

# [Test answers on psychology chapter 1](https://assignbuster.com/test-answers-on-psychology-chapter-1/)

Chapter 1Psychology Roots

William WundtEstablished the first psychology laboratory at the University of Leipzig, Germany. Created a machine to measure how long it took people to press a telegraph key after hearing a ball hit a platform. (Most hit the key in about one-tenth of a second.) Wundt’s attempt to measure “ atoms of the mind”—the fastest and simplest mental processes—was psychology’s first experiment. And that modest third-floor room took its place in history as the first psychological laboratory.

William James and Mary Whiton CalkinsJames was a legendary teacher-writer of psychology. Among his students was Mary Whiton Calkins, who became famous for her memory research and for being the first woman president of the American Psychological Association.

Margaret Floy WashburnAfter Harvard refused to grant Calkins the degree she had earned, Washburn became the first woman to receive a psychology Ph. D. She focused on animal behavior research in The Animal Mind.

B. F. SKINNERThis leading behaviorist rejected the idea of studying inner thoughts and feelings. He studied how consequences shape behavior.

SIGMUND FREUDThe controversial ideas of this famous personality theorist and therapist influenced twentieth-century psychology and culture.

Definition of psychology for early pioneers? For the early pioneers, psychology was defined as “ the science of mental life.”

Skinner & Watson changed the definition of psychology to what? John B. Watson, and later B. F. Skinner, insisted that psychology must be “ the scientific study of observable behavior.”

Freudian psychology? which emphasized our unconscious thought processes and our emotional responses to childhood experiences.

Cognitive psychologyscientifically explores how we perceive, process, and remember information, and even why we can become anxious or depressed

Cognitive neuroscienceexplores the brain activity underlying mental activity.

Todays definition of psychology? science of behavior and mental processes.

BehaviorIs anything anyone does, any action we can observe and record

Mental ProcessesAre the internal states we infer from behavior – such as thoughts, feelings, and beliefs.

biological psychologistsexplore the links between brain and mind.

developmental psychologistsstudy our changing abilities from womb to tomb.

cognitive psychologistsexperiment with how we perceive, think, and solve problems.

personality psychologistsInvestigate our persistent traits.

social psychologistsexplore how we view and affect one another.

counseling psychologistshelping people cope with personal and career challenges by recognizing their strengths and resources.

health psychologistsinvestigating the psychological, biological, and behavioral factors that promote or impair our health.

clinical psychologistsassessing and treating mental, emotional, and behavior disorders. (By contrast, psychiatrists are medical doctors who also prescribe drugs when treating psychological disorders.)

industrial-organizational psychologistsstudying and advising on behavior in the workplace.

The \_\_\_\_\_\_\_\_\_\_ perspective in psychology focuses on how behavior and thought differ from situation to situation and from culture to culture. social-cultural

The \_\_\_\_\_\_\_\_\_\_ perspective emphasizes how we learn observable responses. behavioral

What four big ideas run throughout this book?– Critical Thinking– The biopsychosocial approach– The two-track mind– Exploring human strengths

Critical thinkingScience supports thinking that examines assumptions, uncovers hidden values, weighs evidence, and tests conclusions. Science-aided thinking is smart thinking.

Biopsychosocial approachWe can view human behavior from three levels(“ many levels of analysis”)—the biological, psychological, and social-cultural. We share a biologically rooted human nature. Yet cultural and psychological influences fine-tune our assumptions, values, and behaviors.

nature-nurture issue: How do we judge the contributions of nature (biology) and nurture (experience)?– nurture works on what nature provides

The two-track mindToday’s psychological science explores our dual-processing capacity. Our perception, thinking, memory, and attitudes all operate on two levels: a conscious, aware track, and an unconscious, automatic, unaware track. It has been a surprise to learn how much information processing happens without our awareness.

Exploring human strenghtsPsychology today focuses not only on understanding and offering relief from troublesome behaviors and emotions, but also on understanding and building the emotions and traits that help us to thrive.

positive psychologypositive psychology focuses on building a “ good life” that engages our skills, and a “ meaningful life” that points beyond ourselves through the scientific approach.

What advantage do we gain by using the biopsychosocial approach in studying psychological events? By considering different levels of analysis, the biopsychosocial approach can provide a more complete view than any one perspective could offer.

What is contemporary psychology’s position on the nature—nurture debate? Psychological events often stem from the interaction of nature and nurture, rather than from either of them acting alone.

three common flaws in intuitive thinkinghindsight bias, overconfidence, and perceiving patterns in random events.

hindsight bias(also called the I-knew-it-all-along phenomenon)

OverconfidenceWe humans also tend to be overconfident—we think we know more than we do. Knowing the answer makes us overconfident.

Perceiving Order in Random EventsIn our natural eagerness to make sense of our world we often perceive patterns. People see a face on the Moon, hear Satanic messages in music, or perceive the Virgin Mary’s image on a grilled cheese sandwich. Even in random, unrelated data we often find order, because random sequences often don’t look random. In actual random sequences, patterns and streaks (such as repeating numbers) occur more often than people expect.

Why, after friends start dating, do we often feel that we knew they were meant to be together? We often suffer from hindsight bias—after we’ve learned a situation’s outcome, that outcome seems familiar and therefore obvious.

What are the three key elements of the scientific attitude, and how do they support scientific inquiry? What makes scientific inquiry so useful for detecting truth? The answer lies in three basic attitudes: curiosity, skepticism, and humility.

Curiosity: Underlying all science is, first, a hard-headed curiosity, a passion to explore and understand without misleading or being misled. Some questions (Is there life after death?) are beyond science. Answering them in any way requires a leap of faith. With many other questions (Can some people read minds?), the proof is in the pudding. No matter how crazy an idea sounds, the scientist asks, Does it work? When put to the test, can its predictions be confirmed?

Skeptical: Sifting reality from fantasy, sense from nonsense, also requires us to be skeptical—not cynical, but also not gullible. “ To believe with certainty,” says a Polish proverb, “ we must begin by doubting.” As scientists, psychologists greet statements about behavior and mental processes by asking two questions: What do you mean? and How do you know?

When ideas compete, skeptical testing can reveal which ones best match the facts. Do parental behaviors determine children’s sexual orientation? Can astrologers predict your future based on the position of the planets at your birth? As you will see in later chapters, putting these two claims to the test has led most psychologists to doubt them.

humilityA scientific attitude is more than curiosity and skepticism, however. It also requires humility—an awareness that we can make mistakes, and a willingness to be surprised and follow new roads. In the end, what matters is not my opinion or yours, but the truths nature reveals in response to our questioning. If people or other animals don’t behave as our ideas predict, then so much the worse for our ideas. This humble attitude was expressed in one of psychology’s early mottos: “ The rat is always right.”

Review: What are the three attitudes that make modern science possible? Historians of science tell us that these attitudes—curiosity, skepticism, and humility—helped make modern science possible.

Retrieve + Remember:“ For a lot of bad ideas, science serves as society’s garbage disposal.” Describe what this tells us about the scientific attitude. The scientific attitude combines (1) curiosity about the world around us, (2) skepticism about unproven claims and ideas, and (3) humility about our own understanding. To find out whether an idea matches the facts, psychologists use scientific tests. Ideas that don’t hold up will then be discarded.

How Do Psychologists Ask and Answer Questions? Psychologists transform their scientific attitude into practice by using the scientific method. They observe events, form theories, and then refine their theories in the light of new observations.

Theory: Chatting with friends and family, we often use theory to mean “ mere hunch.” In science, a theory explains behaviors or events by offering ideas that organize what we have observed. By organizing isolated facts, a theory simplifies. There are too many facts about behavior to remember them all. By linking facts to underlying principles, a theory connects many small dots and offers a useful summary so that a clear picture emerges.

Yet no matter how reasonable a theory may sound—and it does seem reasonable to suggest that sleep could improve memory—we must put it to the test. A good theory produces testable predictions, called \_\_\_\_\_\_\_\_\_\_\_\_: Hypotheses

Hypotheses: Such predictions specify what results (what behaviors or events) would support the theory and what results would cast doubt on the theory. To test our theory about the effects of sleep on memory, our hypothesis might be that when sleep deprived, people will remember less from the day before. To test that hypothesis, we might assess how well people remember course materials they studied before a good night’s sleep, or before a shortened night’s sleep. The results will either support our theory or lead us to revise or reject it.

What is the scientific method? A self-correcting process for asking questions and observing nature’s answer.

As a check on their biases, psychologists use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ when they report their studies. operational definitions

Example of an operational definition:“ Sleep deprived,” for example, may be defined as “ 2 or more hours less” than the person’s natural sleep.

Replication: These exact descriptions will allow anyone to replicate (repeat) the research. Other people can then re-create the study with different participants and in different situations. If they get similar results, we can be confident that the findings are reliable.

A good theory has 3 main parts:-effectively organizes a range of self-reports and observations.-leads to clear predictions that anyone can use to check the theory.-often stimulates research that leads to a revised theory which better organizes and predicts what we know. Or, our research may be replicated and supported by similar findings. (This has been the case for sleep and memory studies, as you will see in Chapter 2.)

We can test our hypotheses and refine our theories in several ways. 1. Descriptive methods: Descriptive methods describe behaviors, often by using (as we will see) case studies, naturalistic observations, or surveys.

2. Correlational methods: Correlational methods associate different factors. (You’ll see the word factor often in descriptions of research. It refers to anything that contributes to a result.)

3. Experimental methods: Experimental methods manipulate, or vary, factors to discover their effects.

Review: What does a good theory do? 1. It organizes observed facts. 2. It implies hypotheses that offer testable predictions and, sometimes, practical applications. 3. It often stimulates further research.

Review: Why is replication important? Psychologists watch eagerly for new findings, but they also proceed with caution—by awaiting other investigators’ repeating the research. Can the finding be confirmed (the result replicated)?

In daily life, we all observe and describe other people, trying to understand why they behave as they do. Professional psychologists do much the same, though more objectively and systematically, using: 1. Case studies: case studies (in-depth analyses of special individuals).

2. Naturalistic observations: naturalistic observations (watching and recording individuals’ behavior in a natural setting).

3. Surveys and interview: surveys and interviews (self-reports in which people answer questions about their behavior or attitudes).

Case study: A case study examines one individual or group in great depth, in the hope of revealing things true of us all.

Examples of a case study: Some examples: -Medical case studies of people who lost specific abilities after damage to certain brain regions gave us much of our early knowledge about the brain.-Studies of only a few chimpanzees jarred our beliefs about what other species can understand and communicate.

Jean Piaget’s case study example: Jean Piaget, the pioneer researcher on children’s thinking, carefully watched and questioned just a few children.

Individual/Intensive case studies: Intensive case studies are sometimes very revealing. They often suggest directions for further study, and they show us what can happen. But individual cases may also mislead us. The individual being studied may be atypical (not like those in the larger group). Viewing such cases as general truths can lead to false conclusions.

The point to remember about individual case studies: Individual cases can suggest fruitful ideas. What is true of all of us can be seen in any one of us. But just because something is true of one of us, we should not assume it is true of all of us. We look to methods beyond the case study to uncover general truths.

Review: We cannot assume that case studies always reveal general principles that apply to all of us. Why not? Case studies focus on one individual, so we can’t know for sure whether the principles observed would apply to a larger population.

naturalistic observationsa descriptive technique of observing and recording behavior in naturally occurring situations without trying to change or control the situation. May describe parenting practices in different cultures, students’ self-seating patterns in American lunchrooms, or chimpanzee family structures in the wild. New smartphone apps and body-worn sensors hold promise of expanding naturalistic observation.

naturalistic observation does not explain behavior. It \_\_\_\_\_\_\_\_\_\_\_\_ itDescribes

EARs Study: In one study, researchers had 52 introductory psychology students don hip-worn tape recorders (Mehl & Pennebaker, 2003). For up to four days, the electronically activated recorders (EARs) captured 30-second snippets of the students’ waking hours, turning on every 12. 5 minutes. By the end of the study, researchers had eavesdropped on more than 10, 000 half-minute life slices. What percentage of the time did these researchers find students talking with someone? What percentage captured students at a computer? The answers: 28 and 9 percent.

What are the advantages and disadvantages of naturalistic observation, such as the EARs study? In the EARs study, researchers were able to carefully record and describe naturally occurring behaviors outside the artificial environment of the lab. However, they were not able to explain the behaviors because they could not control all the factors that may have influenced them.

Survey: A descriptive technique for obtaining the self-reported attitudes or behaviors of a group, usually by questioning a representative, random sample of that group. Looks at many cases in less depth, asking people to report their behavior or opinions. Questions about everything from sexual practices to political opinions are put to the public.

But asking questions is tricky, and the answers often depend on the way you word your questions and on who answers them. WORDING EFFECTS: Even subtle changes in the order or wording of questions can have major effects. Ex: Should violence be allowed to appear in children’s television programs? People are much more likely to approve “ not allowing” such things than “ forbidding” or “ censoring” them.-Critical thinkers will reflect on how a question’s phrasing might affect the opinions people express.

Representative sampleFor an accurate picture of a group’s experiences and attitudes, there’s only one game in town—a representative sample—a smaller group that accurately reflects the larger population you want to study and describe.

Population: all those in a group being studied, from which samples may be drawn. (Note: Except for national studies, this does not refer to a country’s whole population.)

RANDOM SAMPLING: A sample that fairly represents a population because each member has an equal chance of inclusion. Every person in the entire group has an equal chance of being picked. You would not want to ask for volunteers, because those extra-nice students who step forward to help would not necessarily be a random sample of all the students. But you could assign each student a number, and then use a random number generator to select a sample.

Time and money will affect the size of your sample, but you would try to involve as many people as possible. Why? Because large representative samples are better than small ones. (But a small representative sample of 100 is better than an unrepresentative sample of 500.)

The point to remember: Before accepting survey findings, think critically. Consider the question’s wording and the sample. The best basis for generalizing is from a random sample of a population.

Review: What is an unrepresentative sample, and how do researchers avoid it? An unrepresentative sample is a survey group that does not represent the population being studied. Random sampling helps researchers form a representative sample because each member of the population has an equal chance of being included.

CorrelateA measure of the extent to which two events vary together, and thus of how well either one predicts the other. The correlation coefficient is the mathematical expression of the relationship, ranging from −1. 00 to +1. 00, with 0 indicating no relationship

A statistical measure (the correlation coefficient): helps us figure how closely two things vary together, and thus how well either one predicts the other.

Scatterplot: a graphed cluster of dots, each of which represents the values of two variables. The slope of the points suggests the direction of the relationship between the two variables. The amount of scatter suggests the strength of the correlation (little scatter indicates high correlation). Displaying data in a scatterplot (Figure 1. 3) can help us see correlations.

A positive correlation(between 0 and +1. 00) indicates a direct relationship, meaning that two things increase together or decrease together. Across people, height correlates positively with weight.

A negative correlation(between 0 and -1. 00) indicates an inverse relationship: As one thing increases, the other decreases. The number of hours spent watching TV and playing video games each week correlates negatively with grades. Negative correlations can go as low as -1. 00. This means that, like children on opposite ends of a teeter-totter, one set of scores goes down precisely as the other goes up.

A coefficient near zerois a weak correlation, indicating little or no relationship

The point to remember: A correlation coefficient helps us see the world more clearly by revealing the extent to which two things relate.

Indicate whether each of the following statements describes a positive correlation or a negative correlation.

1. The more children and youth used various media, the less happy they were with their lives (Kaiser, 2010). 2. The more sexual content teens saw on TV, the more likely they were to have sex (Collins et al., 2004). 3. The longer children were breast-fed, the greater their later academic achievement (Horwood & Ferguson, 1998). 4. The more income rose among a sample of poor families, the fewer symptoms of mental illness their children experienced (Costello et al., 2003).

1. negative, 2. positive, 3. positive, 4. negative

Correlation and CausationCorrelations help us predict. Here’s an example: Self-esteem correlates negatively with (and therefore predicts) depression. (The lower people’s self-esteem, the more they are at risk for depression.) But does that mean low self-esteem causes depression? If you think the answer is Yes, you are not alone. We all find it hard to resist thinking that associations prove causation. But no matter how strong the relationship, they do NOT!

RETRIEVE + REMEMBERLength of marriage correlates with hair loss in men. Does this mean that marriage causes men to lose their hair (or that balding men make better husbands)? In this case, as in many others, a third factor can explain the correlation: Golden anniversaries and baldness both accompany aging.

The point to remember (turn up the volume here): Correlation indicates the possibility of a cause-effect relationship, but it does not prove causation. Knowing that two events are associated does not tell us anything about which causes the other. Remember this principle and you will be wiser as you read and hear news of scientific studies.

How do experiments clarify or reveal cause-effect relationships? Descriptions don’t prove causation. Correlations don’t prove causation. To isolate cause and effect, psychologists have to simplify the world. In our everyday lives, many things affect our actions and influence our thoughts. Psychologists sort out this complexity by using experiments.

Experiments: a method in which researchers vary one or more factors (independent variables) to observe the effect on some behavior or mental process (the dependent variable)

With experiments, researchers can focus on the possible effects of one or more factors by:-manipulating the factors of interest.-holding constant (“ controlling”) other factors.

randomly assigned: assigning participants to experimental and control groups by chance, thus minimizing any differences between the groups. Random assignment (by flipping a coin, for example) minimizes any preexisting differences between the experimental group and the control group.

experimental group: in an experiment, the group exposed to the treatment, that is, to one version of the independent variable.

control group: in an experiment, the group not exposed to the treatment; the control group serves as a comparison with the experimental group for judging the effect of the treatment.

The point to remember: Unlike correlational studies, which uncover naturally occurring relationships, an experiment manipulates (varies) a factor to determine its effect.

placebo:[pluh-SEE-bo; Latin for “ I shall please”] an inactive substance or condition that is sometimes given to those in a control group in place of the treatment given to the experimental group.

double-blind procedure: a procedure in which participants and research staff are ignorant (blind) about who has received the treatment or a placebo. Neither those in the study nor those collecting the data know which group is receiving the treatment. In such studies, researchers can check a treatment’s actual effects apart from the participants’ belief in its healing powers and the staff’s enthusiasm for its potential.

placebo effect: results caused by expectations alone. Just thinking you are getting a treatment can boost your spirits, relax your body, and relieve your symptoms. This placebo effect is well documented in reducing pain, depression, and anxiety (Kirsch, 2010). Athletes have run faster when given a fake performance-enhancing drug (McClung & Collins, 2007).

Review: What measures do researchers use to prevent the placebo effect from confusing their results? Research designed to prevent the placebo effect randomly assigns participants to an experimental group (which receives the real treatment) or to a control group (which receives a placebo). A comparison of the results will demonstrate whether the real treatment produces better results than belief in that treatment.

independent variable: in an experiment, the factor that is manipulated; the variable whose effect is being studied. We can vary it independently of other factors.

confounding variables: in an experiment, a factor other than the independent variable that might produce an effect. These other factors, which could influence the experiment’s results, are called confounding variables. Thanks to random assignment, those factors should be roughly equal in both groups.

Dependent variableExperiments examine the effect of one or more independent variables on some behavior or mental process that can be measured. We call this kind of affected behavior the dependent variable because it can vary depending on what takes place during the experiment.

dependent variable: in an experiment, the factor that is measured; the variable that may change when the independent variable is manipulated.

RETRIEVE + REMEMBERdouble-blind procedurecontrols for the placebo effect; neither researchers nor participants know who receives the real treatment

random samplinghelps researchers generalize from a small set of survey responses to a larger population

random assignmenthelps minimize preexisting differences between experimental and control groups

Why, when testing a new drug to control blood pressure, would we learn more about its effectiveness from giving it to half the participants in a group of 1000 than to all 1000 participants? We learn more about the drug’s effectiveness when we can compare the results of those who took the drug (the experimental group) with the results of those who did not (the control group). If we gave the drug to all 1000 participants, we would have no way of knowing whether the drug is serving as a placebo or is actually medically effective.

How do simplified laboratory conditions help us understand general principles of behavior? The experimenter intends to simplify reality—to create a mini-environment that imitates and controls important features of everyday life. A laboratory experiment lets psychologists re-create psychological forces under controlled conditions. An experiment’s purpose is not to re-create the exact behaviors of everyday life but to test theoretical principles. It is the resulting principles—not the specific findings—that help explain everyday behaviors. Many investigations have shown that principles derived in the laboratory do typically generalize to the everyday world.

The point to remember: Psychologists are less interested in particular behaviors than in the general principles that help explain many behaviors.

Why do psychologists study animals, and what ethical guidelines safeguard human and animal research participants? Many psychologists study animals because they find them fascinating. They want to understand how different species learn, think, and behave. Psychologists also study animals to learn about people. We humans are not like animals; we are animals, sharing a common biology. Animal experiments have therefore led to treatments for human diseases—insulin for diabetes, vaccines to prevent polio and rabies, transplants to replace defective organs. The animal protection movement protests the use of animals in psychological, biological, and medical research.

The APA ethics code urges researchers to:-obtain the participants’ informed consent.-protect them from harm and discomfort.-keep information about individual participants confidential.-fully debrief participants (explain the research afterward).

How do personal values influence psychologists’ research and application? Does psychology aim to manipulate people? Psychology is definitely not value free. Values affect what we study, how we study it, and how we interpret results. What we want or expect to see can bias our observations and interpretations. Knowledge, like all power, can be used for good or evil. Although psychology does indeed have the power to deceive, its purpose is to enlighten

How are human research participants protected? Researchers using human participants should obtain informed consent, protect them from harm and discomfort, treat personal information confidentially, and fully debrief them after their participation. Ethical principles have been developed by international psychological organizations, and most universities also have ethics committees that safeguard participants’ well-being.

testing effect: enhanced memory after retrieving, rather than simply rereading, information. Also sometimes referred to as the retrieval practice effect or test-enhanced learning.

SQ3R: a study method incorporating five steps: Survey, Question, Read, Retrieve, Review.

To study a chapter: Survey: taking a bird’s-eye view. Scan the headings, and notice how the chapter is organized.

Question: Before you read each main section, try to answer its numbered Learning Objective Question (for this section: “ How can psychological principles help you learn and remember?”). By testing your understanding before you read the section, you will discover what you don’t yet know.

Read: Then read, actively searching for the answer to the question. At each sitting, read only as much of the chapter (usually a single main section) as you can absorb without tiring. Read actively and think critically. Ask your own questions. Take notes. Relate the ideas to your personal experiences and to your own life. Does the idea support or challenge your assumptions? How convincing is the evidence?

Retrieve: Having read a section, retrieve its main ideas. Test yourself—even better, test yourself repeatedly. To get you started, I offer periodic Retrieve + Remember questions throughout each chapter (see, for example, the two at the end of this section). After trying to answer these questions, check the answers (printed upside-down beneath the questions), and reread the material as needed. Testing yourself will make you aware of what you don’t know. And it will help you learn and retain the information more effectively.

Review: Finally, review: Read over any notes you have taken, again with an eye on the chapter’s organization, and quickly review the whole chapter. Write or say what a concept is before rereading the material to check your understanding.

Additional study tips: Distribute your study time. One of psychology’s oldest findings is that if you want to retain information, spaced practice is better than massed practice. So space your practice time over several study periods—perhaps one hour a day, six days a week—rather than cramming it into one long study blitz. You’ll remember material better if you read just one main section (not the whole chapter) in a single sitting. Then turn to something else.

Spacing your study sessions requires discipline and knowing how to manage your time. (Richard O. Straub explains time management in a helpful preface at the beginning of this text.)

Learn to think criticallyWhether you are reading or listening to class discussions, think smart. Try to spot people’s assumptions and values. Can you detect a bias underlying an argument? Weigh the evidence. Is it a personal story that might not represent the whole group? Or is it scientific evidence based on sound experiments? Assess conclusions. Are other explanations possible?

Process class information actively. Listen for a lecture’s main ideas and sub-ideas. Write them down. Ask questions during and after class. In class, as in your own study, process the information actively and you will understand and retain it better. How can you make the information your own? Take notes in your own words. Make connections between what you read and what you already know. Tell someone else about it. (As any teacher will confirm, to teach is to remember.)

OverlearnPsychology tells us that we tend to be overconfident—we overestimate how much we know. You may understand a chapter as you read it, but that feeling of familiarity can trick you. Overlearning helps you retain new information.

The \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ describes the improved memory that results from repeated retrieval (as in self-testing) rather than from simple rereading of new information. testing effect

What does SQ3R mean? SQ3R is an acronym—an abbreviation formed by the first letters in five words: Survey, Question, Read, Retrieve, and Review.

CHAPTER REVIEW: 1-1 How has psychology’s focus changed over time? Wilhelm Wundt established the first psychological laboratory in Germany in 1879, and studied the basic elements of mental experience. Early researchers defined psychology as “ the science of mental life.” This definition was revised under the influence of the behaviorists in the 1920s to the “ scientific study of observable behavior.” In the 1960s, the humanistic psychologists and the cognitive psychologists revived interest in the study of mental processes. Psychology is now defined as “ the science of behavior and mental processes.”

1-2 What are psychology’s current perspectives, and what are some of its subfields? Psychology’s current perspectives include neuroscience, evolutionary, behavior genetics, psychodynamic, behavioral, cognitive, and social-cultural. Psychology’s subfields include biological, developmental, cognitive, personality, social, counseling, health, clinical, and industrial-organizational. Psychologists may conduct basic research to increase the field’s knowledge base or applied research to solve practical problems.

1-3 What four big ideas run throughout this book? Critical thinking is smart thinking. It challenges our beliefs and triggers new ways of thinking. Behavior is a biopsychosocial event. The biological, psychological, and social-cultural levels of analysis each offer valuable insight into behavior and mental processes. We operate with a two-track mind (dual processing). Our brains process a surprising amount without our awareness, which affects our perception, thinking, memory, and attitudes. Psychology explores human strengths (positive psychology) as well as challenges (clinical psychology).

1-4 How does our everyday thinking sometimes lead us to the wrong conclusion? Hindsight bias (the I-knew-it-all-along phenomenon) is believing, after learning the outcome, that we would have foreseen it. Overconfidence is the human tendency to be more confident than correct. We perceive order in random events due to our natural eagerness to make sense of our world. These tendencies lead us to overestimate our intuition and common sense, and then come to the wrong conclusion.

1-5 What are the three key elements of the scientific attitude, and how do they support scientific inquiry? Curiosity triggers new ideas. Skepticism encourages attention to the facts. Humility helps us discard predictions that can’t be verified by research.

The scientific attitude carries into life as critical thinking, which puts ideas to the test by examining assumptions, uncovering hidden values, weighing evidence, and assessing conclusions.

1-6 How do psychological theories guide scientific research? Psychological theories are explanations using principles that organize observations and predict behaviors or events. Theories generate hypotheses—predictions that can be tested using descriptive, correlational, or experimental methods. Research results may validate the theory, or lead to its rejection or revision. The precise language used in operational definitions allows replication by others. If others achieve similar results, confidence in the conclusion will be greater.

1-7 How do psychologists use case studies, naturalistic observations, and surveys to observe and describe behavior, and why is random sampling important? Case studies study one person or group in depth, in the hope of revealing things true to us all. Naturalistic observation studies examine behavior in naturally occurring situations without trying to change or control the situation. Surveys study many people in less depth, using random sampling to fairly represent the population being studied.

1-8 What are positive and negative correlations, and how can they lead to prediction but not cause-effect explanation? In a positive correlation, both items increase or decrease together. In a negative correlation, one item increases as the other decreases. Correlations tell us how well one event predicts another (using a measure called a correlation coefficient), but not whether one event caused the other, or whether some third factor influenced both events.

1-9 How do experiments clarify or reveal cause-effect relationships? Experiments create a controlled, simplified version of reality to discover cause-effect relationships. Psychologists manipulate one factor (the independent variable) while controlling others. The researchers can then measure changes in other factors (dependent variables). Experiments minimize confounding variables, such preexisting differences between groups (through random assignment). Experiments allow researchers to compare experimental group results with control group results. Experiments may use a double-blind procedure to control for the placebo effect.

1-10 How do simplified laboratory conditions help us understand general principles of behavior? Studying specific examples in controlled environments can reveal important general principles. The general principles that result, not the specific findings, help explain everyday behaviors.

1-11 Why do psychologists study animals, and what ethical guidelines safeguard human and animal research participants? Research on animals advances our understanding of other species and sometimes benefits them directly. Animal experimentation advances our understanding of ourselves and may help solve human problems. Professional ethical standards and other legal guidelines, enforced by ethics committees, protect participants. The APA ethics code outlines standards for safeguarding human participants’ well-being, including obtaining their informed consent and debriefing them later.

1-12 How do personal values influence psychologists’ research and application? Does psychology aim to manipulate people? Psychologists’ values influence their choice of research topics, their theories and observations, their labels for behavior, and their professional advice. Psychology’s principles could be used for good or evil, but have been used mainly to enlighten and to achieve positive ends.

1-13 How can psychological principles help you learn and remember? The testing effect shows that learning and memory are enhanced by actively retrieving, rather than simply rereading, previously studied material. The SQ3R study method—survey, question, read, retrieve, and review—applies principles derived from memory research and can help you learn and remember material. Four additional study tips are(1) distribute your study time;(2) learn to think critically;(3) process class information actively; and(4) overlearn.

Review on terms: Behaviorism: behaviorism: the view that psychology (1) should be an objective science that (2) studies behavior without reference to mental processes. Most research psychologists today agree with (1) but not with (2).

humanistic psychology: emphasized the growth potential of healthy people.

cognitive neuroscience: the interdisciplinary study of the brain activity linked with mental activity (including perception, thinking, memory, and language).

psychology: the science of behavior and mental processes.

critical thinking: thinking that does not blindly accept arguments and conclusions. Rather, it examines assumptions, uncovers hidden values, weighs evidence, and assesses conclusions.

biopsychosocial approach: an approach that integrates different but complementary views from biological, psychological, and social-cultural viewpoints.

culture: the enduring behaviors, ideas, attitudes, values, and traditions shared by a group of people and handed down from one generation to the next.

nature-nurture issue: the age-old controversy over the relative influence of genes and experience in the development of psychological traits and behaviors. Today’s psychological science sees traits and behaviors arising from the interaction of nature and nurture.

dual processing: the principle that, at the same time, our mind processes information on separate conscious and unconscious tracks.

positive psychology: the scientific study of human functioning, with the goals of discovering and promoting strengths and virtues that help individuals and communities to thrive.

hindsight bias: the tendency to believe, after learning an outcome, that we could have predicted it. (Also known as the I-knew-it-all-along phenomenon.)

theory: an explanation using principles that organize observations and predict behaviors or events.

hypothesis: a testable prediction, often implied by a theory.

operational definition: a carefully worded statement of the exact procedures (operations) used in a research study. For example, human intelligence may be operationally defined as what an intelligence test measures.

replication: repeating the essence of a research study, usually with different participants in different situations, to see whether the basic finding extends to other participants and circumstances.

case study: a descriptive technique in which one individual or group is studied in depth in the hope of revealing universal principles.

naturalistic observation: a descriptive technique of observing and recording behavior in naturally occurring situations without trying to change or control the situation.

survey: a descriptive technique for obtaining the self-reported attitudes or behaviors of a group, usually by questioning a representative, random sample of that group.

population: all those in a group being studied, from which samples may be drawn. (Note: Except for national studies, this does not refer to a country’s whole population.)

random sample: a sample that fairly represents a population because each member has an equal chance of inclusion.

correlation: a measure of the extent to which two events vary together, and thus of how well either one predicts the other. The correlation coefficient is the mathematical expression of the relationship, ranging from −1. 00 to +1. 00, with 0 indicating no relationship.

scatterplota graphed cluster of dots, each of which represents the values of two variables. The slope of the points suggests the direction of the relationship between the two variables. The amount of scatter suggests the strength of the correlation (little scatter indicates high correlation).

experiment: a method in which researchers vary one or more factors (independent variables) to observe the effect on some behavior or mental process (the dependent variable)

random assignment: assigning participants to experimental and control groups by chance, thus minimizing any differences between the groups.

experimental group: in an experiment, the group exposed to the treatment, that is, to one version of the independent variable.

control group: in an experiment, the group not exposed to the treatment; the control group serves as a comparison with the experimental group for judging the effect of the treatment.

placebo [pluh-SEE-bo]:[pluh-SEE-bo; Latin for “ I shall please”] an inactive substance or condition that is sometimes given to those in a control group in place of the treatment given to the experimental group.

double-blind procedure: a procedure in which participants and research staff are ignorant (blind) about who has received the treatment or a placebo.

placebo effect: results caused by expectations alone

independent variable: in an experiment, the factor that is manipulated; the variable whose effect is being studied.

confounding variable: in an experiment, a factor other than the independent variable that might produce an effect.

dependent variable: in an experiment, the factor that is measured; the variable that may change when the independent variable is manipulated.

informed consent: giving people enough information about a study to enable them to decide whether they wish to participate.

debriefing: after an experiment ends, explaining to participants the study’s purpose and any deceptions researchers used.

testing effect: enhanced memory after retrieving, rather than simply rereading, information. Also sometimes referred to as the retrieval practice effect or test-enhanced learning.

SQ3R: SQ3R: a study method incorporating five steps: Survey, Question, Read, Retrieve, Review

1. In 1879, in psychology’s first experiment, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and his students measured the time lag between hearing a ball hit a platform and pressing a key. Wilhelm Wundt

2. In the early twentieth century, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ redefined psychology as “ the science of observable behavior.” John B. WatsonAbraham MaslowWilliam JamesSigmund FreudJohn B. Watson

3. A psychologist treating emotionally troubled adolescents at a local mental health agency is most likely to be a(n)

research psychologist. psychiatrist. industrial-organizational psychologist. clinical psychologist.

Clinical psychologist

4. A mental health professional with a medical degree who can prescribe medication is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. psychiatrist

5. A psychologist doing research from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ perspective might be interested in how our blood chemistry affects our moods and motives.

psychodynamicbehavioralneurosciencesocial-cultural

neuroscience

6. How can critical thinking help you evaluate claims in the media, even if you’re not a scientific expert on the issue? Critical thinking teaches us to look for evidence instead of relying on our intuition, which is often wrong. In evaluating a claim in the media, look for any signs of scientific evidence, preferably from several studies. Ask the following questions: Are claims based on scientific findings? Have several studies replicated the findings and confirmed them? Are any experts cited? If so, research their background. Are they affiliated with a credible university, college, or institution? Have they conducted or written about scientific research?

7. Nature is to nurture as

personality is to intelligence. biology is to experience. intelligence is to biology. psychological traits are to behaviors.

Biology is to experience

8. “ Nurture works on what nature endows.” Describe what this means, using your own words. The environment (nurture) has an influence on us, but that influence is limited by our biology (nature). Nature and nurture interact. People predisposed to be very tall (nature), for example, are unlikely to become Olympic gymnasts, no matter how hard they work (nurture).

9. \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ is the principle that our mind processes information on two tracks simultaneously—one with our full awareness and the other outside of our awareness. Dual processing

10. Positive psychology uses scientific methods to explore positive \_\_\_\_\_\_\_\_\_\_\_\_\_, positive \_\_\_\_\_\_\_\_\_\_\_\_\_, and positive \_\_\_\_\_\_\_\_\_\_\_\_\_. emotions; character traits; institutions

11. \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ refers to our tendency to perceive events as obvious or inevitable after the fact. Hindsight bias

12. As scientists, psychologists

a. approach research with a negative cynicism. b. assume that an article published in a leading scientific journal must be true. c. believe that every important human question can be studied scientifically. d. put competing ideas to the test and collect evidence.

d

13. Theory-based predictions are called \_\_\_\_\_\_\_\_\_\_\_\_\_. hypotheses

14. Which of the following is NOT one of the DESCRIPTIVE methods psychologists use to study behavior?

A case studyNaturalistic observationCorrelational researchA phone survey

Correlational research

15. You wish to survey a group of people who truly represent the country’s adult population. Therefore, you need to ensure that you question a \_\_\_\_\_\_\_\_\_\_\_\_\_ sample of the population. random (representative)

16. A study finds that the more childbirth training classes women attend, the less pain medication they require during childbirth. This finding can be stated as a \_\_\_\_\_\_\_\_\_\_\_\_\_ (positive/negative) correlation. negative

17. Knowing that two events are correlated provides

a basis for prediction. an explanation of why the events are related. proof that as one increases, the other also increases. an indication that an underlying third factor is at work.

A basis for prediction

18. Here are some recently reported correlations, with interpretations drawn by journalists. Knowing just these correlations, can you come up with other possible explanations for each of these?

a. Alcohol use is associated with violence. (One interpretation: Drinking causes, or triggers, aggressive behavior.)b. Educated people live longer, on average, than less-educated people. (One interpretation: Education lengthens life and improves health.)c. Teens engaged in team sports are less likely to use drugs, smoke, have sex, carry weapons, and eat junk food than are teens who do not engage in team sports. (One interpretation: Team sports encourage healthy living.)d. Adolescents who frequently see smoking in movies are more likely to smoke. (One interpretation: Movie stars’ behavior influences teens.)

a

19. To explain behaviors and clarify cause and effect, psychologists use \_\_\_\_\_\_\_\_\_\_\_\_\_. experiments

20. To test the effect of a new drug on depression, researchers randomly assign people to control and experimental groups. People in the control group take a pill that contains no medication. This is a \_\_\_\_\_\_\_\_\_\_\_\_\_. placebo

21. In a double-blind procedure,

a. only the participants know whether they are in the control group or the experimental group. b. experimental and control group members will be carefully matched for age, sex, income, and education level. c. neither the participants nor the researchers know who is in the experimental group or control group. d. someone separate from the researcher will ask people to volunteer for the experimental group or the control group.

c

22. A researcher wants to know whether noise level affects workers’ blood pressure. In one group, she varies the level of noise in the environment and records participants’ blood pressure. In this experiment, the level of noise is the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_. independent variable

23. The laboratory environment is designed to

a. exactly re-create the events of everyday life. b. re-create psychological forces under controlled conditions. c. provide a safe place. d. reduce the number of animals and humans used in psychological research.

b

24. In defending their experimental research with animals, psychologists have noted that

a. animals’ biology and behavior can tell us much about our own. b. advancing the well-being of humans justifies using animals in research. c. animal experiments sometimes help animals as well as humans. d. all of these statements are correct.

d