Think critically about the claims of astrologers. For example, does the sole fact that astrology has a lengthy tradition mean that it is true? Are the tides similar to human personality and destiny?

Astrological predictions routinely fail. But does it matter? Will believers in astrology be persuaded by facts? Probably not. Even in our age of scientific enlightenment, millions of people will continue to consult their horoscopes.

Psychology, on the other hand, is grounded in facts. It is a true science. Psychological findings are of value because they are routinely subjected to careful scrutiny. Theories are tested according to the scientific method. If the evidence does not support a theory, it is discarded, and psychologists search for new answers. In this chapter and throughout this book, you will learn about the rigorous application of the science of psychology to questions that have concerned humankind for centuries.

What is the basic way in which psychology differs from false sciences?

1. What is the basic way in which psychology differs from false sciences?
2. Why do you think false sciences are so widespread?
Why Study Psychology?

Before You Read

Main Idea
Psychology is a science. Like other scientists, psychologists seek to explain and control behavior and mental processes and test their ideas through research methods.

Reading Focus
1. How are behavior and mental processes different?
2. What are some basic goals of psychology?
3. How is psychology a science?

Vocabulary
- psychology
- behavior
- cognitive activities
- psychological constructs
- theory
- principle

Use a graphic organizer like this one to take notes on the goals of psychology.

Goals of Psychology
- Behavior
- Mental processes
- Research

SEARCHING the SELF-HELP Aisle

Are self-help books psychologically sound? You’ve seen them in bookstores—entire aisles filled with books promising to make us thin, rich, and happy. Yet psychologists say that some of these self-help books give bad advice, such as encouraging their readers to vent their anger. In fact, most psychologists maintain that venting anger just helps keep it alive. Some even claim that self-help books can distract and harm their readers. Those with severe depression, for instance, are unlikely to find answers to their very real problems in a book. Unchecked, the disease may spiral out of control.

Of course, some self-help books actually do get it right. They stress the importance of family, friends, and healthy relationships. But they also provide something that may be more important than advice: they give their readers hope. Still, hope alone cannot effect change. Only those books that do not offer simplistic solutions and instead provide a sound scientific basis for their advice are most valuable. In other words, people should seek support from a source that is well researched, well documented, and proven to be effective—support that is rooted in the science of psychology. 

4 CHAPTER 1
Behavior and Mental Processes

Psychology is the scientific study of human behavior and mental processes. Behavior is any action that people can observe or measure. Behavior includes activities such as walking and talking, pressing a switch, turning left or right, sleeping, eating, and drinking. Behavior also includes automatic body functions such as heart rate, blood pressure, digestion, and brain activity. Behavior can be measured by simple observation or by laboratory instruments. For example, brain activity can be measured by scientific instruments such as the electroencephalograph (EEG).

Cognitive activities are mental processes. These activities include dreams, perceptions, thoughts, and memories. Brain waves that indicate dreaming can be measured, but dreaming itself is a mental process—dreams are known only to the dreamer. In addition, activity of the cells in a person’s eyes can be measured as they respond to color, but only you can see your own mental image of the world. Memories, too, are private mental processes that cannot be measured.

Psychologists are also interested in studying people’s emotions, or feelings. Emotions can affect both behavior and mental processes. For example, you might experience anxiety when you think about presenting a report in front of your class. Your heart might even race a bit at the thought. Your heart activity is an example of behavior, but your thoughts about presenting the report are private mental processes. We would be unable to observe or measure your thoughts directly. In this situation, researchers might use psychological constructs to learn more about human behavior. These constructs are used to talk about something we cannot see, touch, or measure directly.

Reading Check Summarize What do psychologists study?

The Goals of Psychology

Scientists seek to observe, describe, explain, predict, and control the events they study. Similarly, psychologists observe and describe behavior and mental processes to better understand them. This process enables psychologists to explain, predict, and help clients control their behavior.
Can You Change Your Behavior?

One reason to study psychology is to better understand why you act as you do. As a result, you might be able to figure out how to change the aspects of your behavior with which you are unhappy.

PROCEDURE
1. Identify an activity that you enjoy doing. You might name a school activity, a hobby, or a sport you play.
2. On a piece of notebook paper, write two reasons explaining why you enjoy the activity.
   a. ________________________________
   b. ________________________________
3. Write two aspects of your performance that you would like to change.
   a. ________________________________
   b. ________________________________

ANALYSIS
1. Get together with a partner and share your notes.
2. Take turns explaining the behavior that you would like to change.
3. Take turns describing how you feel when the behavior occurs.
4. List the suggestions that you and your partner come up with to change or control your behavior.
   a. ________________________________
   b. ________________________________

Predicting and Controlling
Psychologists predict that athletes will do best when anxiety is moderate. Consequently, they help athletes change and control their behavior and mental processes by teaching them ways of keeping their anxiety at a tolerable level. Psychologists also teach athletes how to filter out distracting noises and focus on the game.

One method that sports psychologists recommend to help athletes perform more effectively under pressure is called positive visualization. In this method, athletes imagine themselves in a critical game situation. For example, a basketball player might imagine taking a free throw during a close game. She sees herself raising the ball with one hand and guiding it with the other. She then imagines releasing the ball and watching it glide through the net.

The goal of “controlling” behavior and mental processes is often misunderstood. Some people mistakenly think that psychologists seek ways to make people behave as the psychologists want them to. This is not so. Psychologists know that people should be free to make their own decisions. Psychologists know much about the factors that influence human behavior, and they use this knowledge to help people accomplish their own goals.

Reading Check
Find the Main Idea
How do psychologists help change behavior?

Psychology as a Science

Although psychology is a social science, it has foundations in the natural sciences. The social sciences, which also include history, anthropology, economics, political science, and sociology, deal with the structure of human society and the nature and interactions of the individuals who make up society. These individuals and their behavior and mental processes are the focus of psychology.

The natural sciences, which include biology, chemistry, and physics, are concerned with the nature of the physical world. Some areas that psychologists study, such as the functioning of the brain, are closely related to the natural sciences, particularly biology. Like natural scientists, psychologists seek to answer questions by following the steps involved in scientific research. These steps include conducting surveys and experiments, collecting and analyzing data, and drawing logical conclusions.

Psychological Research
As a science, psychology tests ideas through various research methods. Two widely used methods are surveys and experimentation. A survey is a method of collecting data that usually involves asking questions of people in a particular group. Experimentation usually involves either human participants or animals.
Although most psychologists are interested mainly in human behavior, some choose to focus on animal behavior, such as that of gorillas, rats, pigeons, and even sea snails. Some psychologists believe that research findings with certain animals can be applied to human beings. The biological functioning of these animals and even their psychological responses to some situations are often similar to those of people. Others, however, argue that humans are so distinct that we can only learn about them by studying people. The truth probably lies somewhere in between. For example, by studying the nerve cells of squid, psychologists have been able to learn about the workings of human nerve cells. However, only by studying people can psychologists learn about uniquely human qualities such as morality, values, and love.

Psychologists rely on research to learn whether certain methods will work before they use them with clients. Of course, when the research is conducted with human beings, psychologists make every effort to protect the research participants.

Psychological Theories Psychologists organize their research about behavior and mental processes into theories. A theory is a statement that attempts to explain why things are the way they are and why they happen the way they do. Psychological theories discuss principles that govern behavior and mental processes. A principle is a basic truth or law, such as the assumption that you will get better grades if you study more. Psychological theories may include statements about behavior (such as sleeping or aggression), mental processes (such as memories and mental images), and biological processes (such as the effect of chemicals in the brain).

A useful psychological theory allows psychologists to predict behavior and mental processes. For example, if a theory about fatigue is useful, psychologists can apply it to predict when people will or will not sleep. If a theory does not accurately predict behavior or mental processes, psychologists consider revising or replacing the theory.

In psychology, as in other sciences, many theories have been found inadequate for explaining or predicting the things with which they are concerned. As a result, these theories have been discarded or revised. For example, many psychologists once believed that stomach contractions were the cause of hunger. But then it was observed that many people feel hungry even when they do not have stomach contractions. As a result, psychologists now believe that stomach contractions are only one of many factors affecting appetite.

Compare In what ways is psychology similar to other sciences?
What Psychologists Do

Before You Read

Main Idea
Psychologists work in many different fields, but they all focus on studying and explaining behavior and mental processes.

Reading Focus
1. What are some of the major fields in psychology?
2. How do specialists in some applied fields of psychology serve people’s needs?

Vocabulary
psychiatrist
basic research

Use a graphic organizer like this one to take notes on the major fields and specialties in psychology.

<table>
<thead>
<tr>
<th>Field</th>
<th>Characteristics</th>
</tr>
</thead>
</table>

Up Close and Personal

You mean I’m supposed to talk to them? You’ve exchanged your likes and dislikes in music. You’ve shared your thoughts on your favorite movies. You’ve even discovered that you both dream of becoming a doctor. You’re best friends. Surely it’s a minor detail that you’ve never met. With networking Web sites like Facebook and MySpace, people today can make dozens of new friends with a few mouse clicks. The trouble is that some of these people have forgotten—or have never learned—how to actually talk to someone face-to-face.

To help students with their interpersonal skills, New York University offered a seminar in 2007 to their incoming freshmen called “Facebook in the Flesh.” The seminar provided an interactive workshop in which students paired off and talked for six minutes. To help them break the ice, the leader of the seminar provided a few sample questions, such as “What drew you to NYU?” and “What do you think of this workshop so far?” At the conclusion of the workshop, some of the students agreed that the encounter had been difficult; Facebook, they said, was easier. How, they asked, do you let someone know you want to talk? “Just smile,” they were told.

As virtual communication becomes the principal means of connecting with others, more people may need seminars like this one. This may be a job for social psychologists. Helping people learn how to behave in social situations is one of the things they do. In this section, you will learn about social psychology as well as the work undertaken in many other fields.
Major Fields in Psychology

Many psychologists share a keen interest in behavior, and all believe in the value of scientific research. They also share the belief that theories about behavior and mental processes should be supported by scientific evidence. They accept something as true only if the evidence shows it is so.

Some psychologists are interested mainly in research. They investigate the factors that give rise to behaviors and that explain certain mental processes. They form theories about why people and animals do the things they do. Then they test their theories by predicting when specific behaviors will occur.

Other psychologists consult. That means that they apply psychological knowledge in the form of therapy to help people change their behavior so that they can better meet their own goals. Still other psychologists teach, sharing their knowledge of psychology in classrooms and workshops.

Clinical Psychology Clinical psychologists make up the largest group of psychologists. Clinical psychologists are the people most of us think of when we hear the term “psychologist.” Specialty areas within this field include child mental health, adult mental health, learning disabilities, geriatrics, and general health.

The psychologists in this field help people with psychological problems, such as anxiety or depression, or severe psychological disorders, such as schizophrenia. Clinical psychologists help their clients overcome problems and adjust to the demands of their lives. They also help people who have problems with relationships, drug abuse, or weight control.

Clinical psychologists are trained to evaluate psychological problems through the use of interviews and psychological tests. Then these psychologists try to help clients understand and resolve their problems by changing ineffective or harmful behavior.

The work environment for clinical psychologists can include hospitals, prisons, university clinics, and private practices. Some clinical psychologists divide their time between clinical practice, teaching, and research.

These psychologists should not be confused with psychiatrists. A psychiatrist is a medical doctor who specializes in the treatment of psychological problems and who can prescribe medication for clients. Psychologists also specialize in the treatment of psychological problems, but because they are not medical doctors, they may not prescribe medication for their clients. However, clinical psychologists often work together with psychiatrists to consult and determine the best course of treatment for a complex patient problem.

Statistically Speaking...

Graduate Programs in Psychology

Universities typically offer graduate programs in many fields of psychology. As you can see from the pie graph, however, nearly half of all new doctoral graduates in psychology emerge from the clinical program.

Skills Focus INTERPRETING GRAPHS Which field is the second most popular? Which field is least popular?

Source: 2005 Graduate Study in Psychology. Compiled by the APA Research Office.
Counseling Psychology  Like clinical psychologists, counseling psychologists use interviews and tests to identify their clients’ problems. Counseling psychologists typically treat people who have adjustment problems rather than serious psychological disorders. For example, a counseling psychologist’s clients may have difficulty making decisions about their careers, or they may find it hard to make friends. They may be experiencing conflicts with family members, teachers, employers, or colleagues. Counseling psychologists help their clients clarify their goals, overcome their adjustment problems, and meet challenges. Counseling psychologists are often employed in businesses and in college and university counseling and testing centers.

School Psychology  Your school district may employ one or more school psychologists. School psychologists identify and help students who have problems that interfere with learning. Typical problems that school psychologists deal with include peer group and family problems, and learning disorders, which are problems in learning to read, write, or do math.

School psychologists identify students with problems by talking with teachers, parents, and the students themselves. School psychologists may also administer tests, such as intelligence tests and achievement tests. These tests, which are usually given to large groups of students, help identify students with special abilities as well as students who need assistance. For example, a school psychologist might notice a student’s exceptional results on the math section of an achievement test and recommend placing her in an advanced math class.

School psychologists also observe students in the classroom to see how they interact with their teachers and peers. After gathering the information they need, school psychologists advise teachers, school officials, and parents about how to help certain students reach their potential or overcome any learning difficulties they might have.

In addition, school psychologists make recommendations regarding the placement of students in special classes and programs. In some school districts, student placement is the major responsibility of the school psychologist.

Educational Psychology  Like school psychologists, educational psychologists are concerned with helping students learn. But they generally focus on course planning and instructional methods for an entire school system rather than on designing a program of study for an individual student.

Educational psychologists are concerned with theoretical issues that relate to measurement of abilities, learning, and child and adolescent development. Their research interests include the ways in which learning is affected by the following:

- psychological factors, such as motivation, emotions, creativity, and intelligence
- cultural factors, such as religious beliefs and language
- economic factors, such as the level of income earned by a person’s family
- instructional methods used in the classroom

Some educational psychologists help prepare standardized tests, such as the Scholastic Aptitude Test (SAT). They study various tests to determine the type of test that can most effectively predict success in college. They may also examine individual test items to determine whether these items adequately test critical thinking skills and make a useful contribution to the test as a whole.

Developmental Psychology  Developmental psychologists study the changes that occur throughout a person’s life span. These changes can be of the following types:

- physical (including changes in height and weight, adolescent growth, sexual maturity, and the physical aspects of aging)
- emotional (for example, development of self-concept and self-esteem)
- cognitive (such as changes from childhood to adulthood in mental images of the world outside or how children learn right from wrong)
- social (such as formation of bonds between parents and children, relationships with peers, or intimate relationships between adults)

Developmental psychologists also attempt to sort out the relative influences of heredity and the environment on development.
Some developmental psychologists are especially interested in the challenges of adolescence. For example, how do adolescents handle the often contradictory messages of peers (who pressure them to act in one way) and parents (who want them to act in another way)? How can psychologists help parents and school officials encourage adolescents to avoid activities that may be harmful to their physical and psychological well-being? What are the causes of depression and suicide among teens? How can people help prevent these painful situations from occurring?

**Personality Psychology** Personality psychologists identify human characteristics, or traits. Shyness and friendliness are examples of traits. Personality psychologists look for the many different traits people have and study the traits’ development. Personality psychologists share with clinical psychologists an interest in the origins of psychological problems and disorders. These psychologists are also concerned with issues such as anxiety, aggression, and gender roles. Gender roles are the behavior patterns expected of women and men in a given culture.

**Social Psychology** Social psychologists are concerned with people’s behavior in social situations. Whereas personality psychologists tend to look within people for explanations of behavior, social psychologists generally focus on external influences. Social psychologists study the following issues:

- the ways in which women and men typically behave in a given setting
- the physical and psychological factors that attract people to one another
- the reasons people tend to conform to group standards and expectations
- how people’s behavior changes when they are members of a group
- the reasons for and the effects of prejudice and discrimination within various groups and from one group to another
- the situations in which people are hostile and those in which they help others

**Experimental Psychology** Psychologists in all specialties may conduct experimental research. However, experimental psychologists conduct research into basic processes such as the functions of the nervous system. Other basic processes include sensation and perception, learning and memory, and thinking and motivation.

Experimental psychologists explore the biological and psychological reasons for cognitive behavior. Some combine the two and focus on the relationships between biological changes (such as the release of hormones into the bloodstream) and psychological events (such as feelings of anxiety). These psychologists are called biological psychologists.

Experimental psychologists are more likely than other psychologists to engage in basic research. Basic research is research that has no immediate application and is done for its own sake. The findings of experimental psychologists are often put into practice by other psychological specialists. For example, basic research into motivation has helped clinical and counseling psychologists develop ways of helping people control their eating habits. Basic research into learning and memory has helped educational psychologists enhance learning conditions in schools.

**Reading Check** Infer Which types of psychologists might treat patients with eating disorders?

---

**Specialized Fields**

There is an astoundingly diverse range of specialized fields in psychology and a wide variety of settings in which psychologists work. Here are a few examples.

**Environmental Psychology**

Does crowding in cities make people irritable? Does smog have an effect on people’s ability to learn? Environmental psychologists ask such questions. They focus on the ways in which people influence and are influenced by their physical environment. Environmental psychologists study whether buildings and cities serve human needs. They also investigate the psychological effects of extremes in temperature, noise, and lighting.
**Applied Fields in Psychology**

You have already read about sports psychologists and how they can help athletes. There are several other specialties in psychology.

**Industrial and Organizational Psychology**

Industrial psychologists focus on people and work. Organizational psychologists study the behavior of people in organizations, such as business firms. Industrial psychology and organizational psychology are closely related. Psychologists in these fields are often trained in both areas.

Industrial and organizational psychologists are employed by corporations to improve working conditions and increase worker output. They may assist in hiring, training, and promoting employees. They may also devise psychological tests for job applicants and conduct research into the factors that contribute to job satisfaction. In addition, some industrial and organizational psychologists help employees who have problems on the job.

**Human Factors Psychology**

Human factors psychology is somewhat related to industrial and organizational psychology. Psychologists in this field attempt to find the best ways to design products for people to use. These products include those that are used in schools, the workplace, and the home. Human factors psychologists consider the following when they become involved in the design of a product:

- how people will use a particular product
- how the product affects people in their daily lives
- the shape, look, and feel of the product
- how to engineer the product so that it is safe, comfortable to use, and durable

**Comparative Psychology**

What do bats have in common with dolphins? How does the prehistoric rhinoceros compare with the modern rhino? Comparative psychologists study animal behavior to try to answer such questions. They also compare the similarities and differences among different animals—modern and ancient—to gain an understanding of evolutionary relationships. The work of Charles Darwin inspired modern research on animal behavior. Today comparative psychology is a multidisciplinary field that includes the contributions of psychologists, biologists, anthropologists, ecologists, geneticists, and many others.

**Consumer Psychology**

Have you ever noticed that in many supermarkets, milk is shelved far away from the store entrance? Its placement results from the work of consumer psychologists, who study and predict the behavior of shoppers. Milk is placed at the rear of the store because it is an item that many people buy frequently. Its placement ensures that shoppers will pass—and perhaps buy—other items on the way to the milk shelf. Consumer psychologists also assist others in applying the findings of their studies. For instance, they work with advertisers to create effective newspaper ads and television commercials.

**Community Psychology**

Community psychologists study and help create social systems that promote and foster individual well-being. These social systems might include mental health centers, hospital programs, and school-based programs. Community psychologists focus on the following:

- promoting change in the social environment rather than in the individual
- helping relatively powerless social groups, such as children and the elderly, develop coping strategies
- preventing threats to mental health in the social environment

Environmental psychologists study how light affects mood in patients with Seasonal Affective Disorder, also known as winter depression.
**Forensic Psychology** When an attorney wants an expert witness to testify whether a person accused of a crime is or is not competent to stand trial, the attorney might call on a forensic psychologist. These psychologists work within the criminal justice system. In addition to testifying about the psychological competence of defendants, they may explain how certain kinds of psychological problems give rise to criminal behavior. Police departments employ psychologists to do some of the following jobs:

- assist in the selection of police officers
- help police officers cope with job stress
- train police officers in the handling of dangerous situations they may encounter, such as suicide threats, hostage crises, and family violence

**Health Psychology** Health psychologists examine the ways in which behavior and mental processes are related to physical health. They often work with many different health care professionals, including physicians, nurses, dentists, and dieticians. Health psychologists study the effects of stress on health problems such as headaches and heart disease. Many also focus on prevention and reducing the risk of disease. For instance, they help people adopt healthful behaviors such as a balanced diet and exercising.

**Rehabilitation Psychology** Psychologists in this field work with patients who are struggling with the effects of a disability. A disability is a condition that limits physical, sensory, cognitive, or emotional functioning. Rehabilitation psychologists may work with patients who are dealing with the effects of stroke, brain disease, amputation, or vision impairment. People with disabilities may have difficulty working, taking care of themselves or their families, or engaging in normal activities. Rehabilitation psychologists help their patients develop strategies to compensate for the disability and live meaningful lives.

**Cross-Cultural Psychology** Traditionally, psychology studies have focused on people in industrialized nations. Cross-cultural psychologists, on the other hand, study behavior and mental processes under different cultural conditions. For instance, they examine such issues as depression and anxiety to gauge whether these concepts are perceived differently in different cultures.

Cross-cultural psychologists have been able to bring new insights to standard psychological theories. For example, they have discovered that visual perception develops differently in cultures as a result of the shapes and angles people are exposed to every day.

**Reading Check** Summarize What do forensic psychologists do?
A History of Psychology

Before You Read

Main Idea
Since ancient times, philosophers and scientists have studied behavior and mental processes. Psychologists throughout history have continued to refine and develop these studies.

Reading Focus
1. What were some early views and beliefs about human behavior?
2. Who were some of the pioneers of psychology?
3. What modern developments in psychology have dominated much of the 20th century?

Vocabulary
introspection
associationism
structuralism
functionalism
psychoanalysis
psychoanalytic thinking
behaviorism
Gestalt psychology

Use a graphic organizer like this one to take notes on the different schools of psychology.

School | Ideas
--- | ---

Talk LIKE AN Egyptian

PSYCHOLOGY CLOSE UP

What was the first psychological study? According to Greek historian Herodotus, the first recorded psychological study in history took place in Egypt in the latter half of the 600s B.C. Psamtik I, the king of Egypt at the time, wanted to prove that the Egyptian civilization was the oldest on earth. To test his hypothesis, Psamtik selected two babies from a lower-class family and gave them over to the care of a local shepherd. The shepherd was given strict instructions to treat the children well but to never speak a word to them. The king believed that, without any prompting, the children would naturally speak what he considered to be the original and most ancient language of humankind—Egyptian.

Unfortunately, Psamtik’s hypothesis proved false. When the children were about two years old, the shepherd reported that they had uttered a word that sounded like becos. No doubt the children had just been babbling, but the king was greatly encouraged. It turned out, however, that becos was not an Egyptian word. It was Phrygian for bread. The heartbroken king came to the conclusion that the Phrygians were a more ancient people than the Egyptians.

Today, of course, we know that children who are not exposed to speech will not spontaneously speak any language at all, much less Egyptian. However, Psamtik did question how the mind works. That would be the focus of psychological studies for the next 2,600 years.
Early Views and Beliefs

We have always been interested in the behaviors of others. Thus psychology is as old as human history. Written accounts of the interest in people’s actions, motives, and thoughts can be traced as far back as the philosophers and scientists of ancient times.

**Ancient Greece** More than 2,000 years ago, Plato (428–348 or 347 B.C.), a student of the philosopher Socrates in ancient Greece, recorded his teacher’s advice: “Know thyself.” This phrase has remained an important motto of psychological study ever since. Socrates suggested that we can learn much about ourselves by carefully examining our own thoughts and feelings. Psychologists call this method of learning introspection, which means “looking within.”

One of Plato’s students, Greek philosopher Aristotle (384–322 B.C.), raised many questions about human behavior that are still discussed. Aristotle outlined the laws of associationism, which are still at the heart of learning theory more than 2,000 years later. He showed how experiences often remind us of similar experiences in the past, how the face of a loved one makes us feel secure, and how thought leads to ideas as we dream and as we daydream. One of Aristotle’s works is called *Peri Psyches*, which means “about the mind.” Aristotle’s approach was scientific. He argued that human behavior, like the movements of the stars and the seas, is subject to certain rules and laws. He believed one such universal law was that people are motivated to seek pleasure and to avoid pain—a view still found in some modern psychological theories. *Peri Psyches* also explores topics such as sensation and perception, thought, intelligence, needs and motives, feelings and emotions, and memory.

The ancient Greeks also theorized about various psychological problems, such as confusion and bizarre behavior. Throughout human history, many people have attributed such disorders to supernatural forces. The ancient Greeks generally believed that the gods punished people for wrongdoing by causing them confusion and madness. However, the Greek physician Hippocrates (c. 460–c. 377 B.C.) rejected these beliefs. He suggested that such problems are caused by abnormalities in the brain and had a rational explanation. This idea that biological factors can affect our thoughts, feelings, and behavior influenced thinking about psychology for more than 2,000 years.

**The Middle Ages** Greek thinking about the human mind was lost during the Middle Ages. Most Europeans of this period believed that problems such as agitation and confusion were signs of possession by demons. A popular belief of the time was that possession was punishment for sins or the result of deals that those afflicted had made with the devil.

Certain “tests” were used to determine whether a person was possessed. One of the most infamous tests, the water-float test, was based on the principle that pure metals sink to the bottom during the smelting process whereas impure metals float to the surface. Individuals who were suspected of being possessed were thrown into deep water. Suspects who managed to keep their heads above water were assumed to be impure and in league with the devil. They were judged to be guilty and were then executed for associating with the devil. Those who sank to the bottom, on the other hand, were judged to be pure. Unfortunately, they met the same fate as the “guilty”—they died.

**Reading Check** Summarize What basic foundations of psychology did the ancient Greeks set forth?
Pioneers in Psychology

People of the 1500s, 1600s, and 1700s witnessed great scientific and intellectual advances. In the 1500s, for example, Polish astronomer Nicolaus Copernicus challenged the widely held view that the sun revolved around Earth, suggesting instead that Earth revolves around the sun. In the 1600s English scientist Sir Isaac Newton formulated the laws of gravity and motion. English philosopher John Locke, building on principles of associationism, theorized that knowledge is not inborn but is learned from experience. In the late 1700s French scientist Antoine Lavoisier founded the science of chemistry and explained how animals and plants use oxygen in respiration.

The scientific approach also led to the birth of modern psychology in the 1800s. Psychologists argued that ideas about human behavior and mental processes should be supported by evidence. In the late 1800s psychological laboratories were established in Europe and the United States. In these laboratories, psychologists studied behavior and mental processes using a series of experiments to test a single theory—methods similar to those Lavoisier had used to study chemistry. Most historians of psychology point to the year 1879 as the beginning of psychology as a modern laboratory science. In that year, German psychologist Wilhelm Wundt established his laboratory in Leipzig.

Wilhelm Wundt and Structuralism

Wilhelm Wundt (1832–1920) and his students founded a field of psychology that came to be known as structuralism. Structuralists were concerned with discovering the basic elements of consciousness. Wundt broke down consciousness into objective sensations and subjective feelings. Objective sensations were assumed to accurately reflect the outside world. Subjective feelings were thought to include emotional responses and mental images.

Structuralists believed that the human mind functioned by combining these basic elements of experience. For example, a person can experience an apple objectively by observing its shape, color, texture, and taste. The person can also experience the apple subjectively by remembering how good it feels to bite into one. Using the method of introspection, Wundt and his students carefully examined and reported their experiences.

William James and Functionalism

A decade after Wundt established his laboratory, Harvard University professor William James (1842–1910) asserted that conscious experience could not be broken down as structuralists believed. James maintained that experience is a continuous “stream of consciousness.” He focused on the relationships between experience and behavior and described his views in *The Principles of Psychology*. Many consider this book, published in 1890, to be the first modern psychology textbook.
James was one of the founders of the school of functionalism. Functionalists were concerned with how mental processes help organisms adapt to their environment. They stressed the application of their findings to everyday situations.

Functionalism differed from structuralism in several ways. Whereas structuralism relied only on introspection, the methods of functionalism included behavioral observation in the laboratory as well as introspection. The structuralists tended to ask: What are the elements (structures) of psychological processes? The functionalists, on the other hand, tended to ask: What are the purposes (functions) of behavior and mental processes? What do certain behaviors and mental processes accomplish for the person (or animal)?

Functionalists proposed that adaptive behavior patterns are learned and maintained because they are successful. Less-adaptive behavior patterns are dropped or are discontinued. Adaptive (successful) actions are repeated and eventually become habits. The formation of habits is seen in such acts as riding a bicycle. At first, this act requires our full attention. But through repetition—and success—it becomes automatic. The multiple tasks involved in learning to type on a keyboard or to write in longhand also become routine through successful repetition. Habit allows us to take the mechanics of typing or writing for granted and to concentrate instead on what we are typing or writing.

Sigmund Freud and Psychoanalysis
Sigmund Freud (1856–1939), a Viennese physician, was perhaps the most famous of the early psychologists. The school of thought that he founded, called psychoanalysis, emphasizes the importance of unconscious motives and internal conflicts in determining and understanding human behavior.

Freud’s theory, more than the others, has become a part of popular culture. You may be familiar with several Freudian concepts. For example, have you ever tried to interpret a slip of the tongue, or have you ever tried to figure out the meaning of a dream you had? The ideas that people are driven by hidden impulses and that verbal slips and dreams represent unconscious wishes largely reflect Freud’s influence on popular culture.

Structuralists and functionalists conducted their research in the laboratory. However, Freud gained his understanding of human behavior through consultations with patients. He encouraged them to talk through their problems, a method that came to be called a “talking cure.” Freud was astounded at how little insight these patients had into their own ideas and feelings. The ultimate goal of his consultations was to release the powerful emotional energy that he believed was locked in the unconscious mind. He came to believe that unconscious processes, particularly sexual and aggressive urges, are more important than conscious experience in governing people’s behavior and feelings.
Freud’s theory, which is sometimes called psychodynamic thinking, assumed that most of what exists in an individual’s mind is unconscious and consists of conflicting impulses, urges, and wishes. According to Freud’s theories, human behavior is aimed at satisfying these desires, even though some of them seem socially inappropriate or even unacceptable. But at the same time, people want to see themselves as good and decent human beings. Freud attempted to help people gain insight into their unconscious conflicts and find socially acceptable ways of expressing their wishes and meeting their needs.

**Reading Check** Find the Main Idea According to Freud, what is the key to people’s behavior?

### Modern Developments in Psychology

As the 20th century progressed, new psychological theories were proposed. Like the earlier pioneers, modern psychologists focused on behavioral and cognitive approaches.

**John B. Watson and Behaviorism** Picture a hungry rat in a maze. It moves along until it reaches a place where it must turn left or right. If the rat is consistently rewarded with food for turning right at that place, it will learn to turn right when it arrives there the next time—at least, when it is hungry. But what does the rat think when it is learning to turn right at that place in the maze?

Does it seem absurd to try to place yourself in the mind of a rat? It did to John B. Watson (1878–1958) when he was asked by examiners to consider this question as a requirement for his doctoral degree in psychology.

The question was part of the exam because functionalism was the dominant school of psychology at the time. Watson agreed with the functionalist focus on the importance of learning, but he believed that it was unscientific to study a construct like consciousness—particularly the consciousness of animals. He saw consciousness as a private event that is known only to the individual. He asserted that if psychology was to be a natural science, like physics or chemistry, it must be limited to observable, measurable events—that is, to behavior. As the founder of the school of behaviorism, Watson defined psychology as the scientific study of observable behavior.

Watson once famously claimed that he could take a group of healthy children and train them to become doctors or lawyers or any other kind of specialist. With this claim, Watson laid the foundation for the classic behaviorist belief: Regardless of who we think we really are inside, we can be totally conditioned by external events. Our belief in individual choice is just an illusion.

---

**GESTALT DRAWINGS**

In Drawing A, are the two dark blue circles the same size? In Drawing B, what is the second symbol in each row?

These drawings demonstrate the idea that the perception of something is affected by the context in which it occurs. Two images that are identical may appear to be different if their surroundings are different.
B. F. Skinner and Reinforcement  Harvard University psychologist B. F. Skinner (1904–1990) added to the behaviorist tradition by introducing the concept of reinforcement. Skinner showed that when an animal is reinforced, or rewarded, for performing an action, it is more likely to perform that action again in the future. He demonstrated that laboratory animals, such as rats and pigeons, are capable of learning complex behavior patterns if they are reinforced in the right ways. Behaviorists have taught animals to push buttons, climb ladders, push toys across the floor, and even shoot baskets by rewarding the animals for performing the desired behavior.

According to Skinner, people learn in the same way animals do. Like animals, people learn to behave in certain ways because they have received the positive or negative reinforcement that guides their behavior.

Skinner scorned the efforts of other psychologists to try to understand the inner person. He believed that the effort to study personalities and feelings was unscientific. According to Skinner, all we can know are the external causes of behavior and what happens as a result of that behavior. “Thinking is behaving,” he claimed. “The mistake is in allocating the behavior to the mind.”

The Gestalt School  Gestalt psychology developed as an alternative to behaviorism and structuralism. German psychologists Max Wertheimer, Kurt Koffka, and Wolfgang Köhler felt that behaviorism was only concerned with treating a specific problem outside of its larger context. These psychologists were fascinated by the ways in which context influences people’s interpretation of information. They formed the core of the school of Gestalt psychology in the early 20th century. The psychology of Gestalt, which means “shape” or “form” in German, is based on the idea that our perceptions of objects are more than the sums of their parts. Rather, they are wholes that give shape, or meaning, to the parts. As such, Gestalt psychology rejects the structuralist idea that experience can be broken down into individual parts or elements.

This theory can be demonstrated with a few basic principles. One of the principles is similarity. According to this principle, when objects look similar, people tend to recognize a pattern and perceive them as a united whole. According to the principle of closure, people fill in the missing information when enough of the shape of an object is indicated.

Gestalt psychologists also reject the behaviorist notion that psychologists should concentrate only on observable behavior. In addition, Gestalt psychologists believe that learning is active and purposeful. They disagree with the behaviorist view that learning is mechanical.

Köhler and the other founders of Gestalt psychology demonstrated that much learning, particularly problem solving, is accomplished by insight, not by mechanical repetition. Insight is the reorganization of perceptions that enables an individual to solve a problem. In other words, insight is the sudden appearance of the Gestalt, or form, that enables the individual to see the solution.

Reading Check  Draw Conclusions  How do you think B. F. Skinner would view introspection?
Contemporary Perspectives

Before You Read

Main Idea
Contemporary psychologists have been influenced by the work of earlier pioneers. They have expanded traditional research to develop new and different approaches.

Reading Focus
1. What is the role of biology in behavior and survival?
2. What role does the mind play in determining behavior?
3. How does the role of experience affect behavior?
4. What factors influence the biopsychosocial perspective?

Vocabulary
- biological perspective
- evolutionary perspective
- cognitive perspective
- humanistic perspective
- psychoanalytic perspective
- learning perspective
- social-learning theory
- sociocultural perspective

Use a graphic organizer like this one to take notes on contemporary perspectives on psychology.

Another Kind of Smart

What's your EQ? By the 1990s, some psychologists had begun to claim that our EQ, or emotional quotient, is as important—if not more so—than our IQ, or intelligence quotient. Emotional intelligence refers to the ability to recognize and understand your own feelings as well as those of others. Psychologists first developed a technique for measuring emotional intelligence by testing how well subjects could identify emotions in other people's facial expressions.

Some researchers believe that emotional intelligence can be learned. They claim that people who learn how to understand and control their emotions can live more contented lives. Yet critics of emotional intelligence say that different emotions, like different types of intelligence, should be examined separately. Not everyone, after all, can master all emotions. Some people may be good at handling anger, for example, but not fear. The critics also claim that not every situation calls for the same emotion; a wide range of emotional responses may be appropriate.

Emotional intelligence is just one of the theories contemporary psychologists are studying. In this section, you will learn about other avenues of research in the ever-expanding science of psychology.
The Role of Biology

Today few psychologists describe themselves as structuralists or functionalists. Few would consider themselves Gestalt psychologists, although the school of Gestalt psychology has inspired current research in perception and problem solving. The numbers of traditional behaviorists and psychoanalysts also have been declining.

Nevertheless, the historical traditions of psychology find expression in contemporary perspectives on psychology. Each perspective emphasizes different topics of investigation and has different approaches. An important approach focuses on the role of biology.

The Biological Perspective The biological perspective of psychology emphasizes the influence of biology on our behavior. This perspective has roots in associationism. Psychologists assume that our mental processes—our thoughts, fantasies, and dreams—are made possible by the nervous system. They point particularly to its key component, the brain. Biologically oriented psychologists look for the connections between events in the brain, such as the activity of brain cells, and behavior and mental processes. They use several technologies, such as CAT scans and PET scans, to show which parts of the brain are involved in various mental processes. Biological psychology has shown that certain parts of the brain are highly active when we listen to music, other parts are active when we solve math problems, and still other parts are involved with certain psychological disorders. Biological psychologists have also learned that certain chemicals in the brain are connected with the storage of information—that is, the formation of memories.

Moreover, biological psychologists are interested in the influences of hormones and genes. Hormones are chemicals that glands release into the bloodstream to set in motion various body functions, such as growth or digestion. Genes are the basic units of heredity. Biological psychologists study the influences of genes on personality traits, psychological health, and various behavior patterns.

The Evolutionary Perspective Tied to biology, the evolutionary perspective focuses on the evolution of behavior and mental processes. British scientist Charles Darwin theorized that in the struggle for survival, the most adaptive organisms have a greater chance of enduring. For example, people who are naturally resistant to certain diseases are more likely to transmit their genes to future generations. Evolutionary psychologists suggest that many kinds of behavior patterns, such as aggression, are examples of adaptive behavior. These psychologists believe that people learn to act in certain ways for their survival and then pass this behavior down.

**Reading Check** Draw Conclusions What role does biology play in our mental processes?

The Role of the Mind

For centuries, philosophers and scientists have been intrigued by the workings of the mind. It is not surprising, therefore, that many contemporary psychologists emphasize the role of cognition.

The Cognitive Perspective The cognitive perspective emphasizes the role that thoughts play in determining behavior. Cognitive psychologists study mental processes to understand human nature. They investigate the ways in which people perceive information and make mental images of the world, solve problems, and dream and daydream. Cognitive psychologists, in short, study what we refer to as the mind.

The cognitive tradition has roots in Socrates' maxim “Know thyself” and in his method of introspection for learning about the self. Cognitive psychology also has roots in structuralism, functionalism, and Gestalt psychology. Each of these schools of thought has addressed issues that are of interest to cognitive psychologists.

Another aspect of the cognitive perspective involves information processing. Many cognitive psychologists have been influenced by computer science. They see the computer as a metaphor for the brain. Computers process information to solve problems. Information is first fed into the computer. The information is then placed in the working memory while the computer processes it. After processing, the information is stored more or less permanently on the computer’s hard drive, a compact disk, or another storage device.
Many psychologists speak of people as having working memories and storage facilities (or long-term memories). If information has been placed in computer storage or in a person’s long-term memory, it must first be retrieved before it can be worked on again. To retrieve information from computer storage, people must know the name of the data file and the process for retrieving data files. Similarly, cognitive psychologists believe people need certain cues to retrieve information from their long-term memories. Otherwise, it is lost to them.

Cognitive psychologists sometimes refer to our strategies for solving problems as our “software.” In this computer metaphor, our brains are the “hardware” that runs our mental programs. In other words, our brains are our own very personal computers.

Cognitive psychologists believe that people’s behavior is influenced by their values, their perceptions, and their choices. For example, an individual who interprets a casual remark as an insult may react with hostility. But the same remark directed at another person might be perceived very differently by that person and thus may meet with a completely different reaction.

The Humanistic Perspective The humanistic perspective stresses the human capacity for self-fulfillment and the importance of consciousness, self-awareness, and the capacity to make choices. Consciousness is seen by humanistic psychologists as the force that shapes human personality.

Humanistic psychology considers people’s personal experiences to be the most important aspect of psychology. Humanistic psychologists believe that self-awareness, experience, and choice permit us to “invent ourselves.” In other words, they enable us to fashion our growth and our ways of relating to the world as we go through life. Unlike the behaviorists, who assume that behavior is caused largely by the stimuli that act upon us, humanistic psychologists believe that we are free to choose our own behavior.

The humanistic perspective views people as basically good and desiring to be helpful to others. Humanistic psychologists help people explore their feelings, manage their negative impulses, and realize their potential.

Critics of the humanistic perspective, particularly behaviorists, insist that psychology should be scientific and address only observable events. They argue that people’s inner experiences are unsuited to scientific observation and measurement. However, humanistic psychologists insist that inner experience is vital to the understanding of human nature.

The Psychoanalytic Perspective As you have learned, the psychoanalytic perspective stresses the influence of unconscious forces on human behavior. In the 1940s and 1950s, psychoanalytic theory dominated the practice of psychotherapy and greatly influenced psychology and the arts. Although psychoanalytic thought no longer dominates psychology, its influence continues to be felt. Psychologists who follow Sigmund Freud’s approach today focus less on the roles of unconscious sexual and aggressive impulses and more on conscious choice.

Freud believed that aggressive impulses are common reactions to the frustrations of daily life and that we seek to vent these impulses on other people. Because we fear rejection or retaliation, we put most aggressive impulses out of our minds. But by holding aggression in, we set the stage for future explosions. Pent-up aggressive impulses demand outlets. Partial outlets can be provided by physical activity. Unfortunately, we may also direct hostile impulses toward strangers.

Reading Check Compare and Contrast How do humanistic and psychoanalytic psychologists differ in their views of what drives behavior?
The Role of Experience

Many psychologists study the impact of environment on behavior and mental processes. Environment includes all the ways in which someone experiences the world.

The Learning Perspective The learning perspective emphasizes the effects of experience on behavior. In the views of many psychologists, learning is the essential factor in observing, describing, explaining, predicting, and controlling behavior. However, the term learning can have different meanings in psychology. For example, behaviorists and social-learning theorists have different attitudes toward the role of consciousness in learning.

John B. Watson and other behaviorists found no role for consciousness. They believed that people act and react because of their learning histories and the influence of their situations, not because of conscious choice. Behaviorists emphasize the importance of environmental influences and focus on the learning of habits through repetition and reinforcement.

In contrast, social-learning theory suggests that people can change their environments or create new ones. Furthermore, social-learning theory holds that people can learn intentionally by observing others. However, people’s expectations and values influence whether they choose to do what they have learned how to do.

Psychologists who take the learning perspective believe that behavior is learned either from direct experience or by observing other people. For example, people will behave in a certain way when they expect to be rewarded for that behavior. Like cognitive theorists, social-learning theorists believe that people act in a particular way only when they recognize that the circumstances call for that behavior. For example, we act with friendliness when we are treated well.

Contemporary Psychological Perspectives

These eight broad perspectives are the most common ways that contemporary psychologists view behavior today.

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Subject Matter</th>
<th>Key Assumption</th>
<th>Influenced By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>Nervous system, glands and hormones, genetic factors</td>
<td>Biological processes influence behavior and mental processes.</td>
<td>Associationism and neuroscience</td>
</tr>
<tr>
<td>Evolutionary</td>
<td>Physical traits, social behavior</td>
<td>Adaptive organisms survive and transmit their genes to future generations.</td>
<td>Charles Darwin and evolution</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Interpretation of mental images, thinking, language</td>
<td>Perceptions and thoughts influence behavior.</td>
<td>Structuralism, functionalism, and Gestalt psychology</td>
</tr>
<tr>
<td>Humanistic</td>
<td>Self-concept</td>
<td>People make free and conscious choices based on their unique experiences.</td>
<td>Introspection and belief in free will</td>
</tr>
<tr>
<td>Psychoanalytic</td>
<td>Unconscious processes, early childhood experiences</td>
<td>Unconscious motives influence behavior.</td>
<td>Sigmund Freud</td>
</tr>
<tr>
<td>Learning</td>
<td>Environmental influences, learning, observational learning</td>
<td>Personal experiences and reinforcement guide individual development.</td>
<td>John B. Watson and behaviorism</td>
</tr>
<tr>
<td>Sociocultural</td>
<td>Ethnicity, gender, culture, religion, socio-economic status</td>
<td>Sociocultural, biological, and psychological factors create individual differences.</td>
<td>Social, environmental, and cross-cultural psychology</td>
</tr>
<tr>
<td>Biopsychosocial</td>
<td>Biology, psychology, social factors</td>
<td>Mental processes are influenced by the interaction of biological, psychological, and social factors.</td>
<td>Holistic health and social psychology</td>
</tr>
</tbody>
</table>
The Sociocultural Perspective  Those psychologists who adhere to the sociocultural perspective study the influences of ethnicity, gender, culture, and socio-economic status on behavior and mental processes. By taking these factors into account, psychologists can better understand how people act and think.

One kind of diversity involves ethnicity. Members of an ethnic group are united by their cultural heritage, race, language, or common history. The sociocultural perspective helps people appreciate the cultural heritages and historical issues of various ethnic groups. Some of the psychological issues related to ethnicity are the following: the inclusion of people from various ethnic minority groups in psychological studies, bilingualism, ethnic differences in intelligence test scores, ethnic differences in vulnerability to health problems ranging from obesity to high blood pressure and cancer, and prejudice.

Sociocultural theorists also study gender, which is the state of being male or being female. Gender is not simply a matter of anatomy. It involves a complex web of cultural expectations and social roles that affect people's self-concepts and aspirations as well as their behavior.

Reading Check  Find the Main Idea  How can ethnicity and gender affect cultural expectations and social roles?

The Biopsychosocial Perspective  According to the biopsychosocial perspective, mental processes are influenced by the interaction of biological processes, psychological dispositions, and social factors. This holistic approach is actually very old, dating back to the time of the ancient Greeks.

The modern model for the approach was developed by American physician George Engel in relation to the treatment of heart disease. Engel suggested that the biological progress of heart disease should not be studied in isolation. The impact on the patient of cultural, social, and psychological factors also needs to be considered. Genetic predispositions to the disease, for instance, as well as the patient’s diet, exercise, stress levels, and financial status should be taken into account. According to Engel, a physician’s ability to treat the disease would be severely limited without an understanding of the psychosocial interactions with the cardiovascular system.

In recent years, biopsychosocial psychologists have taken the approach a step further. Some psychologists now claim that our social relationships from birth have a direct impact on our biological development.

Reading Check  Make Generalizations  What generalization can you make about the relation of the biopsychosocial approach to other psychological perspectives?

Reviewing Main Ideas and Vocabulary
1. **Identify**  What metaphor do cognitive psychologists use to describe the functioning of the brain?
2. **Describe**  How do humanistic psychologists view people?

Thinking Critically
3. **Explain**  According to the biological perspective, what occurs during our activities and mental processes?
4. **Contrast**  How do learning theorists differ from social-learning theorists in their ideas on behavior?
5. **Develop**  What are some questions that a psychologist who is following the biopsychosocial approach might ask of a new cancer patient?

6. **Identify Cause and Effect**  Select one of the perspectives you have read about. Then, using your notes and a graphic organizer like the one below, list what the theorists of this perspective believe are the causes and effects of behavior or mental processes.

   Causes  
   1.  
   2.  
   3.  

   Behavior or Mental Processes  

   Effects  
   1.  
   2.  
   3.  

**FOCUS ON WRITING**
7. **Persuasive**  Write an e-mail in which you encourage a friend to seek help from a psychologist who specializes in one of the approaches you have learned about in this section.
Bringing Diversity into Psychology

Like many other academic fields, psychology was dominated in the past by white men. Not only were the psychologists themselves mostly white men, but most of their research used white male participants and tended to explore issues that were relevant primarily to white men. In recent decades, however, that has changed.

Many psychologists today are women and members of traditionally under-represented ethnic groups. In fact, white men now obtain fewer than half of the doctoral degrees in psychology. African Americans make up 6 percent to 7 percent of the first-year students in doctoral departments in psychology, and Hispanics make up 5 percent. Two thirds of the doctoral degrees in psychology are awarded to women.

Not only are psychologists as a group more diverse now than they used to be, so is their research. A great deal of current psychological research deals with questions of gender, culture, prejudice, and stereotypes. The work of African American psychologist Kenneth Bancroft Clark exemplifies such research.

Clark was born in the Panama Canal Zone in 1914, the son of West Indian parents. Miriam Clark, his mother, brought her children to the United States for their education. They settled in the Harlem section of New York City.

Although most African American children at the time were advised to attend vocational high schools, where they could learn specific job skills, Kenneth Clark attended an academic high school. He went on to Howard University in Washington, D.C., where he majored in psychology and married Mamie Phipps. The Clarks then attended Columbia University, where they both earned Ph.D. degrees in psychology.

In 1946 the Clarks founded the Northside Center for Child Development. Kenneth and Mamie Clark’s clinical work led to several studies showing the negative effect of segregation on the self-esteem of African American children. In one well-known study from 1947, African American children were asked to choose between white and black dolls after being given instructions such as “Give me the pretty doll” or “Give me the doll that looks bad.” The Clarks reported that most children preferred the white dolls over the black ones and concluded that the children were demonstrating their feelings that society as a whole preferred white people.

In the early 1950s Kenneth Clark began working with the National Association for the Advancement of Colored People (NAACP) to end school segregation. In 1954, when the Supreme Court overturned the “separate but equal” doctrine, it cited Clark’s ground-breaking work on the effects of discrimination on the personality development of both African American and white children.

In his book, Prejudice and Your Child, published in 1955, Clark described the effects of segregation on white children as well as those on African American children.

Clark’s later work examined the quality of education and the problems of juvenile delinquency and crime. He was among the first experts to recommend preschool classes, after-school programs, and community participation. His efforts encouraged society to re-evaluate and redefine racial identity in America.

Thinking Critically

1. Elaborate What do you think might have been the effects of segregation on white children?

2. Discuss Why is it important for psychologists of different genders and cultural backgrounds to carry out research on behavior and mental processes?
Public Perceptions of Psychology

What perceptions—and misperceptions—do people have about the field of psychology?

1. Introduction

As psychology continues to evolve and expand, many people have questions and misconceptions about what it really involves. This lab will help you understand how psychology, as a field of study, is perceived by the general public. You will conduct a survey, asking some basic questions about psychology. You and your classmates will have decided on the best answer for each question before you begin. Then, in a class discussion, you will compare your survey answers with those of your classmates. You will also compare the answers you receive from survey respondents with the answers your class compiles. In this lab, you will:

- Select five people outside of your class to take the survey. Make sure the five participants you choose have not been selected by your classmates. (Each student in the class will be choosing five different participants.) You may ask your friends, but be sure to include at least two adults (perhaps a teacher, a parent or other older relative, a neighbor, a store clerk, or a close family friend).
- Conduct the survey and record the responses. Note that “I don’t know” is an acceptable response.
- Compare your survey with those of your classmates and discuss the responses you receive.
- Write what you have learned about psychology from conducting the survey.
- When you are done with the lab, you may find that you have a greater appreciation for psychology—and even for your psychology class!

2. Conducting the Survey

As a class, discuss possible responses for the eight questions below. Use the chapter and your class notes during the discussion. Then come to a consensus on the best answer for each question. Appoint a recorder to write down the answers you agree upon. Here are the questions you will pose in your survey:

- What is psychology?
- What do psychologists do?
- What are some of the fields in psychology?
- Where do psychologists work?
- How long has psychology been a recognized field of study?
- Who is Sigmund Freud?
- Who are some other well-known psychologists?
- From what sources have you derived your information about psychology?

Before you conduct your survey, prepare your questionnaire. Write or type each question on a piece of paper, leaving plenty of room for each response. At the top of the page, write “Name” on one line and “Age” on the line below. This information will help you keep track of your participants. Finally, make four more copies of the questionnaire. You will use one copy for each participant.

When you conduct your survey, remember to maintain a courteous and professional manner—even with your friends. Keep in mind that a survey is a scientific method for collecting data. You will obtain serious responses—and thus useful and valid information—if you treat the exercise seriously.
3. Evaluating the Responses

Study the survey responses you received. Note any patterns in the survey. For example:

- Are there any questions that most of your participants got right or wrong?
- Are there some unusual answers?
- How many people out of the five you surveyed correctly identified Sigmund Freud?
- How many of your participants rely on television and movies for information about psychology?

Summarize your survey results. Be sure to record any unusual answers too. Then write a paragraph in which you reflect on what the results reveal about people's perceptions of psychology.

4. Discussion and Writing

Now get together with a small group of classmates. Compare your survey answers with those of the group and with the agreed-upon answers. Discuss the surveys, focusing on the following questions:

- How do the answers from your participants compare with the answers your class compiled?
- Are people generally knowledgeable about psychology?
- Are there some common misconceptions or misunderstandings about psychology? Why do you believe this is the case?
- How did answers from adults compare with those of your peers?
- Where do people tend to get their information? Do you think these sources are useful or reliable?
- Did your participants tend to confuse the science of psychology with so-called popular psychology?
- Why is it important to study psychology scientifically?

Finally, write a paragraph in which you summarize your own views on some or all of the discussion questions. In addition, address the following: How do you think people can become better educated about the science of psychology? How might they benefit from a better understanding of the field?

When you are done writing, you might want to share your thoughts and ideas with your survey participants. That might be a good first step in clearing up their misconceptions and helping them learn what psychology really entails.
Comprehension and Critical Thinking

SECTION 1 (pp. 4–7)

1. a. **Identify** What are some examples of cognitive activities?
   b. **Summarize** How do psychologists help their patients control feelings of anxiety?
   c. **Support a Position** Do you think it is worthwhile for psychologists to conduct their research using animal subjects? Why or why not?

SECTION 2 (pp. 9–14)

2. a. **Recall** To which field of psychology does the largest number of psychologists belong?
   b. **Draw Conclusions** How does the work of experimental psychologists benefit psychologists in other fields?
   c. **Evaluate** Why do you think there are so many specialties in psychology?

SECTION 3 (pp. 16–21)

3. a. **Identify Main Ideas** What phrase, dating back to ancient Greece, has remained a motto of psychological study?
   b. **Identify Cause and Effect** According to psychologist B. F. Skinner, what happens as a result of positive reinforcement?
   c. **Make Judgments** Judge the impact of Freud on psychological study. Do you think he’s had a largely positive impact or a negative one? Explain your ideas.

SECTION 4 (pp. 22–26)

4. a. **Describe** According to cognitive psychologists, what influences people’s behavior?
   b. **Compare** In what way are the biological and the biopsychosocial perspectives alike?
   c. **Support a Position** Which perspective do you think reflects the most positive approach to human behavior? Which reflects the most negative approach? Explain your answers.

Reviewing Vocabulary

Match the terms below with their correct definitions.

5. **psychology**
6. **cognitive activities**
7. **associationism**
8. **structuralism**
9. **functionalism**
10. **psychoanalysis**
11. **behaviorism**
12. **Gestalt psychology**
13. **social-learning theory**
14. **ethnic group**

A. school of psychology concerned with how mental processes help organisms adapt to environments
B. the study of behavior and mental processes
C. school of psychology based on the idea that our perceptions of objects are more than the sums of their parts
D. mental processes
E. school of psychology concerned with discovering the basic elements of consciousness
F. the theory that people can change their environments or create new ones
G. a group of people who share a common culture, race, or national origin
H. school of psychology concerned with the scientific study of observable actions
I. the theory that experiences often remind us of similar experiences in the past
J. school of psychology that emphasizes the importance of unconscious motives in human behavior

INTERNET ACTIVITY

15. Choose a field in psychology that interests you and research the following questions: What services do psychologists in this field provide? How much money do they make? What important studies are currently being conducted in this field? Present your findings in an oral report.

Psychology in Your Life

16. Watch one of your favorite programs on television—drama or situation comedy—and observe the characters’ behaviors. Consider these questions as you watch: What behaviors do you observe? How are the characters’ thoughts (or other cognitive activities) and emotions revealed? Choose the character that interests you the most. Then, in a paragraph or two, explain the character’s behavior in terms of his or her emotions.