue of whether behavior is determined by heredity or environment—a subject that remains a focus of controversy today.

Gestalt Psychology

A group of German psychologists, including Max Wertheimer (1880–1943), Wolfgang Köhler (1887–1967), and Kurt Koffka (1886–1941), disagreed with the principles of structuralism and behaviorism. They argued that perception is more than the sum of its parts—it involves a “whole pattern” or, in German, a *Gestalt*. For example, when people look at a chair, they recognize the chair as a whole rather than noticing its legs, its seat, and its other components. Another example includes the perception of apparent motion. When you see fixed lights flashing in sequence as on traffic lights and neon signs, you perceive motion rather than individual lights flashing on and off (see Figure 1.8). Gestalt psychologists studied how sensations are assembled into perceptual experiences. This approach became the forerunner for cognitive approaches to the study of psychology.



“HAVE A COUPLE OF DREAMS, AND CALL ME IN THE MORNING.”

Figure 1.7**Dream Analysis**

Freud believed that dreams can represent past, present, or future concerns or fears. Most contemporary psychologists, though, disagree with the symbols Freud found in dreams. **How do you think the psychologist in the cartoon plans to help his patient?**

CONTEMPORARY APPROACHES

Many ideas taken from the historical approaches to psychology are reflected in contemporary approaches to the study

Artist Giuseppe Arcimboldo (1527–1593) played with perceptual images in his painting *Autumn*.



An electric sign in which the bulbs go on and off in turn, with the appropriate timing, gives the impression of motion. *How do these two images represent the ideas of Gestalt psychology?*



of psychology. The most important approaches to the study of psychology today are the psychoanalytic, behavioral, humanistic, cognitive, biological, and sociocultural approaches.

Psychoanalytic Psychology

While the first psychologists were interested in understanding the conscious mind, Sigmund Freud (1856–1939), a physician who practiced in Vienna until 1938, was more interested in the unconscious mind. He believed that our conscious experiences are only the tip of the iceberg, that beneath the surface are primitive biological urges that are in conflict with the requirements of society and morality. According to Freud, these unconscious motivations and conflicts are responsible for most human behavior. He thought that they were responsible for many medically unexplainable physical symptoms that troubled his patients.

Freud used a new method for indirectly studying unconscious processes. In this technique, known as *free association*, a patient said everything that came to mind—no matter how absurd or irrelevant it seemed—without attempting to produce logical or meaningful statements. The person was instructed not to edit or censor the thoughts.

Freud's role, that of **psychoanalyst**, was to be objective; he merely sat and listened and then interpreted the associations. Free association, Freud believed, revealed the operation of unconscious processes. Freud also believed that dreams are expressions of the most primitive unconscious urges. To learn more about these urges, he used *dream analysis*—basically an extension of free association—in which he applied the same technique to a patient's dreams (Freud, 1940) (see Figure 1.7).

While working out his ideas, Freud took careful, extensive notes on all his patients and treatment sessions. He used these records, or case studies, to develop and illustrate a comprehensive theory of personality (Ewen, 2003). Freud's theory of personality will be discussed in Chapter 14.

In many areas of psychology today, Freud's view of unconscious motivation remains a powerful and controversial influence. Modern psychologists may support, alter, or attempt to disprove it, but most have a strong opinion about it. The technique of free association is still used by psychoanalysts, and the method of intensive case study is still a major tool for investigating behavior. A *case study* is an analysis of the thoughts, feelings, beliefs, experiences, behaviors, or problems of an individual.

Behavioral Psychology

The pioneering work of Russian physiologist Ivan Pavlov (1849–1936) charted another new course for psychological investigation. In a now-famous experiment, Pavlov rang a tuning fork each time he gave a dog some meat powder. The dog would normally salivate when the powder reached its mouth. After Pavlov repeated the procedure several times, the dog would salivate when it heard the ring of the tuning fork, even if no food appeared. It had been conditioned to associate the sound with the food.

psychoanalyst: a psychologist who studies how unconscious motives and conflicts determine human behavior, feelings, and thoughts



Profiles In Psychology

Mary Whiton Calkins

1863–1930

“What we most need to know about any man is surely this: whether he is good or bad.”

Mary Whiton Calkins, a female pioneer in psychology, contributed greatly to the field of psychology despite numerous obstacles. In the 1800s, North American universities barred women from Ph.D. programs. Despite this, Harvard's William James admitted Calkins into his graduate seminar. When Calkins joined the seminar, all the other students dropped it in protest, so James tutored her alone.

Calkins taught and studied, petitioning Harvard to admit her as a Ph.D. candidate. Harvard refused and, instead, held an informal examination for Calkins. Calkins completed the requirements for the doctoral degree and outperformed all her male counterparts on the examination. When Radcliffe University offered her the doctoral degree, she refused to accept the compromise.

Calkins served as a full professor of psychology at Wellesley College and became the first female president of both the American Psychological Association (APA) and the American Philosophical Association.



Quick Lab

Why do you do what you do?

Throughout the course of a day, you perform many activities. Why?

Procedure

1. Observe and keep careful notes of your behavior on a particular day.
2. You may want to make a chart listing each action, such as “woke to the alarm clock’s ring,” “ate breakfast,” and “yelled at little brother.”

Analysis

1. Beside each behavior you have noted, list what caused your behavior. For example, “I woke up at 7:00 A.M. because school starts at 8:00 A.M., and I hate being late. I ate breakfast because I was hungry.”
2. Using the behaviorist approach, describe how rewards and punishments affected each of the behaviors on your list.



See the **Skills**

Handbook, page 622,

for an explanation of designing an experiment.

behaviorist: a psychologist who analyzes how organisms learn or modify their behavior based on their response to events in the environment

humanist: a psychologist who believes that each person has freedom in directing his or her future and achieving personal growth

cognitivist: a psychologist who studies how we process, store, retrieve, and use information and how thought processes influence our behavior

The conditioned reflex was a response (salivation) provoked by a stimulus (the tuning fork) other than the one that first produced it (food) (see Chapter 9 for a complete explanation). The concept was used by psychologists as a new tool, as a means of exploring the development of behavior. Using this tool, they could begin to account for behavior as the product of prior experience. This enabled them to explain how certain acts and certain differences among individuals were the result of learning.

Those psychologists who stressed investigating observable behavior became known as **behaviorists**. Their position, as formulated by psychologist John B. Watson (1878–1958), was that psychology should concern itself only with the *observable* facts of behavior. Watson further maintained that all behavior, even apparently instinctive behavior, is the result of conditioning and occurs because the appropriate stimulus is present in the environment.

Although it was Watson who defined and solidified the behaviorist position, it was B.F. Skinner (1904–1990) who introduced the concept of reinforcement. (*Reinforcement* is a response to a behavior that increases the likelihood the behavior will be repeated.) Skinner attempted to show how his laboratory techniques might be applied to society as a whole. In his classic novel *Walden Two* (1948), he portrayed his idea of Utopia—a small town in which conditioning, through rewarding those who display behavior that is considered desirable, rules every conceivable facet of life.

Humanistic Psychology

Humanistic psychology developed as a reaction to behavioral psychology. In the 1960s, **humanists** such as Abraham Maslow, Carl Rogers, and Rollo May described human nature as evolving and self-directed. It differs from behaviorism and psychoanalysis in that it does not view humans as being controlled by events in the environment or by unconscious forces. Instead, the environment and other outside forces simply serve as a background to our own internal growth. The humanistic approach emphasizes how each person is unique and has a self-concept and potential to develop fully. This potential for personal growth and development can lead to a more satisfying life.

Cognitive Psychology

Since 1950, cognitive psychology has benefited from the contributions of people such as Jean Piaget, Noam Chomsky, and Leon Festinger. **Cognitivists** focus on how we process, store, retrieve, and use information

and how this information influences our thinking, language, problem solving, and creativity. They believe that behavior is more than a simple response to a stimulus. Behavior is influenced by a variety of mental processes, including perceptions, memories, and expectations.

Reading Check
 How do cognitive psychologists differ from behaviorists?

Biological Psychology

This viewpoint, today often referred to as *behavioral neuroscience*, emphasizes the impact of biology on behavior. **Psychobiologists** study how the brain, the nervous system, hormones, and genetics influence our behavior. PET, CT, fMRI, and MEG/MSI scans (explained in Chapter 6) are the newest tools used by psychobiologists. Psychobiologists have found that genetic factors influence a wide range of human behaviors. Recently, psychobiologists have discovered a link between chemicals in the brain (neurotransmitters) and human behavior. For example, researchers found that autistic children share a genetic defect in regulating the neurotransmitter serotonin. Serotonin plays an important role in brain functioning. In many ways, our behavior is the result of our physiological makeup.

psychobiologist:
 a psychologist who studies how physical and chemical changes in our bodies influence our behavior

Sociocultural Psychology

The newest approach to psychology involves studying the influence of cultural and ethnic similarities and differences on behavior and social functioning.

Figure 1.9 Contemporary Approaches to Psychology

Modern psychologists use many different approaches to study the same behavior. Each viewpoint offers additional information to understanding behavior and reflects a different view of human nature. *What other questions might a cognitivist study?*

Approach	What influences our behavior?	Sample research question
Psychoanalytic Psychology	Unconscious motivations influence our behavior.	How have negative childhood experiences affected the way I handle stressful situations?
Behavioral Psychology	Events in the environment (rewards and punishments) influence our behavior.	Can good study habits be learned?
Humanistic Psychology	Individual or self-directed choices influence our behavior.	Do I believe I can prepare for and pass the test?
Cognitive Psychology	How we process, store, and retrieve information influences our behavior.	How does caffeine affect memory?
Biological Psychology	Biological factors influence our behavior.	Do genes affect your intelligence and personality?
Sociocultural Psychology	Ethnicity, gender, culture, and socioeconomic status influence our behavior.	How do people of different genders and ethnicities interact with one another?

For example, a sociocultural psychologist considers how our knowledge and ways of thinking, feeling, and behaving are dependent on the culture to which we belong. Think about all the perspectives and behaviors you share with other people of your culture. Psychologist Leonard Doob (1990) illustrated the cultural implications of a simple, reflexive behavior—a sneeze. Doob asks, “Will [the person who senses the urge to sneeze] try to inhibit this reflex action? What will he say, what will bystanders say, when he does sneeze? What will they think of him if he fails to turn away and sneezes in their faces? Do they and he consider sneezing an omen and, if so, is it a good or bad omen?” To answer such questions, we would have to understand the cultural context in which the sneeze occurred, as well as the cultural beliefs associated with the sneeze.

Sociocultural psychologists also study the impact and integration of the millions of immigrants who come to the United States each year. The character of the U.S. population is rapidly changing. By the year 2020, Americans of Hispanic origin will make up almost 18 percent of the population, while those of African American and Asian descent will make up nearly 19 percent (U.S. Census Bureau, 2004). Psychologists study the attitudes, values, beliefs, and social norms and roles of these various racial and ethnic groups. They also study methods to reduce intolerance and discrimination.

The sociocultural approach is also concerned with issues such as gender and socioeconomic status and is based on the idea that these factors impact human behavior and mental processes. For instance, how might you be different if you had been born female instead of male, or male instead of female? Would you be different if you had been born in poverty, or into an extremely wealthy family?

SECTION 2

Assessment

- 1. Review the Vocabulary** Using your own words, describe the structuralist, functionalist, behaviorist, and humanist approaches to the study of psychology.
- 2. Visualize the Main Idea** Use a graphic organizer similar to the one below to list the different historical approaches to the study of psychology.
- 3. Recall Information** Identify some issues that sociocultural psychologists might research.
- 4. Think Critically** With which approach to psychology do you most agree? Why?



- 5. Application Activity** Consider the following question: Why do you sometimes daydream in your classes? Compare how the various approaches to the study of psychology would address this question differently. Describe the differences and similarities.

Case Studies

The Four Humors

Period of Study: Around A.D. 150

Introduction: Hippocrates (460–375 B.C.), often referred to as the “father of medicine,” became one of the first people to claim that illness had natural, not supernatural, causes. Hippocrates associated the four elements—earth, air, fire, and water—with four humors in the body. He associated earth with phlegm (mucus), air with blood, fire with yellow bile, and water with black bile. Humans with balanced humors were healthy; an imbalance among the humors resulted in sickness. Galen (A.D. 130–200) extended Hippocrates’ theory to include characteristics of human personalities.

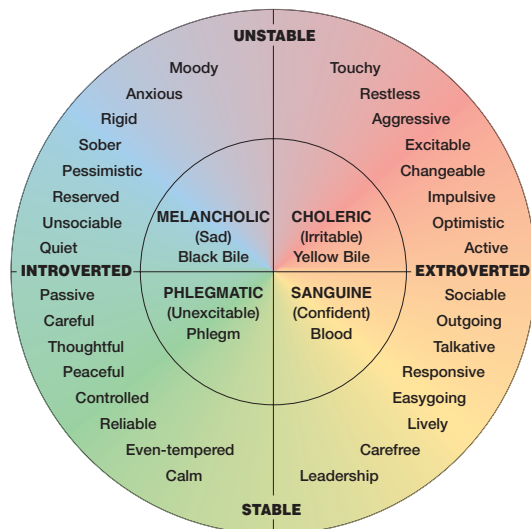
Hypothesis: Galen identified four personality characteristics called *melancholic*, *sanguine*, *choleric*, and *phlegmatic*. Galen associated these four characteristics with the four humors of the body. Each humor was thought to give off vapors that rose to the brain. An individual’s personality could be explained by the state of that person’s humors.

Method: If a person had excess phlegm, that person was probably dull, pale, and cowardly. Cheerful and generous personalities resulted from the dominance of blood. Laziness and gloominess were associated with cold and dryness (black bile). If a person had too much choler (yellow bile) in his system, he was probably a violent or vengeful person. The perfect personality resulted when none of the four humors dominated.

At that time, treatment of a psychological disorder involved restoring a balance among the humors. Doctors often gave patients poisonous herbs to eat. This caused vomiting, a sign that the imbalanced humor was leaving the patient’s body. Balancing the diet could also balance the humors.

Results: The theories of Hippocrates and Galen proved unfounded, and their prescribed treatments for various disorders

A Personality Wheel



Humor	Principal Source	Temperament	Characteristic
Phlegm	Brain	Phlegmatic	Sluggish, unemotional
Blood	Heart	Sanguine	Cheerful
Yellow bile	Liver	Choleric	Quick-tempered, fiery
Black bile	Spleen	Melancholic	Sad

did not prove reliable. The relationship between your physical makeup and your personality is not yet firmly established. Your mental state can make the symptoms of some diseases more distressing, or factors such as stress can make you more liable to getting sick. However, the dominance of, say, black bile in your system does not lead to depression. Galen’s notion, though, that a healthy personality is a balanced one may indeed be sound.

Analyzing the Case Study

1. According to Galen’s hypothesis, how are a person’s physical and mental states related?
2. How did Galen treat psychological disorders?
3. **Critical Thinking** How can Galen’s original theory be used today as a prescription for a healthy personality?

Reader's Guide

■ Main Idea

Psychologists are trained to observe, analyze, and evaluate behavior patterns, to develop theories of behavior, and to apply what they have learned to influence behavior.

■ Vocabulary

- psychologist
- psychiatry
- clinical psychologist
- counseling psychologist
- developmental psychologist
- educational psychologist
- community psychologist
- industrial/organizational psychologist
- experimental psychologist

■ Objectives

- Explain the work of a psychologist.
- Summarize the careers and specialized fields in psychology.

EXPLORING PSYCHOLOGY

The Thoughts of a Patient

Everything seems to be contradictory. I don't seem to know what else to tell you, but that I am tearful and sad—and no kick out of Christmas. And I used to get such a boot out of it. . . . It's an awful feeling. . . . I don't get a bit of a kick out of anything. Everything seems to get so sort of full of despair. . . . I feel so sort of what I call "empty"—nothing in back of you like when you're feeling yourself. . . . You go to bed and you dread each day when you feel low like that. . . . And I try to keep saying to myself, like you say, that I haven't been that bad that I should have to punish myself. Yet my thinking doesn't get cheerful. When it doesn't get cheerful it makes you wonder will it all end in suicide sometime. . . .

—from *The Encyclopedia of Behavior* by Robert M. Goldenson, 1970

The thoughts above are the reflections of a patient. The patient is suffering from depression—an emotional state of dejection and sadness, ranging from mild discouragement to feelings of utter hopelessness and despair. Some psychologists conduct research to collect information and form theories about disorders such as depression. Other psychologists apply that information in the form of therapy to help people cope with depression. What else do people in the field of psychology do? Let's start by defining a psychologist.

WHAT IS A PSYCHOLOGIST?

Psychologists are people who have been trained to observe, analyze and evaluate behavior. They usually have a doctorate degree in psychology. There are many different fields of psychology. The principal ones are described in this section.

People often confuse the terms *psychologist* and *psychiatrist*. These are different professions. **Psychiatry** is a specialty of medicine. After a student completes medical school, he or she continues training in psychiatric medicine and learns to treat people with disturbed behavior. A psychiatrist is a medical doctor who can prescribe medication or operate on patients. Sometimes a psychiatrist works with a psychologist in testing, evaluating, and treating patients.

As the field of psychology expanded, it divided into a number of subfields. Clinical and counseling psychology are the most popular. **Clinical psychologists** help people deal with their personal problems. They work mainly in private offices, mental hospitals, prisons, and clinics. Some specialize in giving and interpreting personality tests designed to determine whether a person needs treatment and, if so, what kind. (About one-half of all psychologists specialize in clinical psychology.) **Counseling psychologists** usually work in their own office, in schools, or industrial firms, advising and assisting people with the problems of everyday life. They help people adjust to challenges. In most states a doctorate is required to be a clinical or counseling psychologist.

School psychologists, educated in principles of human development, clinical psychology, and education, help young people with emotional or learning problems. Other specialists study personality, social psychology, or developmental psychology. These psychologists are usually involved in basic rather than applied science. Psychologists who study personality investigate its development, study personality traits, or may create personality tests. Social psychologists study groups and how they influence individual behavior. Some are particularly interested in public opinion and devote much of their time to conducting polls and surveys.

psychologist: a scientist who studies the mind and behavior of humans and animals

psychiatry: a branch of medicine that deals with mental, emotional, or behavioral disorders

clinical psychologist: a psychologist who diagnoses and treats people with emotional disturbances

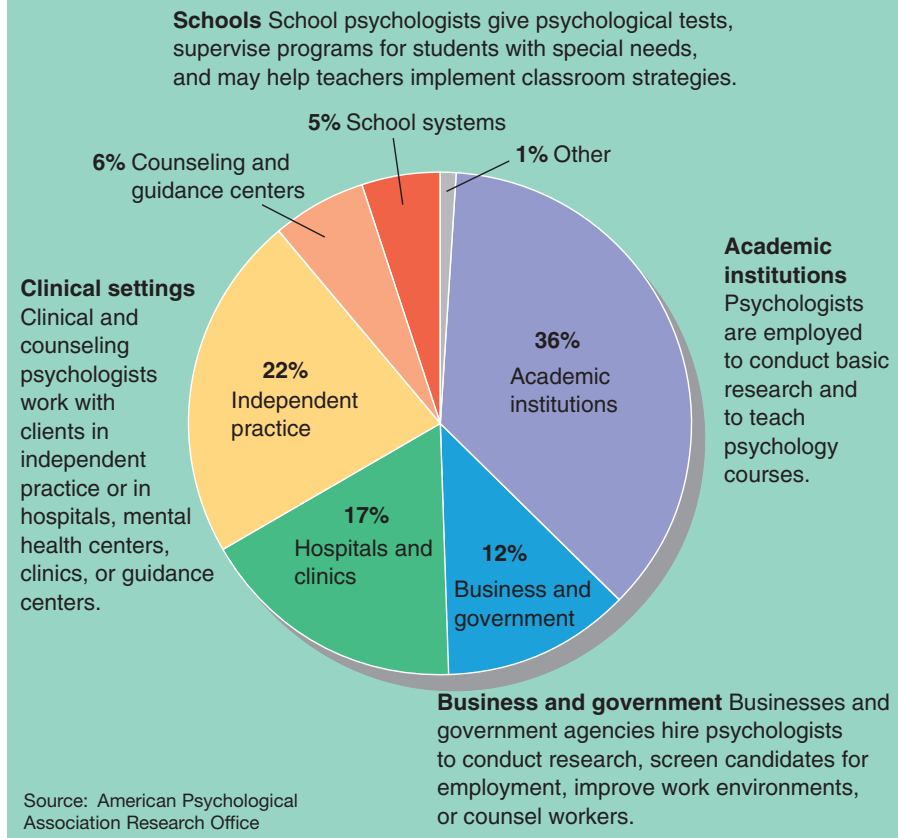
counseling psychologist: a psychologist who usually helps people deal with problems of everyday life

Figure 1.10

Psychologists at Work



All psychologists, no matter what their area of expertise, are interested in theories about behavior and mental processes. **Can you name the type of psychologist at work in each photo?**

Figure 1.11**Where Psychologists Work**

Most psychologists in the United States are engaged in clinical psychology. **Why do businesses and government agencies hire psychologists?**

developmental psychologist:

a psychologist who studies the emotional, cognitive, biological, personal, and social changes that occur as an individual matures

educational psychologist:

a psychologist who is concerned with helping students learn

community psychologist:

a psychologist who may work in a mental health or social welfare agency

industrial/organizational psychologist:

a psychologist who uses psychological concepts to make the workplace a more satisfying environment for employees and managers

Developmental psychologists study physical, emotional, cognitive, and social changes that occur throughout life. Specialists in this field study children, the elderly, and even the process of dying.

Educational psychologists deal with topics related to teaching children and young adults, such as intelligence, memory, problem solving, and motivation. Specialists in this field evaluate teaching methods, devise tests, and develop new instructional devices. A **community psychologist** may work in a mental health or social welfare agency operated by the state or local government or by a private organization. A community psychologist may help design, run, or evaluate a mental health clinic. **Industrial/organizational psychologists** are employed by business firms and government agencies. Industrial psychologists study and develop methods to boost production, improve working conditions, place applicants in jobs for which they are best suited, train people, and reduce accidents. Organizational psychologists study the behavior of people in organizations such as business firms.

Environmental psychologists work in business settings or within the government to study the effects of the environment on people. They may look at the effects of natural disasters, overcrowding, and pollution on the population in general as well as individuals and families. *Psychobiologists* study the effect of drugs or try to explain behavior in terms of biological factors, such as electrical and chemical activities in the nervous system. *Forensic psychologists* work in legal, court, and correctional systems. They assist police by developing personality profiles of criminal offenders or help law-enforcement officers understand problems like abuse. *Health psychologists* study the interaction between physical and psychological health factors. They may investigate how stress or depression leads to physical ailments such as ulcers, cancer, or the common cold.

Figure 1.12 Divisions of the APA

The divisions of the American Psychological Association (APA) represent the many areas in which a psychologist may specialize. ***Under which divisions might the work of a clinical psychologist fall?***

- | | | |
|---|---|--|
| 1. Society for General Psychology | 22. Rehabilitation Psychology | 40. Clinical Neuropsychology |
| 2. Society for the Teaching of Psychology | 23. Society for Consumer Psychology | 41. American Psychology-Law Society |
| 3. Experimental Psychology | 24. Theoretical and Philosophical Psychology | 42. Psychologists in Independent Practice |
| 4. There is no Division 4 | 25. Experimental Analysis of Behavior | 43. Family Psychology |
| 5. Evaluation, Measurement, and Statistics | 26. History of Psychology | 44. Society for the Psychological Study of Lesbian, Gay, and Bisexual Issues |
| 6. Behavioral Neuroscience and Comparative Psychology | 27. Society for Community Research and Action: Division of Community Psychology | 45. Society for the Psychological Study of Ethnic Minority Issues |
| 7. Developmental Psychology | 28. Psychopharmacology and Substance Abuse | 46. Media Psychology |
| 8. Society for Personality and Social Psychology | 29. Psychotherapy | 47. Exercise and Sport Psychology |
| 9. Society for the Psychological Study of Social Issues - SPSSI | 30. Psychological Hypnosis | 48. Peace, Conflict and Violence: Peace Psychology Division |
| 10. Psychology and the Arts | 31. State Psychological Association Affairs | 49. Group Psychology and Group Psychotherapy |
| 11. There is no Division 11 | 32. Humanistic Psychology | 50. Addictions |
| 12. Society of Clinical Psychology | 33. Mental Retardation and Developmental Disabilities | 51. Society for the Psychological Study of Men and Masculinity |
| 13. Consulting Psychology | 34. Population and Environmental Psychology | 52. International Psychology |
| 14. Society for Industrial and Organizational Psychology | 35. Psychology of Women | 53. Clinical Child Psychology (Division 12, Section I) |
| 15. Educational Psychology | 36. Psychology of Religion | 54. Society of Pediatric Psychology (Division 12, Section V) |
| 16. School Psychology | 37. Child, Youth, and Family Services | 55. American Society for the Advancement of Pharmacotherapy |
| 17. Counseling Psychology | 38. Health Psychology | 56. Trauma Psychology |
| 18. Psychologists in Public Service | 39. Psychoanalysis | |
| 19. Military Psychology | | |
| 20. Adult Development and Aging | | |
| 21. Applied Experimental and Engineering Psychology | | |

Source: American Psychological Association, 2006.

experimental psychologist: a psychologist who studies sensation, perception, learning, motivation, and/or emotion in carefully controlled laboratory conditions

Reading Check
How does developmental psychology differ from educational psychology?

Finally, some psychologists are **experimental psychologists**. These psychologists perform research to understand how humans (and animals) operate physically and psychologically. Experimental psychologists do everything from testing how electrical stimulation of a certain area of a rat's brain affects its behavior, through studying how disturbed people think, to observing how different socioeconomic groups vote in elections. Experimental psychologists supply information and research used in psychology.

The American Psychological Association (APA), founded in 1892, is a scientific and professional society of psychologists and educators. It is the major psychological association in the United States and is the world's largest association of psychologists. The APA is made up of 54 divisions, each representing a specific area, type of work or research setting, or activity. Some divisions are research-oriented, while others are advocacy groups. Together they are a cross section of the diverse nature of psychology (see Figure 1.12). The APA works to advance the science and profession of psychology and to promote human welfare.

What psychologists think about, what experiments they have done, and what this knowledge means form the subject of *Understanding Psychology*. Psychology is dedicated to answering some of the most interesting questions of everyday life: What happens during sleep? How can bad habits be broken? Is there a way to measure intelligence? Why do crowds sometimes turn into mobs? Do dreams mean anything? How does punishment affect a child? Can memory be improved? What causes psychological breakdowns? In trying to answer such questions, psychologists tie together what they have discovered about human behavior, thoughts, and feelings in order to look at the total human being. The picture is far from complete, but some of what is known will be found in the chapters that follow.

SECTION 3

Assessment

- 1. Review the Vocabulary** Describe the work of a clinical psychologist, a counseling psychologist, a developmental psychologist, and a community psychologist.
- 2. Visualize the Main Idea** Use a graphic organizer similar to the one below to name several specialty fields of psychology.
- 3. Recall Information** How might the work of environmental psychologists differ from that of industrial/organizational psychologists?
- 4. Think Critically** If you decided to continue in the field of psychology, what type of psychologist would you want to be? Why?



5. Application Activity Create a pamphlet that answers some basic questions concerned with psychology as a profession, for example: What is psychology? What is the difference between psychiatry and clinical psychology? What kinds of jobs can I get with a psychology degree?

Psychologists study human behavior to attempt to explain and predict why people behave and feel as they do.

Section 1 Why Study Psychology?

Main Idea: Through the study of psychology, people can discover psychological principles that have the potential to enrich the lives of humans.

- Psychology is the scientific study of behavior and mental processes.
- The goals of psychology are description, explanation, prediction, and influence.
- Psychologists rely on the scientific method when researching an issue.
- Psychology can provide insight into behavior and has practical applications in everyday life.

Section 2 A Brief History of Psychology

Main Idea: Psychology involves sets of questions, theories, methods, and possible answers that have been passed on, studied, and changed from generation to generation.

- Historical approaches to psychology include structuralism, functionalism, inheritable traits, and Gestalt psychology.
- Psychoanalytic psychology involves interpretation of unconscious thoughts.
- Behaviorists investigate observable behavior.
- Humanists believe that human behavior is self-directed.
- Cognitive psychologists focus on mental processes and rationally motivated behavior.
- Psychobiologists are interested in the physiological basis of behavior in humans and animals.
- Sociocultural psychology is a modern influential movement that views human behavior from a political and cross-cultural point of view.

Section 3 Psychology as a Profession

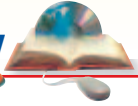
Main Idea: Psychologists are trained to observe, analyze, and evaluate behavior patterns, to develop theories of behavior, and to apply what they have learned to influence behavior.

- Psychiatrists and clinical psychologists both treat people with psychological disorders. Psychiatrists are medical doctors, whereas clinical psychologists are trained in psychology.
- There are many specialty fields in psychology, including clinical, developmental, industrial/organizational, experimental, and community psychology.

Chapter Vocabulary

physiological (p. 7)
 cognitive (p. 7)
 psychology (p. 9)
 hypothesis (p. 11)
 theory (p. 11)
 basic science (p. 11)
 applied science (p. 11)
 scientific method (p. 12)
 structuralist (p. 16)
 introspection (p. 16)
 functionalist (p. 16)
 psychoanalyst (p. 19)
 behaviorist (p. 20)
 humanist (p. 20)
 cognitivist (p. 20)
 psychobiologist (p. 21)
 psychologist (p. 25)
 psychiatry (p. 25)
 clinical psychologist (p. 25)
 counseling psychologist (p. 25)
 developmental psychologist (p. 26)
 educational psychologist (p. 26)
 community psychologist (p. 26)
 industrial/organizational psychologist (p. 26)
 experimental psychologist (p. 28)

PSYCHOLOGY *Online*



Self-Check Quiz

Visit the *Understanding Psychology* Web site at glencoe.com and click on **Chapter 1—Self-Check Quizzes** to prepare for the Chapter Test.

Reviewing Vocabulary

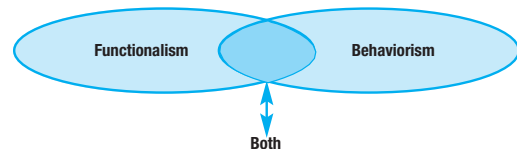
Choose the letter of the correct term or concept below to complete the sentence.

- | | |
|--------------------------|---|
| a. psychobiologist | h. developmental psychologist |
| b. hypothesis | i. experimental psychology |
| c. structuralist | j. industrial/organizational psychology |
| d. functionalist | |
| e. behaviorist | |
| f. theory | |
| g. clinical psychologist | |
- Psychologists who do research in memory, perception, and learning are involved in _____.
 - A(n) _____ wants to learn how various mental processes help people adapt to their environment.
 - A psychologist who focuses on studying objectively verifiable phenomena is known as a(n) _____.
 - The type of psychologist who usually works in a mental health clinic, mental hospital, or prison is called a(n) _____.
 - _____ is concerned with using psychological concepts to make the workplace a more satisfying environment for employees.
 - A(n) _____ would study the influence of biological factors on behavior and mental processes.
 - An educated guess, or _____, predicts what the results of testing will be.
 - A(n) _____ would attempt to describe the basic elements of human experience.

- A belief or set of beliefs that is used to explain observed facts and to predict new facts is called a(n) _____.
- A(n) _____ charts changes in behavior as people grow older, trying to understand the factors that influence those changes.

Recalling Facts

- What is psychology?
- What are the steps of the scientific method?
- What are four goals of psychology?
- What method of study did Wundt develop to collect information about the mind?
- Using a graphic organizer similar to the one below, compare and contrast functionalism and behaviorism.



Critical Thinking

- Synthesizing Information** Write your own definition of psychology. Is your definition different from one you would have written before reading the chapter? Put the definition in your *Psychology Journal* and read it at the end of the course to see if you still agree with it.
- Demonstrating Reasoned Judgment** Do you think human behavior is free or determined? Defend your answer using theories from the different approaches to psychology.
- Making Comparisons** Consider the issue of fear of the dark. How would the work of a psychologist involved in basic science and a psychologist involved in applied science differ in regard to the study of this issue?
- Making Inferences** Do you think that humanistic psychology presents an optimistic view of the world? Explain.
- Drawing Conclusions** Why do you think it is important to study the history of psychology?

Psychology Projects

- 1. Why Study Psychology?** Imagine that you are a psychologist and a patient has arrived at your office to discuss a problem. (Create a problem—such as stress or shyness—for the assignment.) Using the four goals of psychology, outline a possible plan to help the patient. Your plan should meet all the goals.
- 2. A Brief History of Psychology** Create a chart that explains the differences in the study of psychology between Sigmund Freud and B.F. Skinner. Your chart should include motivations of behavior, reward structures, and procedures for diagnosis and treatment. You may illustrate your text with cartoons or drawings to clarify certain points.
- 3. Psychology as a Profession** Create an advertisement for a psychology clinic. In the ad, describe the services of the types of psychologists that work at your clinic. You should include at least six types of psychologists, such as clinical, environmental, and so on. When creating your ad, keep in mind the types of problems that people might want to bring to the clinic. You may want to create a magazine, newspaper, or Internet ad. Be sure to monitor and evaluate your project for time lines, accuracy, and goal attainment (see page 1).



Technology Activity

Use the Internet or the computerized card catalog in your local or school library to find information on careers in psychology. Choose one field of psychology and detail the education, experience, and qualities needed for a job in that field. Present your research in an informational pamphlet.



Psychology Journal

Review the journal entry that you wrote at the beginning of the chapter on your reasons for studying psychology. Based on what you have learned from studying the chapter and classroom discussions, assess the ideas you presented in the original entry. Ask yourself:

- Are any of the ideas based on misconceptions, false premises, or faulty reasoning?
- What ideas would you revise or delete?
- What other ideas for studying psychology would you now include?

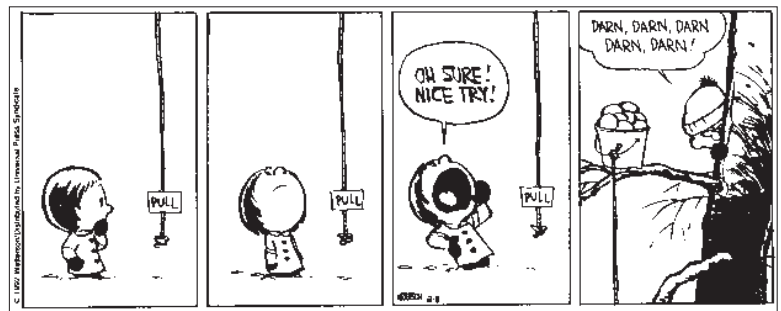
Write a new entry in your journal. Describe the three biggest benefits you feel you can derive from studying psychology. Provide reasons to justify your choices.

Building Skills

Identifying Cause-and-Effect Relationships

Review the cartoon and answer the questions that follow.

- 1.** How might this girl have “learned” to avoid the intended bad consequences of pulling the string?
- 2.** Which approach to psychology might this cartoon illustrate?



See the **Skills Handbook**, page 624, for an explanation of identifying cause-and-effect relationships.



Practice and **assess** key social studies skills with **Glencoe Skillbuilder Interactive Workbook CD-ROM, Level 2.**

TIME

REPORTS

CHILD PSYCHOLOGIST

Jean Piaget

He found the secrets of human learning hidden behind the seemingly illogical notions of children

By SEYMOUR PAPERT

JEAN PIAGET, THE PIONEERING SWISS philosopher and psychologist, spent much of his professional life listening to children, watching children and poring over reports of researchers around the world who were doing the same. He found, to put it most succinctly, that children don't think like grownups. After thousands of interactions with young people often barely old enough to talk, Piaget began to suspect that behind their cute and seemingly illogical utterances were thought processes that had their own kind of order and their own special logic. Einstein called it a discovery "so simple that only a genius could have thought of it."

Piaget's insight opened a new window into the inner workings of the mind. By the end of a wide-ranging and remarkably prolific research career that spanned nearly 75 years—from his first scientific publication at age 10 to work still in progress when he died at 84—

Piaget had developed several new fields of science: developmental psychology, cognitive theory and what came to be called genetic epistemology. Although not an educational reformer, he championed a way of thinking about children that provided the foundation for today's education-reform movements. It was a shift comparable to the displacement of stories of "noble savages" and "cannibals" by modern anthropology. One might say that Piaget was the first to take children's thinking seriously.



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JEAN PIAGET: A towering figure of 20th-century psychology

Others who shared this respect for children—John Dewey in the U.S., Maria Montessori in Italy and Paulo Freire in Brazil—fought harder for immediate change in the schools, but Piaget's influence on education is deeper and more pervasive. He has been revered by generations of teachers inspired by the belief that children are not empty vessels to be filled with knowledge (as traditional pedagogical theory had it) but active builders of

knowledge—little scientists who are constantly creating and testing their own theories of the world. And though he may not be as famous as Sigmund Freud or even B.F. Skinner, his contribution to psychology may be longer lasting. As computers and the Internet give children more autonomy to explore ever larger digital worlds, the ideas he pioneered become ever more relevant.

Piaget grew up near Lake Neuchâtel in a quiet region of French Switzerland. His father was a professor of medieval studies and his mother a strict Calvinist. He was a child prodigy who soon became interested in the scientific study of nature. When, at age 10, his observations led to questions that could be answered only by access to the university library, Piaget wrote and published a short note on the sighting of an albino sparrow in the hope that this would influence the librarian to stop treating him like a child. It worked. Piaget was launched on a path that would lead to his doctorate in zoology and a lifelong conviction that the way to understand anything is to understand how it evolves.

After World War I, Piaget became interested in psychoanalysis. He moved to Zurich and then to Paris to study logic and abnormal psychology. Working with Theodore Simon in Alfred Binet's child-psychology lab, he noticed that Parisian children of the same age made similar errors on true-false intelligence tests. Fascinated by their reasoning processes, he began to suspect that the key to human knowledge might be discovered by observing how the child's mind develops.

The core of Piaget is his belief that looking carefully at how knowledge develops in children will clarify the nature of knowledge in general. Whether this has in fact led to deeper understanding remains, like everything about Piaget, controversial. But for those who still see Piaget as the giant in the field of cognitive theory, the difference between what the baby brings and what the adult has is so immense that the new discoveries do not significantly reduce the gap but only increase the mystery. ■

PSYCHOANALYST

Sigmund Freud

He opened a window on the unconscious and changed the way we view ourselves

By PETER GAY

MORE THAN ANY OTHER EXPLORER of the psyche, Sigmund Freud has shaped the mind of the 20th century. The very fierceness and persistence of his detractors are a wry tribute to the staying power of Freud's ideas.

His fundamental idea—that all humans are endowed with an unconscious in which potent sexual and aggressive drives, and defenses against them, struggle for supremacy, as it were, behind a person's back—has struck many as a romantic, scientifically unprovable notion. His contention that the catalog of neurotic ailments to which humans are susceptible is nearly always the work of sexual maladjustments, and that erotic desire starts not in puberty but in infancy, seemed to the respectable nothing less than obscene. His dramatic evocation of a universal Oedipus complex, in which (to put a complicated issue too simply) the little boy loves his mother and hates his father, seems more like a literary conceit than a thesis worthy of a scientifically minded psychologist.

Freud first used the term *psychoanalysis* in 1896, when he was already 40. He had been driven by ambition from his earliest days and encouraged by his doting parents to think highly of himself. After an impressive career in school, he enrolled in 1873 in the University of Vienna and drifted from one philosophical subject to another until he hit on medicine. As he pursued his medical researches, he came to the conclusion that the most intriguing

mysteries lay concealed in the complex operations of the mind. By the early 1890s, he was specializing in "neurasthenics" (mainly severe hysterics); they taught him much, including the art of patient listening. At the same time he was beginning to write down his dreams, increasingly convinced that they might offer clues to the workings of the unconscious, a notion he borrowed from the Romantics. He saw himself as a scientist taking material both from his patients and from himself, through introspection. By the mid-1890s, he was launched on a full-blown self-analysis, an enterprise for which he had no guidelines and no predecessors.

The book that made his reputation in the profession—although it sold poorly—was *The Interpretation of Dreams* (1900), an indefinable masterpiece—part dream analysis, part autobiography, part theory of the mind, part history of contemporary Vienna. The principle that underlay this work was that mental experiences and entities, like physical ones, are part of nature. This meant that Freud could admit no mere accidents in mental procedures. The most nonsensical notion, the most casual slip of the tongue, the most fantastic dream, must have a meaning and can be used to unriddle the often incomprehensible maneuvers we call thinking. ■

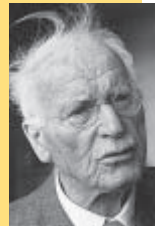
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POST-FREUDIAN ANALYSIS

Other psychologists continued the work that Freud began, though not always in ways that he would have approved.

CARL JUNG

A former disciple of Freud's, Jung shared his mentor's enthusiasm for dreams but not his obsession with the sex drive. Jung said humans are endowed with a "collective unconscious" from which myths, fairy tales and other archetypes spring.



FROM TOP TO BOTTOM: STEPHAN BRETSCHER, ARCHIVE PHOTOS, JAMES F. COVINE



ALFRED KINSEY A biologist who knew little about sex and less about statistics, Kinsey nonetheless led the first large-scale empirical study of sexual behavior. The Kinsey reports shocked readers by

documenting high rates of what some considered atypical sexual behavior.

B.F. SKINNER A strict behaviorist who avoided all reference to internal mental states, Skinner believed that behavior can best be shaped through positive reinforcement. Contrary to popular misconception, he did not raise his daughter in the "Skinner box" used to train pigeons.



ANALYZING THE ARTICLES

1. What was Piaget's contribution to psychology?
2. **CRITICAL THINKING** How might the ways we think about children and ourselves be different today if Piaget and Freud had not proposed their theories?