

**Test Bank for Wood 6e**  
**Chapter 1: Introduction to Psychology**

**Multiple Choice**

1. Psychology is \_\_\_\_\_
- a) a collection of theories that have yet to be tested.
  - b) the scientific study of behavior and mental processes.
  - c) the study of spiritual phenomena.
  - d) the collective term for various forms of therapy.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

2. The scientific method starts with \_\_\_\_\_
- a) a theory.
  - b) a hypothesis.
  - c) an experiment.
  - d) observations.

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

3. \_\_\_\_\_ is the most objective method known for acquiring knowledge.
- a) Observational research
  - b) The scientific method
  - c) A pilot study
  - d) A case study

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Item Analysis:** % correct 33 a = 14 b = 33 c = 7 d = 47 r = .22

**Topic:** An Introduction to the Science of Psychology

4. A theory is \_\_\_\_\_
- a) proposed to explain how a number of separate facts are related.
  - b) a testable prediction about mental processes or behavior.
  - c) a set of observations.
  - d) proven by peer review.

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

5. "If children watch violent cartoons, then they will become more aggressive." According to the scientific method, this statement is a \_\_\_\_\_

- a) guess.
- b) theory.
- c) hypothesis.
- d) fact.

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

6. Which of the following represents a replication?

- a) Josh did the first-ever study on color perception in hummingbirds.
- b) Hunter repeated Josh's study as exactly as possible.
- c) Lyta's study was peer reviewed.
- d) Orlando's study was published.

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Easy

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

7. Rory is a college student who intends to become a scientist. In order for his work to be considered science, he must \_\_\_\_\_

- a) correctly employ the scientific method when acquiring knowledge.
- b) stay away from the hard sciences like physics or chemistry.
- c) give up psychology as his major.
- d) get a doctoral degree.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

8. Dr. Sardonicus is studying the effectiveness of a new medication for anxiety, and he has found positive results. Before assuming the medication is effective, it would be best to \_\_\_\_\_

- a) replicate the study.
- b) start with a new hypothesis.
- c) wait until his study is published.
- d) try the medicine himself.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

9. Professor Jimenez wants to share her research and wants others to know it was methodologically sound. Therefore, she should \_\_\_\_\_

- a) self-publish and describe her methods.

- b) submit her work to a journal for peer review.
- c) give a talk at a conference.
- d) get on a morning news show.

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

10. The goals of psychology are to \_\_\_\_\_

- a) explore the unconscious functions of the mind.
- b) understand, compare, and analyze human behavior.
- c) improve psychological well-being in all individuals.
- d) describe, explain, predict, and influence behavior.

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

11. Using research results to solve practical problems is an example of the goal of \_\_\_\_\_

- a) prediction.
- b) influence.
- c) explanation.
- d) replication.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

12. Proposing reasons for behaviors and mental processes is an example of \_\_\_\_\_

- a) description.
- b) explanation.
- c) influence.
- d) prediction.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

13. Which of the following is an example of applied research?

- a) Studying what methods work to improve memory
- b) Studying the difference between short and long-term memory
- c) Studying the neurochemistry of memory
- d) Altering memory in mice to better understand memory storage

**Answer:** a

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

14. A psychologist is interested in finding out why identical twins have different personalities. This psychologist is most interested in the goal of \_\_\_\_\_

- a) description.
- b) explanation.
- c) prediction.
- d) influence.

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

15. Using knowledge obtained through the scientific method to develop cohesive \_\_\_\_\_ can help us understand complex phenomena.

- a) hypotheses
- b) theories
- c) experiments
- d) predictions

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

16. Kayla thinks she has noticed a pattern of differences in her male and female friends' video game scores and she wonders why. She notices her male friends spend more time playing and thinks that may be the reason. Which of the following is an attempt to achieve the goal of prediction?

- a) Calculating her friends' average scores
- b) Making the males in her study play with one hand
- c) Hypothesizing scores will be equivalent if they play the same amount of time
- d) Using the study results to improve female's scores

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

17. Gunnar observes that when he dresses in business casual, people seem more comfortable approaching him. He wants to know if this is true because it is very important to him that he meet new people at college. If Gunnar uses the scientific method to investigate this, what type of research would he be doing?

- a) Replication
- b) Experimental
- c) Basic
- d) Applied

**Answer:** d

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.1.2: List the goals of psychology  
**Topic:** An Introduction to the Science of Psychology

18. Jorge is a psychology student who is writing a report on the behaviors kindergarten children demonstrate on the playground. Because he notices that many of the children like to play tag, he takes detailed notes on tag-playing behavior. Which of the goals of psychology did Jorge meet?

- a) Predict
- b) Describe
- c) Influence
- d) Prove

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.1.2: List the goals of psychology  
**Topic:** An Introduction to the Science of Psychology

19. Psychology was recognized as a formal academic discipline when \_\_\_\_\_

- a) Sigmund Freud began publishing his theories.
- b) the focus moved to mental processes.
- c) the scientific method was used.
- d) hypnosis was introduced and used successfully in therapy.

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology  
**Topic:** Psychology Then and Now

20. Who is considered the "father" of psychology?

- a) Charles Darwin
- b) Wilhelm Wundt
- c) Gustav Fechner
- d) Sigmund Freud

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology  
**Topic:** Psychology Then and Now

21. \_\_\_\_\_ set up the first formal psychological lab at the University of Leipzig in Germany and used \_\_\_\_\_ as the primary research method.

- a) Freud; reflection
- b) Skinner; case studies
- c) Wundt; introspection
- d) Wundt; hypnosis

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of

psychology

**Topic:** Psychology Then and Now

22. Which of the following early schools of thought studied the basic elements of conscious mental experience?

- a) Behaviorism
- b) Functionalism
- c) Structuralism
- d) Psychoanalysis

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology

**Topic:** Psychology Then and Now

23. When different researchers using the technique of introspection were exposed to the same stimulus, they often reported different experiences. For this reason, structuralism was criticized for \_\_\_\_\_

- a) being just observational.
- b) not being objective.
- c) using experimentation.
- d) not using measurement.

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Applied

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology

**Topic:** Psychology Then and Now

24. James tells his research subjects to report their stream of consciousness so that he can study how they adapt to their environment. James is part of the early school of psychology called \_\_\_\_\_

- a) cognitive psychology.
- b) structuralism.
- c) functionalism.
- d) psychoanalysis.

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology

**Topic:** Psychology Then and Now

25. Today, minorities in America are \_\_\_\_\_ among professional psychologists.

- a) underrepresented
- b) overrepresented
- c) equal in number
- d) the majority

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology

**Topic:** Psychology Then and Now

26. Psychologists Mamie and Kenneth Clark's research helped to \_\_\_\_\_

- a) explain color vision.
- b) end racial segregation in schools.
- c) develop methods for studying memory.
- d) found behaviorism.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology

**Topic:** Psychology Then and Now

27. Feelings of depression have convinced Nyla to seek out a therapist. When she met with the therapist, she answered the following questions regarding her behavior: Has your sleeping pattern changed? Has your appetite changed? Have you been crying? Have you been unable to go to work? The therapist only seemed interested in her behaviors, not her thoughts or early childhood. Most likely, Nyla's therapist subscribes to which school of thought?

- a) Behaviorist
- b) Psychoanalytic
- c) Humanistic
- d) Information Processing

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

28. Which of the following statements would most likely be made by Sigmund Freud?

- a) Because behavior is learned, it can easily be unlearned.
- b) Unconscious forces may contain conflicts that can be a detriment to psychological health and development.
- c) Thoughts that precede behavior should be the focus of psychological interventions.
- d) Because we have free will, individuals can choose to overcome psychological difficulties.

**Answer:** b

**Skill Level:** Evaluate

**Difficulty:** Moderate

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

29. Heather decides to seek out a therapist to help her work through feelings of anxiety. Her therapist allows her to direct the therapy sessions and discuss what she feels is relevant. Her therapist, who views Heather as an innately good person, also suggests she attend group therapy to learn how to make better choices for herself. Based on this information, to which school of thought does Heather's therapist most likely adhere?

- a) Sociocultural
- b) Psychoanalytic

- c) Behaviorism
- d) Humanistic

**Answer:** d

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

30. The scientific study of psychological characteristics, such as optimism, that enable individuals and communities to thrive in the face of adversity is called \_\_\_\_\_ Psychology.

- a) Emotional
- b) Positive
- c) Cognitive-Behavioral
- d) Gestalt

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

31. The school of thought that sees humans as active seekers of experiences, who use mental processes to shape those experiences, is \_\_\_\_\_ Psychology.

- a) Cognitive
- b) Humanistic
- c) Gestalt
- d) Behaviorist

**Answer:** a

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

32. "The whole is greater than the sum of the parts" is a statement associated with the perspective of \_\_\_\_\_

- a) introspection.
- b) functionalism.
- c) psychoanalysis.
- d) Gestalt psychologists.

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

33. The early perspective called Gestalt psychology has evolved into the current perspective called \_\_\_\_\_

- a) psychoanalytic psychology.
- b) cognitive psychology.
- c) behavioral psychology.
- d) social psychology.

**Answer:** b



**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

34. Which school of thought in psychology would be most concerned with behavior changes that promote survival in the face of environmental pressures?

- a) Gestalt
- b) Psychoanalytic
- c) Sociocultural
- d) Evolutionary

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

35. Professor Beverly approaches questions about human behavior from a perspective that emphasizes bodily events and chemicals, such as hormones, associated with behavior. Which of the following psychological perspectives is she most likely to adopt?

- a) Biological
- b) Learning
- c) Cognitive
- d) Sociocultural

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Item Analysis:**

% correct 91 a = 91 b = 2 c = 6 d = 1 r = .49

% correct 93 a = 93 b = 0 c = 0 d = 7 r = .56

**Topic:** Psychology Then and Now

36. Assunta was raised in a strict, traditional Italian family that had close ties with the tight-knit Italian community in which she lived. Years later, when she was studying to become a psychologist, she realized just how much of an influence her upbringing and ethnicity had in molding her views and personality. This particular insight led Assunta to realize just how important \_\_\_\_\_ can be in an individual's psychological development.

- a) the information-processing theory
- b) psychoanalytic perspectives
- c) humanistic psychology
- d) the sociocultural approach

**Answer:** d

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

37. When we examine how factors like poverty, peers, and parents interact to produce antisocial behavior in teens, we are using the \_\_\_\_\_

- a) systems perspective.

- b) multifactor design model.
- c) information processing theory
- d) humanistic approach.

**Answer:** a

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

38. Dr. Rodriguez, an educational psychologist, looks at the student-environment interaction to determine how to improve a student's performance. He is taking the \_\_\_\_\_ perspective.

- a) cognitive
- b) evolutionary
- c) sociocultural
- d) behavioral

**Answer:** d

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

39. Diana wants to find a therapist who will help her explore her unconscious motivations and how her early childhood experiences are affecting her now. She should look for a therapist with a \_\_\_\_\_ perspective.

- a) psychoanalytic
- b) humanistic
- c) biological
- d) sociocultural

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

40. Kim wants to talk with a therapist who will see him in a positive light and respect his personal experience while helping him understand his feelings and create a meaningful life. Kim will be most satisfied with a therapist who takes the \_\_\_\_\_ perspective.

- a) psychoanalytic
- b) humanistic
- c) biological
- d) sociocultural

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

41. Sherrod sees himself as a thinker; he believes that his experience and behavior are shaped by how he perceives, thinks about, and remembers things. He would find a counselor who takes the \_\_\_\_\_ perspective most compatible with his beliefs.

- a) psychoanalytic

- b) humanistic
- c) cognitive
- d) sociocultural

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

42. Russ is having difficulty in his romantic relationships. He finds himself feeling most attracted to women for their physical attributes, even if they are not the type of women he really wants for a life partner, and he can't understand why. A counselor who takes the \_\_\_\_\_ perspective might have an explanation based on inherited tendencies that would help him understand this.

- a) psychoanalytic
- b) evolutionary
- c) biological
- d) sociocultural

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

43. Geoff's father is being treated successfully for depression with antidepressant medication. Geoff is experiencing similar symptoms of depression including disturbed sleep, poor appetite, low energy, and hopelessness. A professional person taking the \_\_\_\_\_ perspective will take his family history and the physical basis of his symptoms into account.

- a) psychoanalytic
- b) humanistic
- c) biological
- d) sociocultural

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

44. Lee is not very interested in academics and performs poorly in school. This is causing problems at home in his traditional Chinese family where academic success is highly valued. In order to help him reconcile his values and maintain better relationships at home, he is likely to do best with a counselor who has a \_\_\_\_\_ perspective.

- a) psychoanalytic
- b) humanistic
- c) biological
- d) sociocultural

**Answer:** d

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

45. The psychological perspective that is most concerned with how the environment-person interaction affects us is the \_\_\_\_\_ perspective.

- a) environmental
- b) behavioral
- c) humanistic
- d) evolutionary

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

46. A counselor who takes the humanistic perspective would focus most on \_\_\_\_\_

- a) environmental influences.
- b) behavior.
- c) subjective experience.
- d) inherited tendencies.

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

47. A therapist who takes the evolutionary perspective would focus most on \_\_\_\_\_

- a) environmental influences.
- b) behavior.
- c) thought processes.
- d) inherited adaptive tendencies.

**Answer:** d

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

48. Which of the following perspectives focuses on unconscious motivation and early childhood experience?

- a) Behavioral
- b) Psychoanalytic
- c) Cognitive
- d) Sociocultural

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

49. Which of the following psychological perspectives emphasizes the role of mental processes such as perception, thinking and memory?

- a) Sociocultural
- b) Rationalist
- c) Neurological

d) Cognitive

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

50. Which of the following psychological perspectives emphasizes the role of physical processes and structures, as well as familial heredity, in explaining behavior?

a) The biological perspective

b) The medical perspective

c) The evolutionary perspective

d) The humanistic perspective

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

51. In thinking about her future career as a counselor, Taisha thinks she will be most concerned with her client's subjective experience and biological processes. She will also want to know if any family member has symptoms of an inheritable psychological problem. It sounds as though Taisha will be adopting a(n) \_\_\_\_\_ perspective toward working with her clients.

a) mixed

b) medical

c) eclectic

d) illogical

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

52. Jaden works at a clinic where he sees individuals with schizophrenia and other psychiatric illnesses. His job is to find the appropriate diagnosis and treatment for these individuals. Jaden is likely a(n) \_\_\_\_\_

a) forensic psychologist.

b) industrial/organizational psychologist.

c) clinical psychologist.

d) educational psychologist.

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.2.4: List the specialty areas that exist in psychology

**Topic:** Psychology Then and Now

53. Dr. Bui has been asked by the defense attorney to evaluate a client convicted of assault and write a report that will be presented to the judge before sentencing. Dr. Bui is most likely a \_\_\_\_\_ psychologist.

a) counseling

b) forensic

- c) legal
- d) physiological

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.2.4: List the specialty areas that exist in psychology

**Topic:** Psychology Then and Now

54. A school psychologist would be most likely to \_\_\_\_\_

- a) conduct an experiment.
- b) counsel a disruptive student.
- c) treat a student with schizophrenia.
- d) study teaching methods.

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.4: List the specialty areas that exist in psychology

**Topic:** Psychology Then and Now

55. A psychologist who teaches a corporation how to keep employees motivated would most likely be a(n) \_\_\_\_\_ psychologist, according to your textbook.

- a) social
- b) educational
- c) consulting
- d) industrial/organizational

**Answer:** d

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.4: List the specialty areas that exist in psychology

**Topic:** Psychology Then and Now

56. Educational psychologists specialize in which of the following?

- a) Educating corporations about employee management
- b) Counseling troubled students
- c) Studying teaching and learning
- d) Treating students with major psychiatric illnesses

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.2.4: List the specialty areas that exist in psychology

**Topic:** Psychology Then and Now

57. One of the primary characteristics psychologists evaluate is whether theories are \_\_\_\_\_

- a) true.
- b) proven.
- c) false.
- d) useful.

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.3.1: Demonstrate how psychologists evaluate theories

**Topic:** Thinking about Theories and Research

58. Theories help psychologists achieve the \_\_\_\_\_ goal by generating testable \_\_\_\_\_

- a) prediction; hypotheses.
- b) influence; designs.
- c) description; predictions.
- d) observation; data.

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.3.1: Demonstrate how psychologists evaluate theories

**Topic:** Thinking about Theories and Research

59. Rudy's research hypothesis was not supported by his results. His work did stimulate debate and motivate more related research. Rudy's work has \_\_\_\_\_

- a) no value.
- b) heuristic value.
- c) damaged his career.
- d) practical value.

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.3.1: Demonstrate how psychologists evaluate theories

**Topic:** Thinking about Theories and Research

60. We continue to teach about structuralists and functionalists and rate Freud's theory as very important because of the \_\_\_\_\_ of these ideas.

- a) success
- b) practical value
- c) predictive value
- d) heuristic value

**Answer:** d

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.3.1: Demonstrate how psychologists evaluate theories

**Topic:** Thinking about Theories and Research

61. The process of objectively evaluating claims, propositions, and conclusions to determine whether they follow logically from the evidence is known as \_\_\_\_\_

- a) critical thinking.
- b) evaluation.
- c) heuristic thinking.
- d) suspension of judgment.

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.3.2: Describe how critical thinking helps you evaluate research

**Topic:** Thinking about Theories and Research

62. Carla was driving to work when she heard a report from a medical center on the radio saying, "Upon conception, the sex of the baby is determined by the person who is least stressed

out.” Knowing Carla is a critical thinker, which of the following thoughts did she most likely have?

- a) “Because the report is from a medical center, it must be true.”
- b) “Before I believe that report, I need to check other sources.”
- c) “Wow, it must be true or they wouldn’t put it on the radio.”
- d) “Wait until I tell my partner that he must have determined the sex of our two sons.”

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.3.2: Describe how critical thinking helps you evaluate research

**Topic:** Thinking about Theories and Research

63. To think critically we must get rid of the habit of assuming that our limited personal, or \_\_\_\_\_ evidence, is reliable evidence.

- a) heuristic
- b) anecdotal
- c) experiential
- d) substantiary

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.3.2: Describe how critical thinking helps you evaluate research

**Topic:** Thinking about Theories and Research

64. A critical thinker would most likely say, “What I need to know most is \_\_\_\_\_

- a) whether the source is an authority.”
- b) whether this fits with what I already think.”
- c) how they got this information.”
- d) how many people agree with this.”

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.3.2: Describe how critical thinking helps you evaluate research

**Topic:** Thinking about Theories and Research

65. Anthony read a study with several hundred subjects in the *Journal of the American Medical Association* that stated there is a link between working night shifts and the risk of heart attacks. Anthony knew the study was not correct because his Dad and his uncles had worked the night shift for decades and none of them had heart trouble. Anthony is not thinking critically because he is being swayed too much by \_\_\_\_\_

- a) independent thinking.
- b) anecdotal evidence.
- c) heuristic value.
- d) the journal’s authority.

**Answer:** b

**Skill Level:** Evaluate

**Difficulty:** Moderate

**Learning Objective:** 1.3.2: Describe how critical thinking helps you evaluate research

**Topic:** Thinking about Theories and Research



66. Anthony heard a report about a study in the *Journal of the American Medical Association* that stated working night shifts causes heart attacks. When he read the study he found that the researchers had compared the rates of heart attacks between day and night shift workers. This was not an experimental design and subjects were not randomly assigned. If Anthony thinks critically about this study he would conclude that \_\_\_\_\_

- a) this is good evidence that night shift work causes heart attacks.
- b) this proves it is unhealthy to work night shifts.
- c) this study shows a correlation, proving causality, between night shifts and heart attacks.
- d) this type of study can't provide evidence of causes.

**Answer:** d

**Skill Level:** Evaluate

**Difficulty:** Difficult

**Learning Objective:** 1.3.2: Describe how critical thinking helps you evaluate research

**Topic:** Thinking about Theories and Research

67. Which of the following is *not* a descriptive research method?

- a) surveys
- b) naturalistic observation
- c) experimentation
- d) laboratory observation

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

68. Which of the following is an advantage to using naturalistic observation as a research method?

- a) We can infer cause-and-effect relationships.
- b) We can study behavior in naturally occurring environments.
- c) We can easily influence the target behaviors.
- d) The target behaviors are always quite obvious.

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Easy

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

69. Which of the following statements is true about naturalistic observation?

- a) It recreates natural conditions in the laboratory as closely as possible to make an experiment more valid.
- b) It involves observing behavior in its natural context.
- c) It is basically the same process as objective introspection.
- d) It involves observing behavior in the lab without taking formal notes or using technological equipment to measure the experimental findings.

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Item Analysis:** % correct 89 a = 7 b = 89 c = 2 d = 3 r = .45

**Topic:** Descriptive Research Methods

70. Taffi believes that people who eat at Dairy Queen are overweight, so she decides to conduct a naturalistic observation of people who eat at Dairy Queen. What should most concern us about Taffi's observations?

- a) The observer effect
- b) The bystander effect
- c) Observer bias
- d) Subject bias

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

71. A detailed description of a particular individual being studied or treated is called \_\_\_\_\_

- a) a representative sample.
- b) a case study.
- c) a single-blind study.
- d) a naturalistic observation.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

72. A case study would be the most appropriate method to investigate which of these topics?

- a) The ways in which the games of boys differ from the games of girls.
- b) The development of a male baby raised as a female after a surgical error destroyed his penis.
- c) The math skills of students in Japan as compared to those of U.S. students.
- d) Physiological changes that occur when people watch violent movies.

**Answer:** b

**Skill Level:** Evaluate

**Difficulty:** Moderate

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

73. Shannon is a researcher who studies sleep patterns in humans. Shannon most likely uses \_\_\_\_\_

- a) laboratory observation.
- b) case studies.
- c) naturalistic observation.
- d) structured observation.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

74. You overhear psychology students talking about a research method that often "fails to generalize." Which method is the *most* likely topic of their discussion?

- a) Correlation
- b) Case study
- c) Experiment
- d) Surveys

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Item Analysis:** % correct 42 a = 15 b = 42 c = 8 d = 34 r = .49

**Topic:** Descriptive Research Methods

75. To understand the criminal mind, you might study one criminal, such as the Unabomber, in great detail. Extensive interviews, questionnaires, and psychological tests might provide interesting information about the mental processing in such a person. This type of study would be an example of a \_\_\_\_\_

- a) case study.
- b) survey study.
- c) laboratory study.
- d) naturalistic observation study.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

76. Dr. Cullinan is conducting research in Kenya into the ways that mothers and their toddlers interact throughout the day. Given the purpose of her study, it is most likely that she is engaged in \_\_\_\_\_

- a) naturalistic observation.
- b) laboratory observation.
- c) case study research.
- d) experimental research.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

77. Descriptive research in which researchers use interviews or questionnaires to gather information about a group of people is called a \_\_\_\_\_

- a) survey.
- b) sample.
- c) representative sample.
- d) naturalistic observation.

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

78. The entire group of interest to researchers and the group to which they want to generalize their findings is called the \_\_\_\_\_

- a) sample.
- b) representative sample.
- c) study group.
- d) population.

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

79. A sample that includes important subgroups that the researchers want to be able to generalize their results to is called a \_\_\_\_\_

- a) representative sample.
- b) population sample.
- c) study sample.
- d) target sample.

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

80. The group of individuals actually studied is called the \_\_\_\_\_

- a) representative sample.
- b) sample.
- c) alpha sample.
- d) target sample.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

81. The best method for obtaining a representative sample is to choose a \_\_\_\_\_ from the population of interest.

- a) subsample
- b) random sample
- c) population sample
- d) study sample

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

82. Jeanette needed a large number of responses for her survey about taste preferences so she chose to do an internet survey. A significant problem she may have is \_\_\_\_\_

- a) no one will respond to her survey.
- b) her sample will not be representative.

- c) her sample may be too big.
- d) her sample may be representative.

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

83. A sample that does not represent the entire group of interest is called a \_\_\_\_\_ sample.

- a) bad
- b) random
- c) biased
- d) partial

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

84. People responding to surveys or interviews tend to want to present themselves in a good light, thus reducing the accuracy of their responses. This is called the \_\_\_\_\_ response.

- a) positive bias
- b) social desirability
- c) lie
- d) unintentionally false

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

85. When seeking sensitive information, such as financial or sexual information, it is probably best to use \_\_\_\_\_

- a) trained interviewers.
- b) self-administered questionnaires.
- c) phone interviews.
- d) researcher-administered questionnaires.

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

86. By using random samples, polling organizations can represent the view of the American public with a sample size starting from \_\_\_\_\_

- a) 100,000.
- b) 1 million.
- c) 100.
- d) 1,000.

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

87. A(n) \_\_\_\_ is a measure of how strongly two variables are related to one another.

- a) independent variable
- b) dependent variable
- c) experimental effect
- d) correlation

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Item Analysis:** % correct 93 a = 0 b = 4 c = 3 d = 93 r = .56

**Topic:** Descriptive Research Methods

88. The word correlation is often used as a synonym for \_\_\_\_\_

- a) validity.
- b) reliability.
- c) variable.
- d) relationship.

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

89. A negative correlation between two factors means that their values move \_\_\_\_\_

- a) in opposite directions.
- b) in the same direction.
- c) down.
- d) with no relationship.

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Difficult

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

90. A positive correlation between two factors means \_\_\_\_\_

- a) the value of one increases as the other decreases.
- b) the value of each moves in the same direction.
- c) the value of both only increases.
- d) there is no relationship between the two variables.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Difficult

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

91. A correlation coefficient represents two things: \_\_\_\_\_ and \_\_\_\_\_

- a) a sample; strength.

- b) the strength; direction of the relationship.
- c) the direction; a cause.
- d) the relationship; expectant functionality.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

92. A correlation coefficient of .00 means there is \_\_\_\_\_ between the factors.

- a) a negative relationship
- b) a positive relationship
- c) a perfect relationship
- d) no relationship

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

93. Which of the following represents the strongest correlation?

- a) .34
- b) -.45
- c) -.28
- d) .00

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Difficult

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

94. It is extremely important to remember that correlation \_\_\_\_\_ prove causation.

- a) does
- b) partially
- c) does not
- d) can only

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

95. The third variable problem occurs when one variable, for example your independent variable, is actually linked to another variable that you are not manipulating or controlling for. In this example, what might the third variable be? (*Example: The larger a child's shoe size, the larger vocabulary she has.*)

- a) Her gender
- b) Her age
- c) Her dress size
- d) Her language skills

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Difficult

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

96. Which of the following would be true if the number of hours students spend watching TV is negatively correlated with their grades in school?

- a) Students who watch less TV would have the higher grades.
- b) Students who watch more TV would have the higher grades.
- c) TV viewing would not be related to grades in any systematic way.
- d) TV viewing would be the independent variable in the study.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

97. Julie finds that the number of hours she sleeps each night is related to the scores she receives on quizzes the next day. As her sleep approaches eight hours, her quiz scores improve; as her sleep drops to five hours, her quiz scores show a similar decline. Julie realizes that there is a \_\_\_\_\_ correlation between her hours of sleep and her grades.

- a) negative
- b) positive
- c) neutral
- d) causative

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

98. The *only* research method that can identify cause-and-effect relationships between variables is \_\_\_\_\_

- a) the experimental method.
- b) naturalistic observation.
- c) the correlational method.
- d) the case study.

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

99. Any condition or factor that can be manipulated, controlled, or measured, is a \_\_\_\_\_

- a) confound.
- b) variable.
- c) causality.
- d) bias.

**Answer:** b

**Skill Level:** Understand



**Difficulty:** Moderate

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

100. A prediction about a cause and effect relationship between two or more variables is a \_\_\_\_\_

- a) theory.
- b) experiment.
- c) causal hypothesis.
- d) correlational hypothesis.

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

101. The two kinds of variables found in every experiment are \_\_\_\_\_ and \_\_\_\_\_ variables.

- a) dependent; independent
- b) causal; correlational
- c) extraneous; controlled
- d) conditional; behavioral

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

102. Susan wanted to know if aerobic exercise caused more weight loss than just walking. Susan had her experimental group do aerobic exercise for 20 minutes, 4 days a week. She weighed each subject before the experiment started and again three months into the experiment. The independent variable in her experimental research was \_\_\_\_\_

- a) the subject's weight.
- b) the exercise.
- c) the distance each subject in the control group walked.
- d) the change in subject's weight at three months.

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

103. Matt's experiment was designed to find out if reading an entire chapter at once led to better test grades than reading a section at a time over several days. The dependent variable in his experimental research was \_\_\_\_\_

- a) the test grade.
- b) the length of the chapter.
- c) reading an entire chapter.

d) reading a section at a time.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

104. Jimmy is a researcher examining the effects of vitamin D deficiency on mood. Based on everything he has read, he speculates that if an individual has a low vitamin D level, then she or he may experience changes in mood. Jimmy's speculation can also be described as a \_\_\_\_\_

a) causal hypothesis.

b) school of thought.

c) theory.

d) psychological perspective.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

105. In the experimental method, the \_\_\_\_\_ is sometimes referred to as the treatment.

a) independent variable

b) dependent variable

c) confounding variable

d) heuristic value

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

106. Most experiments have a \_\_\_\_\_ group for purposes of comparison. This group is not given the treatment or the same independent variable as the \_\_\_\_\_ group.

a) control; experimental

b) dependent; independent

c) experimental; control

d) inactive; active

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

107. In order to help separate the effects of your independent variable from the effects of chance or other random variables, you need to have \_\_\_\_\_

a) 100 percent control over all variables.

b) a control group.

- c) an experimental group.
- d) a representative sample.

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

108. In Lang's experiment studying the effects of alcohol and the effects of expectations on aggression, there were three groups:

Group 1: Expected alcohol, received only tonic.

Group 2: Expected alcohol, received alcohol mixed with tonic.

Group 3: Expected tonic, received alcohol mixed with tonic.

Which of the following is true?

- a) Only Groups 2 and 3 were experimental groups.
- b) Only Group 1 was an experimental group.
- c) Group 1 was a control group.
- d) All three groups were experimental groups.

**Answer:** d

**Skill Level:** Evaluate

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

109. In the Lang study of alcohol consumption, aggression was measured by the intensity and duration of "shocks" the participants chose to deliver to the researcher's accomplice. This was the \_\_\_\_\_ definition of aggression for this experiment.

- a) research
- b) hypothetical
- c) operational
- d) controlled

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

110. A researcher has conducted an experiment in which she assigned all of her students four hours of homework the night before a test, in order to see what effect the extra stress has on test performance. The study is flawed because the researcher did not include a(n) \_\_\_\_\_

- a) control group.
- b) experimental group.
- c) independent variable.
- d) random sample.

**Answer:** a

**Skill Level:** Analyze

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal

hypotheses

**Topic:** The Experimental Method

111. If we were to design an experiment to test the hypothesis that aspirin removes headaches, the independent variable would be \_\_\_\_\_ and the dependent variable would be \_\_\_\_\_

- a) headaches; aspirin.
- b) aspirin; Tylenol.
- c) aspirin; headaches.
- d) measured; manipulated.

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

112. Marcy is trying to define anxiety in a way that can be measured. She is attempting to find an appropriate \_\_\_\_\_

- a) independent variable.
- b) operational definition.
- c) causal hypothesis.
- d) theory.

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Easy

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

113. Bob is a participant in a study investigating the effectiveness of Ritalin in treating ADHD. Bob has ADHD, but is in a group that received a placebo (sugar pills) instead of Ritalin. Bob is in the \_\_\_\_\_ group.

- a) experimental
- b) random
- c) control
- d) observational

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

114. In order to increase typing speed, Minisoft has both redesigned its keyboard and provided a chime related to typing speed. The company wants to know if these changes affect typing speed. Which of the following represents, in order, the independent and dependent variable(s) in this study?

- a) The chime; typing speed
- b) The speed of typing; the keyboard design and the chime
- c) The keyboard design and chime; the speed of typing
- d) The number of errors made; the chime and the speed of typing

**Answer:** c

**Skill Level:** Evaluate

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

115. Professor Kim's students designed an experiment to investigate whether self-esteem was affected by how often she called on them when they raised their hands in class. They planned to count the number of times each student was called on when they raised their hand, ask each student how their self-esteem was before and after the experiment, and compare their responses based on how often they were called upon. Their causal hypothesis was, "If the professor calls on you more often when you raise your hand, your self-esteem will go up." What is one significant flaw in their design?

- a) They have no independent variable.
- b) They have no operational definition for self-esteem.
- c) They have no dependent variable.
- d) They don't have a sample.

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

116. Sudden Infant Death Syndrome has no known cause, although there are theories and hypotheses. In a situation such as this, which of the following can we do?

- a) Make recommendations based on correlational data
- b) Do experiments to determine the cause
- c) Do nothing
- d) Determine the cause based on correlations

**Answer:** a

**Skill Level:** Analyze

**Difficulty:** Difficult

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

117. The most important limitation of the experimental method is that, no matter how careful an experimenter is, factors other than the independent variable can affect different subject groups in the study unequally. These factors are called \_\_\_\_\_

- a) dependent variables.
- b) confounding variables.
- c) selection variables.
- d) error variables.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

118. Factors that are unequal across groups and can prevent a researcher from concluding that it was the independent variable that caused a change in the dependent variable are called \_\_\_\_\_ variables.

- a) random
- b) confounding
- c) participant
- d) erroneous

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Easy

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

119. When a researcher assigns participants to either an experimental or a control group based on their last names, systematic differences between groups are created before the experiment even begins. This is a confounding variable is an example of \_\_\_\_\_

- a) observer bias.
- b) participant bias.
- c) selection bias.
- d) assignment bias.

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

120. Participants should be selected by chance for an experimental or control group so each has equal probability of being assigned to either of the groups. This is done by \_\_\_\_\_

- a) random assignment.
- b) researcher assignment.
- c) participant assignment.
- d) random sampling.

**Answer:** a

**Skill Level:** Analyze

**Difficulty:** Easy

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

121. When a subject's response to a treatment is due to their expectations rather than the actual treatment, they are showing the \_\_\_\_\_ effect.

- a) placebo
- b) double-blind
- c) participant
- d) observer

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

122. When the researcher's expectations influence participant's behavior and/or the researcher's interpretation of the experimental results, it is called \_\_\_\_\_

- a) participant bias.
- b) experimenter bias.
- c) subject bias.
- d) intentional bias.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

123. In order to prevent the researcher's expectations from influencing study participants, a(an) \_\_\_\_\_ design is used.

- a) anonymous
- b) quasi-experimental
- c) computerized
- d) double-blind

**Answer:** d

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

124. When an independent variable would endanger a human participant's health, we must conduct the research by comparing groups that already have differing degrees of the variable of interest. These are known as \_\_\_\_\_ experiments.

- a) partial
- b) correlational
- c) quasi
- d) descriptive

**Answer:** c

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

125. Which of the following would limit the effectiveness of the experimental method?

- a) Random assignment
- b) Selection bias
- c) Independent variables
- d) Representative samples

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

126. Research has shown that patients' expectations of treatment effectiveness are affected by what a treatment provider is wearing. A white lab coat tends to increase their expectation of effectiveness. Gloria, a research assistant, had no preconceived ideas about her research

project, but by chance she wore a white lab coat when working with experimental Group 1, but jeans and a t-shirt when working with experimental Group 2. This created a confounding variable. This confounding variable was a \_\_\_\_\_

- a) selection bias.
- b) experimenter bias.
- c) placebo effect.
- d) random effect.

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

127. Dr. Fountainbleu was testing a new medication used to treat depression. He gathered 150 participants who had varying levels of depression. Because he wanted to see whether the new drug really worked, he separated the severely depressed from the mildly or moderately depressed. He then made sure the severely depressed group actually received the drug while the other group received the placebo. What error, if any, did Dr. Fountainbleu make in this experiment?

- a) He made no error at all.
- b) He did not have enough participants in the study.
- c) He showed selection bias.
- d) He showed unethical treatment of depressed people.

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

128. Dr. Hernandez is studying the effect of a new treatment for depression. She is so excited about this treatment because she is sure it will help people. When she distributes the placebo pills, she is able to keep a neutral expression on her face. When she distributes the actual pills, she can't help but let a little smile curl her lips and she bounces up and down very slightly due to her expectations that the pill will really help these people. She is not aware she is doing anything different. As her student, you need to point this out to her to save the study from \_\_\_\_\_ bias.

- a) experimenter
- b) participant
- c) intentional
- d) accidental

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

129. Your assignment is to design a study to test the effectiveness of caffeine on performing rapid, precise movements. You want an A, so your design will \_\_\_\_\_

- a) be a quasi experiment.
- b) assign students alphabetically.
- c) be a double-blind study.



d) give all participants caffeine.

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.5.2: Describe the limitations of the experimental method

**Topic:** The Experimental Method

130. Cross-cultural research is very important to our understanding of human psychology. By its nature it can only be \_\_\_\_\_ research.

- a) descriptive
- b) experimental
- c) case study
- d) quasi-experimental

**Answer:** d

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.6.1: Explain how participants' characteristics can influence a study's usefulness

**Topic:** Research Participants

131. A type of bias in which study participants are not representative of the population to which results will be generalized is called \_\_\_\_\_ bias.

- a) participant-related bias
- b) participant
- c) generalizability bias
- d) nongeneralizability bias

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.6.1: Explain how participants' characteristics can influence a study's usefulness

**Topic:** Research Participants

132. A majority of human psychological research has been conducted with college student participants. This leads to results that \_\_\_\_\_

- a) can be readily generalized only to the population of the state where the college is located.
- b) should not be generalized.
- c) might be biased because college students are not representative of the general population.
- d) are worthless because college students don't take the research seriously.

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.6.1: Explain how participants' characteristics can influence a study's usefulness

**Topic:** Research Participants

133. A large study of heart disease that included white and African-American participants considered the age and gender of the participants but not their socioeconomic status. The conclusion drawn by the researchers was that being an African American male places you at greater risk for heart disease than being a white male. The problem with this conclusion is that \_\_\_\_\_

- a) no other races were included in the study.
- b) we can't tell if the variable is race or socioeconomic status.
- c) there were no African-American researchers on the team.
- d) we already knew African-Americans get more heart disease.

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.6.1: Explain how participants' characteristics can influence a study's usefulness

**Topic:** Research Participants

134. Angela failed to note that she could only find female participants for her research study.

This is an example of \_\_\_\_\_

- a) placebo effect.
- b) experimenter bias.
- c) gender bias.
- d) random selection.

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Easy

**Learning Objective:** 1.6.1: Explain how participants' characteristics can influence a study's usefulness

**Topic:** Research Participants

135. The American Psychological Association and other professional organizations require that researchers make every effort to ensure that participants are representative of the population to which the study's results will be generalized. This relates to \_\_\_\_\_

- a) sample selection.
- b) selection bias.
- c) random assignment.
- d) experimenter bias.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.6.1: Explain how participants' characteristics can influence a study's usefulness

**Topic:** Research Participants

136. An example of the result of gender bias is that \_\_\_\_\_

- a) females are considered inferior.
- b) results from all-male studies are generalized to everyone.
- c) results from all-female studies are generalized to men.
- d) most psychological studies have been done with females.

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.6.1: Explain how participants' characteristics can influence a study's usefulness

**Topic:** Research Participants

137. A participant-related bias known as ageism results in \_\_\_\_\_

- a) failing to perceive the diversity among older adults.
- b) excessive deference to older adults.
- c) a reluctance to ask older adults to participate in research.
- d) a tendency to describe all older adults in positive terms.

**Answer:** a

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.6.1: Explain how participants' characteristics can influence a study's usefulness

**Topic:** Research Participants

138. What safeguards are there for the welfare of human research participants?

- a) Professional organizations' codes of ethics; laws and institutional policies
- b) Only the individual researcher's ethics
- c) Only ethical codes from professional organizations
- d) Only the ability of participants to sue

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Topic:** Research Participants

139. Jess works for a corporation as a research psychologist. The corporation recently revised its policies to require that researchers not provide informed consent to participants. The American Psychological Association (APA) would \_\_\_\_\_

- a) understand that her employer's policies take precedence.
- b) expect her to abide by the APA code of ethics anyway.
- c) insist she quit her job and sue the company.
- d) have her arrested.

**Answer:** b

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Topic:** Research Participants

140. When a study is completed, researchers have \_\_\_\_\_

- a) no further responsibility to the participants.
- b) a responsibility to follow them for six months to be sure they are okay.
- c) a responsibility to debrief the participants.
- d) a responsibility to put them in touch with the other participants.

**Answer:** c

**Skill Level:** Apply

**Difficulty:** Easy

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Topic:** Research Participants

141. Which of the following is a common ethical guideline suggested by the American Psychological Association?

- a) Participants may not withdraw after they start a study.
- b) Participants must be allowed to make an informed decision to participate in a study.
- c) Participants cannot be subjected to electric shock.

d) Participants cannot be deceived about aspects of the research.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Item Analysis:** % correct 67 a = 3 b = 67 c = 14 d = 15 r = .26

**Topic:** Research Participants

142. Experimenters can justify the use of deception because \_\_\_\_\_

a) there is informed consent.

b) research is more important than people.

c) it may be necessary for the experiment to work.

d) it is not that harmful.

**Answer:** c

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Item Analysis:** % correct 67 a = 24 b = 0 c = 67 d = 8 r = .21

**Topic:** Research Participants

143. Research on animals \_\_\_\_\_

a) is not covered by laws or ethical codes.

b) must minimize any discomfort.

c) is banned by the American Psychological Association.

d) must euthanize (kill) all animals at the end of the research.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Topic:** Research Participants

144. Which of the following is part of the ethical guidelines for animal research?

a) Animals must be cared for by individuals trained in their care.

b) Animal discomfort should not interfere with research.

c) Only animals, not people, may be caused discomfort for research.

d) Research animals must be assigned a human advocate.

**Answer:** a

**Skill Level:** Understand

**Difficulty:** Moderate

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Topic:** Research Participants

145. The number of animals needed for research is \_\_\_\_\_

a) increasing.

b) decreasing.

c) stable.

d) unlimited.

**Answer:** b

**Skill Level:** Understand

**Difficulty:** Easy

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Topic:** Research Participants

146. Animal research is critically important for the study of variables that can't be \_\_\_\_\_ ethically in human subjects.

- a) controlled
- b) manipulated
- c) randomized
- d) bias-free

**Answer:** b

**Skill Level:** Analyze

**Difficulty:** Easy

**Learning Objective:** 1.6.2: Describe how researchers protect participants' and animals' rights

**Topic:** Research Participants

## Completion (Fill-in-the-Blank)

1. Psychology is more than just common sense because it utilizes the \_\_\_\_\_ to acquire knowledge.

**Answer:** scientific method

**Difficulty:** Moderate

**Skill Level:** Analyze

**Learning Objective:** 1.1.1: Explain why psychologists use the scientific method

**Topic:** An Introduction to the Science of Psychology

2 The goals of psychology are to \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ behavior and mental processes.

**Answer:** describe; predict; explain; influence

**Difficulty:** Easy

**Skill Level:** Understand

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

3. The school of thought that confines itself to study only what is observable, measurable, and objective is \_\_\_\_\_.

**Answer:** Behaviorism

**Difficulty:** Easy

**Skill Level:** Understand

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology

**Topic:** Psychology Then and Now

4. Described by Sigmund Freud, the \_\_\_\_\_ is the primary focus of the psychoanalytic theory.

**Answer:** unconscious

**Difficulty:** Easy

**Page Ref:** 10

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology

**Topic:** Psychology Then and Now

5. Some of the basic ideas underlying the humanistic school of thought are \_\_\_\_\_.

**Answer:** Any of the following: free will, choice, people are basically good, potential for personal growth, self-actualization.

**Difficulty:** Moderate

**Skill Level:** Understand

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

6. Two of the many mental processes studied by cognitive psychologists are \_\_\_\_\_ and \_\_\_\_\_.

**Answer:** Any of the following: memory, perception, language, thinking, reasoning, decision making.

**Difficulty:** Moderate

**Skill Level:** Understand

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

7. \_\_\_\_\_ is the school of thought that rests on Charles Darwin's theory of adaptation for survival.

**Answer:** Evolutionary psychology

**Difficulty:** Easy

**Skill Level:** Understand

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

8. The adaptation of human behavior over long periods of time for survival is the focus of the \_\_\_\_\_ school of thought.

**Answer:** evolutionary

**Difficulty:** Easy

**Skill Level:** Understand

**Learning Objective:** 1.2.2: Describe the seven major schools of thought in psychology

**Topic:** Psychology Then and Now

9. Veronica is a psychologist who has spent a majority of her career assessing the function of neurotransmitters and their effect on the development of depression. The school of thought that Veronica fits in best is \_\_\_\_\_.

**Answer:** biological (physiological) psychology, neuroscience would also be acceptable

**Difficulty:** Easy

**Skill Level:** Apply

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

10. When interpreting the behavior of others, Nabila stresses the importance of cultural factors and social influences. Clearly, Nabila is coming from the \_\_\_\_\_ approach to studying human behavior.

**Answer:** sociocultural

**Difficulty:** Easy

**Skill Level:** Analyze

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

11. A researcher studied Vietnamese individuals and examined how their multicultural background played a role in their survival of centuries of warfare. The researcher was approaching this study from the \_\_\_\_\_ school of thought.

**Answer:** sociocultural

**Difficulty:** Moderate

**Skill Level:** Apply

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

12. Two advantages to adhering to an eclectic position are advances in \_\_\_\_\_ and \_\_\_\_\_.

**Answer:** theories research, treatment

**Difficulty:** Moderate

**Skill Level:** Analyze

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

13. Observation of behavior that takes place in a setting designed for research activities, as opposed to a natural setting, is referred to as \_\_\_\_\_ observation.

**Answer:** laboratory

**Difficulty:** Easy

**Skill Level:** Understand

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

14. Vinny was born with a rare genetic disorder that affects his physical growth and subsequent development. Although quite rare, psychologists are very interested in studying Vinny's condition. The research method that would be the best fit with this scenario is \_\_\_\_\_.

**Answer:** the case study

**Difficulty:** Easy

**Skill Level:** Apply

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

15. Because they have no control over the situation, researchers conducting naturalistic observation cannot reach conclusions about \_\_\_\_\_ relationships.

**Answer:** cause-effect, or causal, or causality

**Difficulty:** Difficult

**Skill Level:** Analyze

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

16. Kenyon is interested in the views of at least 10,000 Americans on the topic of stem-cell research. The \_\_\_\_\_ may be the best research method for him to use in an effort to collect this information.

**Answer:** survey

**Difficulty:** Easy

**Skill Level:** Apply

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

17. When selecting people for survey research, a(n) \_\_\_\_\_ from all members of the population of interest will likely ensure that the group of people you survey accurately reflects that larger population.

**Answer:** random sample

**Difficulty:** Moderate

**Skill Level:** Analyze

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods

18. One problem with survey results is that respondents may try to present themselves in a good light. This is known as the \_\_\_\_\_ response.

**Answer:** social desirability

**Difficulty:** Moderate

**Skill Level:** Understand

**Learning Objective:** 1.4.2: Illustrate how researchers design useful surveys

**Topic:** Descriptive Research Methods



19. A correlation coefficient tells us two things about the relationship between variables. It tells us the \_\_\_\_\_ of the relationship and the \_\_\_\_\_ of the relationship.

**Answer:** strength; direction

**Difficulty:** Moderate

**Skill Level:** Understand

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

20. A correlation coefficient of .00 indicates \_\_\_\_\_ relationship between two variables.

**Answer:** no, or zero

**Difficulty:** Moderate

**Skill Level:** Analyze

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

21. Consider this observation: As calorie intake increased, body weight increased. Considering the direction of the relationship between calorie intake and body weight, we would say it is a \_\_\_\_\_ relationship.

**Answer:** positive

**Difficulty:** Moderate

**Skill Level:** Analyze

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

22. An experiment is designed to test a prediction about a cause-effect relationship between two or more variables. This prediction is called a \_\_\_\_\_.

**Answer:** hypothesis, or causal hypothesis

**Difficulty:** Difficult

**Skill Level:** Understand

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

23. The most important advantage to using the experimental method over descriptive research methods is that the experimental method allows us to identify \_\_\_\_\_ relationships.

**Answer:** cause-and-effect, or causal, or causality

**Difficulty:** Moderate

**Skill Level:** Analyze

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

24. The \_\_\_\_\_ variable is the variable that the experimenter manipulates, or changes, in the experimental method.

**Answer:** independent

**Difficulty:** Easy

**Skill Level:** Understand

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

25. Carlo created a new study technique. He got 60 students to test out his new technique. Half of them were taught the new technique, while the other half were not. All of the students were then given a psychology exam. Students who learned the technique were in the \_\_\_\_\_ group, whereas students who did not learn the technique were part of the \_\_\_\_\_ group.

**Answer:** experimental; control

**Difficulty:** Easy

**Skill Level:** Apply

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

## Essay Questions

1. Describe structuralism as a school of thought. What significant role did structuralism play in establishing the field of psychology?

**Answer:** The correct answer should include numbers 1 and 2 below and at least one of options 3–6.

1. Structuralists believed that basic elements combined to form the conscious mental experience.
2. In order to study these basic elements, Structuralists used introspection to gather data. Introspection is a technique where an individual looks within and then reports his/her experiences. Unfortunately, introspection was found not to be very reliable and therefore the school of thought fell out of favor.
3. Wilhelm Wundt and his student, Edward Titchener, are the names that go along with the founding of this school of thought.
4. Structuralism was the first formal school of thought in psychology.
5. Though it did not remain popular for long, structuralism was significant because it helped to establish psychology as a science and/or for its heuristic value.
6. Titchener and Wundt argued that psychological processes could, indeed, be measured and studied just as other scientific phenomena were measured and studied.

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.2.1: Recall the early psychologists' contributions to the field of psychology

**Topic:** Psychology Then and Now

2. How might the development of depression be explained from the different viewpoints of the behavioral, psychoanalytic and biological perspectives in psychology?

**Answer:** The behaviorist would see depression as a behavior or group of behaviors and focus on the role of the environment. A behaviorist would want to know what was happening in the environment prior to the onset of the behaviors and how the environment responds to the depressed behaviors. They would see the environment as shaping and controlling the behaviors.

The psychoanalytic perspective would suggest that somewhere deep within the unconscious lies the root of the depression. Maybe the person did not receive good enough care from his/her caretakers when she or he was a young child or, worse, maybe some type of trauma was experienced at a young age. The depressed person is not aware of potential causes of the depression.

The biological perspective would examine the role of biological processes and structures, as well as heredity in the development of depression. From the biological perspective, the information of interest would be whether the brain was structurally different or damaged and whether it was functioning normally. For example, there might be an imbalance of neurotransmitters. In addition, information about whether any relative also has had depression would be of interest in determining the individual's risk for developing depression.

**Skill Level:** Analyze

**Difficulty:** Difficult

**Learning Objective:** 1.2.3: Identify the seven contemporary psychological perspectives

**Topic:** Psychology Then and Now

3. Imagine you have to design a descriptive study of the interactions between mothers and two-year-old children. What type of study design would you choose and why? The results are to be generalized to the ethnically diverse population of your city. How would you want to choose your sample? What would the limitations or problems of using that design be?

**Answer:** The answer should be naturalistic observation. The sample should be representative, including members of the ethnic groups of interest. The sample should be chosen randomly. Limitations should include the inability to determine causal relationships and at least one of the following:

1. You can't speed up or slow down the process.
2. You have no control over the variables present.

Naturalistic observation may contain observer bias.

**Skill Level:** Analyze

**Difficulty:** Difficult

**Learning Objective:** 1.4.1: Compare the pros and cons of observational and case studies

**Topic:** Descriptive Research Methods

4. Describe four reasons correlational studies are valuable, even though they can't determine cause and effect.

**Answer:** The student's answer should include the following:

1. Their usefulness in making predictions.
2. That some questions can't be studied with the experimental method for ethical reasons.
3. Some variables are impossible to manipulate so that we can have an independent variable. The text uses the example that we can't randomly assign subjects to be male or female.
4. Correlational studies can often be done fairly quickly.

**Skill Level:** Analyze

**Difficulty:** Moderate

**Learning Objective:** 1.4.3: Contrast the strengths and weaknesses of the correlational method

**Topic:** Descriptive Research Methods

5. Imagine you work for a drug company that just created a medication to decrease anxiety in adults. Design an experiment using the research method that would allow you to best determine if the pill is effective for reducing anxiety in the population of interest.

**Answer:** The design should be experimental. The answer should include the following:

1. The use of random selection of the sample of participants.
2. The random assignment of participants to either a control (placebo) or experimental (medication) group.

3. The design should be double blind in order to prevent an experimenter bias effect or placebo effect.
4. Anxiety should have an operational definition; the student should state how it will be measured.
5. Independent and dependent variables should be identified.
6. There should be an indication that the student understands the importance of keeping variables other than the independent variable equal across groups.

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.5.1: Explain how researchers use experiments to test causal hypotheses

**Topic:** The Experimental Method

## Critical Thinking Questions

1. Joanne is struggling to make a decision about her health care. She can't decide whether to get screened for cancer with a mammogram. She has read in some popular magazines that there are risks related to getting mammograms, things like false positives and X-ray exposure. Her friend told her about someone she knew who had a needle biopsy because the mammogram showed a tumor and there was no cancer, but she got a bad infection from the biopsy. Joanne doesn't know anyone who has been saved by getting a mammogram. She is leaning strongly toward not getting any mammograms. What type and quality of evidence does Joanne have so far? How would you advise she gather and evaluate information? What should she do to think critically about the information, and make her decision?

**Answer:** A correct answer should demonstrate awareness of at least four out of the following points.

1. The lack of an authoritative, scientific source.
2. The nature of anecdotal information.
3. The absence of any evidence about a cause-and-effect relationship between mammograms and the risks she has heard about.
4. The extremely small sample represented by her personal experience.
5. A recognition of authoritative, scientific sources and how information might be obtained from them.
6. The need to think independently, gather information on all sides of the issue, and the willingness to change her thinking based on new and better evidence.

**Skill Level:** Apply

**Difficulty:** Moderate

**Learning Objective:** 1.3.2: Describe how critical thinking helps you evaluate research

**Topic:** Thinking about Theories and Research

2. There is great concern about the mysterious phenomenon called "sudden mental collapse," in which groups of students begin skipping school and refusing to come out of their rooms or interact with anyone. Discuss what the initial steps would be in applying the scientific method to this problem. Discuss what type or types of research would be useful in trying to solve this mystery, and how they would help. If you were supervising the research and researchers, what might you caution them to be careful about so that they don't damage the usefulness of any results?

**Answer:** A correct answer should demonstrate the following knowledge and understanding.

1. The initial steps start with making observations. Next a theory based on the observations is formed. Then a testable hypothesis is developed, a study designed, and last data is collected and analyzed.
2. When discussing types of research, the answer should demonstrate an awareness of the impracticality and ethical issues an experimental design would afford. This may be stated directly, or implied because the method is not chosen.
3. A case may be made for most types of descriptive research, questionnaires or interviews, naturalistic observation, case studies, and correlational research. Questionnaires or interviews and naturalistic observation would help identify possible factors involved, case studies might help formulate new hypotheses, correlational

research could tell us the strength of the relationship between “sudden mental collapse” and factors of interest.

4. Any type of bias or potential error such as a lack of an operational definition or training for observers, overgeneralizing from a case study, sampling errors, researcher bias, the social desirability response, poor selection of interviewers, third factors, directionality errors, and mistaking correlation for causation are examples covered in the text.

**Skill Level:** Apply

**Difficulty:** Difficult

**Learning Objective:** 1.1.2: List the goals of psychology

**Topic:** An Introduction to the Science of Psychology

# 1 Introduction to Psychology

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| <b>1.4: Descriptive Research Methods</b><br>Observational and Case Studies<br>Survey Research<br>The Correlational Method   | <b>Learning Objectives:</b> 1.4.1, 1.4.2, 1.4.3<br><b>Lecture Launchers:</b> 1.9, 1.10, 1.11<br><b>Activities &amp; Exercises:</b> 1.12, 1.13, 1.14<br><b>Handout:</b> 1.5                  | <b>Video:</b> How to Answer Psychological Questions  |
| <b>1.5: The Experimental Method</b><br>Experiments and Hypothesis Testing<br>Limitations of the Experimental Method   | <b>Learning Objectives:</b> 1.5.1, 1.5.2<br><b>Lecture Launchers:</b> 1.12, 1.13, 1.14, 1.15<br><b>Activities &amp; Exercises:</b> 1.15, 1.16, 1.17, 1.18<br><b>Handout:</b> 1.6            | <b>Video:</b> Scientific Methods<br><b>Writing Assignment 1.2</b>                          |
| <b>1.6: Research Participants</b><br>Participant-Related Bias in Psychological Research<br>Protecting Human Participants' and Animals' Rights                                   | <b>Learning Objectives:</b> 1.6.1, 1.6.2<br><b>Lecture Launchers:</b> 1.16, 1.17<br><b>Activities &amp; Exercises:</b> 1.19<br><b>Handout:</b> 1.7  | <b>Video:</b> Ethics and Psychological Research  |

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## LEARNING OBJECTIVES

### 1.1 An Introduction to the Science of Psychology

- 1.1.1: Explain why psychologists use the scientific method
- 1.1.2: List the goals of psychology

### 1.2 Psychology Then and Now

- 1.2.1: Recall the early psychologists' contributions to the field of psychology
- 1.2.2: Describe the seven major schools of thought in psychology
- 1.2.3: Identify the seven contemporary psychological perspectives
- 1.2.4: List the specialty areas that exist in psychology

### 1.3 Thinking about Theories and Research

- 1.3.1: Demonstrate how psychologists evaluate theories
- 1.3.2: Describe how critical thinking helps you evaluate research

### 1.4 Descriptive Research Methods

- 1.4.1: Compare the pros and cons of observational and case studies
- 1.4.2: Illustrate how researchers design useful surveys
- 1.4.3: Contrast the strengths and weaknesses of the correlational method

### 1.5 The Experimental Method

- 1.5.1: Explain how researchers use experiments to test causal hypotheses
- 1.5.2: Describe the limitations of the experimental method

### 1.6 Research Participants

- 1.6.1: Explain how participants' characteristics can influence a study's usefulness
- 1.6.2: Describe how researchers protect participants' and animals' rights

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## SUMMARIZE IT

### The Goals of Psychology

| GOAL        | DEFINITION   | EXAMPLE  |
|-------------|--|--|
| Description | Describe behavior or mental process as accurately as possible.   | Calculate average video game scores for males and females.   |
| Explanation | Suggest causes for behavior or mental processes of interest.   | Propose that males score higher on video games because they practice more than females do.                                 |
| Prediction  | Specify conditions under which behavior or mental process is likely to occur.  | Hypothesize that males and females will obtain equivalent video game scores if they practice the same amount of time.      |
| Influence   | Apply the results of a study to change a condition to bring about a desired real-world outcome or prevent an undesired real-world outcome. | Use the results of video game practice studies to develop games that can enhance females' achievement in math and science. |

### Contemporary Perspectives in Psychology

| PERSPECTIVE    | EMPHASIS   | EXPLANATION OF A STUDENT'S POOR PERFORMANCE ON EXAMS  |
|----------------|--|---|
| Behavioral     | The role of environment in shaping and controlling behavior  | The student has not been reinforced for getting good grades in the past.  |
| Psychoanalytic | The role of unconscious motivation and early childhood experiences in determining behavior and thought | An unresolved early childhood emotional trauma is distracting the student from his academic work.   |
| Humanistic     | The importance of an individual's subjective experience as a key to understanding his or her behavior  | Studying for exams does not fit into this student's definition of a meaningful life.  |
| Cognitive      | The role of mental processes—perception, thinking, and memory—that underlie behavior                   | The student does not use effective learning strategies.   |
| Evolutionary   | The roles of inherited tendencies that have proven adaptive in humans                                  | The student believes that studying is unimportant because potential mates are more interested in his physical appearance and capacity for social dominance than they are in his grades. |
| Biological     | The role of biological processes and structures, as well as heredity, in explaining behavior           | An inappropriate level of emotional arousal (i.e., test anxiety) is preventing this student from performing at an optimal level.  |
| Sociocultural  | The roles of social and cultural influences on behavior  | The student doesn't want to be perceived as a "nerd," so he studies just enough to avoid failing.   |

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## Research Methods in Psychology

| Method                                  | Description   | Advantages   | Limitations   |
|---|---|--|---|
| Naturalistic and laboratory observation | Observation and recording of behavior in its natural setting or in a laboratory.  | Behavior studied in everyday setting is more natural. A laboratory setting allows for precise measurement of variables. Can provide basis for hypotheses to be tested later. | Researcher's expectations can distort observations (observer bias). In a natural setting the researcher has little or no control over conditions. Laboratory observations may not generalize to real-world settings, and they can be expensive. |
| Case study                              | In-depth study of one or a few individuals using observation, interview, and/or psychological testing.  | Source of information for rare or unusual conditions or events. Can provide basis for hypotheses to be tested later.   | May not be generalizable. Does not establish cause of behavior. Subject to misinterpretation by the researcher.   |
| Survey                                  | Interviews and/or questionnaires used to gather information about attitudes, beliefs, experiences, or behaviors of a group of people.             | Can provide accurate information about large numbers of people. Can track changes in attitudes and behavior over time.   | Responses may be inaccurate. Sample may not be representative. Characteristics of the interviewer may influence responses. Can be costly and time consuming.  |
| Correlational method                    | Method used to determine the relationship (correlation) between two events, characteristics, or behaviors.  | Can assess strength of the relationship between variables and can often be done quickly. Provides basis for prediction.  | Does not demonstrate cause and effect.  |
| Experimental method                     | Random assignment of participants to groups. Manipulation of the independent variable(s) and measurement of the effect on the dependent variable. | Enables identification of cause–effect relationships.  | Laboratory setting may inhibit natural behavior of participants. Findings may not be generalizable to the real world. In some cases, experiment is unethical or impossible.   |

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## LECTURE GUIDE

### 1.1: AN INTRODUCTION TO THE SCIENCE OF PSYCHOLOGY

- Lecture Launcher 1.1- [Psychology and Common Sense](#)
- Activity 1.1—[Misconceptions about Psychology](#)
- Activity 1.2—[Are Psychologists Scientists?](#)
- Activity 1.3—[Psychology's Goals Applied to Matchmaking](#)
- Video—[Danger of False Beliefs](#)
- Simulation—[The Scientific Method](#)

#### Is Psychology a Science?

*Learning Objective 1.1.1: Explain why psychologists use the scientific method*

- **Psychology** is the scientific study of behavior and mental processes.
- The **scientific method** consists of the orderly, systematic procedures researchers follow.
- The steps of the scientific method are (1) observe and formulate a **theory**, (2) formulate a **hypothesis**, (3) design a study, (4) collect data, and (5) apply the data to the hypothesis.
- The scientific method also involves **replication** or the repetition of studies that appear to support a given theory.
- Psychological findings can be applied to helpful tips for studying, such as overlearning, scheduling study time, testing and retesting, and so on.

#### The Goals of Psychology

*Learning Objective 1.1.2: List the goals of psychology*

- The four goals of psychology are the description, explanation, prediction, and influence/control of behavior and mental processes.
- To *describe* means simply to tell what happened.
- *Explanation* involves telling why something happened.
- When explanations lead to hypotheses, the *prediction* goal has been met.
- Research that is applied to some problem achieves the *influence* goal.
- **Basic research** is research that produces new knowledge.
- **Applied research** studies help determine how theories and research findings can be used to solve practical problems.

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### 1.2: PSYCHOLOGY THEN AND NOW

- Lecture Launcher 1.2—[Biographical Profiles](#)
- Lecture Launcher 1.3—[African Americans and Psychology](#)
- Lecture Launcher 1.4—[Women in the History of Psychology in America](#)
- Lecture Launcher 1.5—[Clinical, Psychiatric, and Other Types of Psychological Training](#)
- Lecture Launcher 1.6—[Careers in Psychology](#)
- Activity 1.4—[Schools of Thought](#)
- Activity 1.5—[A Jigsaw Approach to Learning the Early History of Psychology](#)
- Activity 1.6—[Promoting Cultural Awareness](#)
- Activity 1.7—[Thinking about Your Interests in Psychology](#)
- Activity 1.8—[Perspectives in Psychology](#)

- Video—[Multiple Perspectives in Psychology](#)
- Writing Assignment—[Schools of Thought in Psychology](#)

## Exploring Psychology's Roots

*Learning Objective 1.2.1: Recall the early psychologists' contributions to the field of psychology*

- Wilhelm Wundt and his student Edward Titchener are associated with the early school of thought known as **structuralism**, the view that the purpose of psychology is to identify the basic elements of conscious mental experience.
- The first American psychologist was William James. He was also the founder of **functionalism**, the view that behavior and mental processes must be studied as wholes. Functionalism is also concerned with how behavior and mental processes are used to adapt to the environment. James's *Principles of Psychology* was the first psychology textbook.
- Christine Ladd-Franklin (1847–1930), the originator of an important theory of color vision, had to wait 40 years to be awarded the PhD in psychology from Johns Hopkins University that she had earned in 1886.
- Harvard University refused to award a doctoral degree to Mary Whiton Calkins (1863–1930), a student of William James, because she was a woman. Nevertheless, she established a psychology laboratory at Wellesley College, an all-female institution, and became the first female president of the American Psychological Association (APA) in 1905.
- The first African American PhD in psychology was Francis Cecil Sumner (1895–1954), who went on to chair the psychology program at historically black Howard University.
- Another African American psychologist, Albert Sidney Beckham (1897–1964), studied intelligence and established the psychology laboratory at Howard University.
- Psychologist Kenneth Clark (1914–2005) and his wife Mamie Clark (1917–1983) were known for the work on African American children's self-esteem that was cited in the landmark case of *Brown v. Board of Education*.
- One Hispanic American pioneer in the field was George Sanchez (1906–1972), who studied cultural bias in testing.
- More women than men receive degrees in psychology today, and minority representation is growing.

## Schools of Thought in Psychology

*Learning Objective 1.2.2: Describe the seven major schools of thought in psychology*

- **Behaviorism**, the school of psychology founded by John B. Watson, views observable, measurable behavior as the only appropriate subject matter for psychology. Behaviorism emphasizes the environment as the key determinant of behavior.
- According to Freud's theory of **psychoanalysis**, an individual's thoughts, feelings, and behavior are determined primarily by the unconscious—the part of the mind that one cannot see and cannot control.
- The tension created by conflicts between these unconscious processes and the demands of society is the driving force behind individual development, according to psychoanalysis.
- The **humanistic psychology** of Maslow and Rogers focuses on the uniqueness of human beings and their capacity for choice, growth, and psychological health. In more recent times, **positive psychology** has adopted many of the viewpoints espoused by the humanists.
- **Cognitive psychology** is a specialty that focuses on mental processes such as memory, problem solving, concept formation, reasoning and decision making, language, and perception.
- Gestalt psychology, a forerunner of the cognitive school, emphasizes that the mind interprets information in terms of patterns rather than as individual bits of information.
- Information-processing theory uses the computer as an analogy for human information processing. Cognitive psychology is recognized as the most prominent school of thought in psychology today.

- **Evolutionary psychology** focuses on how humans have adapted the behaviors necessary for survival in the face of environmental pressures over the course of evolution. This perspective looks at *universal* inherited human tendencies and dispositions.
- **Biological psychology** looks for specific connection between biological variables, such as hormone levels, and psychological variables, such as aggression. Using modern technology, biological psychologists have discovered relationships between physiological and psychological variables that have caused others in the field to rethink their views on the importance of learning and emotional experience to behavior and mental processes. Biological psychologists often focus on biological explanations for *individual differences*, whereas evolutionary psychologists emphasize *universals*.
- Neuroscience draws from a variety of disciplines to create models that explain the physiological underpinnings of behaviors and mental processes.
- The **sociocultural approach** focuses on how social and cultural factors such as socioeconomic class, educational level, ethnicity, religion, and occupation affect people's behavior. *Systems theories* attempt to integrate sociocultural variables with individual ones to produce comprehensive explanations of behavior.

## Contemporary Psychological Perspectives

*Learning Objective 1.2.3: Identify the seven contemporary psychological perspectives*

- **Psychological perspectives** are general points of view that are not rigidly tied to specific aspects of the various schools of thought.
- The seven contemporary perspectives are behavioral, psychoanalytic, humanistic, cognitive, evolutionary, biological, and sociocultural.
- Psychologists often take an *eclectic position*, the practice of choosing the appropriate perspective for each issue, problem, or research question rather than adopting one general point of view and trying to apply to every aspect of behavior and mental experience.

## Specialties in Psychology

*Learning Objective 1.2.4: List the specialty areas that exist in psychology*

- Professional psychologists have advanced degrees in the field.
- *Clinical psychologists* focus on diagnosing and treating psychological disorders.
- *School psychologists* are clinical psychologists who specialize in the diagnosis and treatment of learning and behavioral problems that interfere with learning.
- *Forensic psychologists* apply their training in clinical psychology to issues involving psychology and law.
- *Counseling psychologists* help clients deal with common life problems.
- Research is the primary focus of *physiological psychologists*, *experimental psychologists*, *social psychologists*, and *developmental psychologists*.
- *Educational psychologists* focus on the integration of psychological principles with the practical aspects of educating students.
- Some *industrial/organizational (I/O) psychologists* study how people function in organizations, while others work for organizations. I/O psychologists in the field conduct personnel testing, design training programs, and help employers evaluate their human resources practices.

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## 1.3: THINKING ABOUT THEORIES AND RESEARCH

- Lecture Launcher 1.7—[The Characteristics of Good Reasoners](#)
- Lecture Launcher 1.8—[Damned Lies, Damned Statisticians](#)
- Activity 1.9—[Contradictory Beliefs](#)
- Activity 1.10—[Wonder Horse Dials 911 to Save Boy's Life](#)

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- Activity 1.11—[Softens Hands While You Do Dishes](#)

- Video—[Critical Thinking](#)
- Simulation—[Correlation Does Not Prove Causation](#)

## Evaluating Theories

*Learning Objective 1.3.1: Demonstrate how psychologists evaluate theories*

- Psychologists evaluate theories in terms of their usefulness.
- Useful theories explain observations and generate testable hypotheses.
- Useful theories also lead to solutions to practical problems.
- Theories possessing *heuristic value* are useful for stimulating debate and research.

## Evaluating Research

*Learning Objective 1.3.2: Describe how critical thinking helps you evaluate research*

- **Critical thinking** requires independent thought, the ability to suspend judgment, and a willingness to change prior beliefs.
- Critical thinkers use knowledge of research methods to evaluate research findings reported in the news media.

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## 1.4: DESCRIPTIVE RESEARCH METHODS

- Lecture Launcher 1.9—[Case Studies of Vietnam War Experiences](#)
- Lecture Launcher 1.10—[The Disadvantages of Survey Research](#)
- Lecture Launcher 1.11—[Correlations and Causal Relationships](#)
- Activity 1.12—[Observational Research in the Dining Hall](#)
- Activity 1.13—[Understanding Correlations](#)
- Activity 1.14—[Which Descriptive Method Would You Use?](#)
- Video—[How to Answer Psychological Questions](#)

### Observational and Case Studies

*Learning Objective 1.4.1: Compare the pros and cons of observational and case studies*

- **Descriptive research methods** yield descriptions of behavior and mental processes on which theories are based.
- In **naturalistic observation**, researchers observe and record the behavior of human participants or animal subjects in a natural setting without attempting to influence or control it. Limitations include the researcher's lack of control over the observed situation and the potential for observer bias.
- In **laboratory observation**, researchers exert more control.
- The **case study** is an in-depth study of one or several individuals through observation, interview, and sometimes psychological testing.
- Case studies are particularly appropriate for studying people with rare psychological or physiological disorders, but they lack generalizability.

### 1.11 Survey Research

*Learning Objective 1.4.2: Illustrate how researchers design useful surveys*



- In **survey** research, investigators use interviews and/or questionnaires to gather information about the attitudes, beliefs, experiences, or behaviors of a group of people.
- To be useful, surveys must involve a **sample** that is a **representative sample** of the **population** to which the results will be applied.
- Surveys can provide a large quantity of information in a short period of time, but participants sometimes do not respond honestly.
- The framing of survey questions and the characteristics of interviewers can influence survey responses.

## 1.12 The Correlational Method

*Learning Objective 1.4.3: Contrast the strengths and weaknesses of the correlational method*

- The **correlational method** involves finding relationships between variables.
- A **correlation coefficient** is a numerical value that indicates the strength and direction of the relationship between two variables.
- Positive correlations result when two variables move in the same direction. When two variables move in opposite directions, the correlation coefficient is negative.
- The closer a correlation is to +1 or -1, the stronger the relationship.
- When the correlation between two variables is known, information about one variable can be used to predict the other.
- Correlations cannot be used to support the conclusion that either variable causes the other.

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## 1.5: THE EXPERIMENTAL METHOD

- Lecture Launcher 1.12—[The Experimental Method in Everyday Life](#)
- Lecture Launcher 1.13—[Experimental and Control Groups](#)
- Lecture Launcher 1.14—[The Placebo Effect](#)
- Lecture Launcher 1.15—[Applied Experimental Psychology in the Real World](#)
- Activity 1.15—[Correlational and Experimental Research](#)
- Activity 1.16—[Using Memory to Demonstrate Experimental Methodology](#)
- Activity 1.17—[Testing Random Assignment](#)
- Activity 1.18—[Give the Doctor Some Advice](#)
- Video—[Scientific Methods](#)
- Writing Assignment—[Designing an Experiment](#)

## Experiments and Hypothesis Testing

*Learning Objective 1.5.1: Explain how researchers use experiments to test causal hypotheses*

- The **experimental method** is the only method that can be used to definitively test **causal hypotheses** about cause–effect relationship.
- A **variable** is any condition or factor that can be manipulated, controlled, or measured.
- In an experiment, an **independent variable** is a condition or factor manipulated by the researcher to determine its effect on the dependent variable.
- The **dependent variable**, measured at the end of the experiment, is presumed to vary as a result of the manipulations of the independent variable.
- The **experimental group** is exposed to the independent variable.
- The **control group** is similar to the experimental group and is exposed to the same experimental environment but is not exposed to the independent variable.
- Comparing experimental and control groups allows researchers to judge the effects of an independent variable against outcomes that occur naturally.

## Limitations of the Experimental Method

*Learning Objective 1.5.2: Describe the limitations of the experimental method*

- The presence of **confounding variables** threatens the validity of an experiment. A confounding variable is one that can cause differences across groups but was not manipulated by the experimenter.
- **Selection bias** occurs when there are systematic differences among the groups before the experiment begins. **Random assignment** controls for selection bias.
- The **placebo effect** occurs when a person's expectations influence the outcome of a treatment or experiment. The use of **placebos**, or pseudo-treatments, controls for the placebo effect.
- **Experimenter bias** occurs when the researcher's expectations affect the outcome of the experiment. The **double-blind technique**, in which neither participants nor the experimenter knows who is in the experimental and control groups, controls for experimenter bias.
- Experiments often involve "unnatural" behaviors and settings, factors that limit the generalizability of results.
- Some variables (e.g., gender) cannot be manipulated and cannot be studied experimentally. **Quasi-experiments** may be useful for gathering information in this context.
- Psychologists increasingly appreciate the value of **cross-cultural research** to identify when behavior and mental processes are similar across diverse groups and when they are different.

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## 1.6: RESEARCH PARTICIPANTS

- Lecture Launcher 1.16—[An Historical Perspective on Research Ethics](#)
- Lecture Launcher 1.17—[Animals in Psychological Research](#)
- Activity 1.19—[Animal Rights Committee](#)
- Video—[Ethics and Psychological Research](#)

### Participant-Related Bias in Psychological Research

*Learning Objective 1.6.1: Explain how participants' characteristics can influence a study's usefulness*

- **Participant-related bias** happens when researchers fail to include underrepresented groups in their samples or when the research findings are generalized to groups not represented in researchers' samples.

### Protecting Human Participants' and Animals' Rights

*Learning Objective 1.6.2: Describe how researchers protect participants' and animals' rights*

- Participation must be strictly voluntary.
- Participants must give informed consent and are free to withdraw from the study at any time.
- When a researcher uses deception, participants must be debriefed as soon as possible after they participate.
- Animals provide a simpler model for studying similar processes in humans because researchers can exercise more control over animals and use a wider range of medical and other manipulations.
- It is easier to study the entire life span and even several generations in some species, and animals are readily available and more economical to study.
- Ethical guidelines require researchers to avoid exposing research animals to unnecessary suffering.

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## CHAPTER SUMMARY

Student Review Resources

- [Crossword Puzzle](#)
- [Fill-in-the-Blank Key Terms Exercise](#)
- [Key Terms Bank \(Optional\)](#)

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## INSTRUCTIONAL RESOURCES

### ▼ LECTURE LAUNCHERS AND DISCUSSION TOPICS

- 1.1—[Psychology and Common Sense](#)
- 1.2—[Biographical Profiles](#)
- 1.3—[African Americans and Psychology](#)
- 1.4—[Women in the History of Psychology in America](#)
- 1.5—[Clinical, Psychiatric, and Other Types of Psychological Training](#)
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- 1.14—[The Placebo Effect](#)
- 1.15—[Applied Experimental Psychology in the Real World](#)
- 1.16—[An Historical Perspective on Research Ethics](#)
- 1.17—[Animals in Psychological Research](#)

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### Lecture/Discussion 1.1: Psychology and Common Sense

A common refrain voiced by laypeople and some scientists is that most, if not all, of behavioral science “is just common sense.” Introductory psychology students are particularly apt to make this claim, given that much of their prior exposure to psychology is likely to have been very commonsensical (though perhaps not well established) claims by a variety of “professionals” on the talk-show circuit. In a nutshell, it’s difficult to counter the “commonsense” stigma when so much of behavior seems to be explainable at an intuitive surface level.

Mark Leary shares some suggestions for discussing this issue with your students. It is true that the subject matter of psychology is much more familiar to most people than is the subject matter of subatomic physics or gastroendocrinological biology; we see behavior all around us but rarely stumble over a gluon. Psychology would be an odd science of thought and behavior if it only considered thoughts and behaviors completely foreign to people’s experiences or if its findings always ran counter to most people’s beliefs. But neither greater visibility of subject matter nor popular consensus guarantees greater understanding. Many people believed wholeheartedly in flat Earths and cheese moons, only to find their commonsense views dismantled in the face of scientific evidence. So too with psychology. Although most people would like to believe that large rewards produce greater liking for a boring task, that the behavior of men and women is determined by their biology, or that absence makes the heart grow fonder, researchers studying cognitive dissonance, sex-role stereotypes, and close relationships would be happy to share their findings to the contrary. In short, the popularity of a commonsense belief may not always support the weight of scientific evidence.

More importantly, psychologists (like all scientists) are primarily engaged in the task of explaining behavior, rather than merely cataloging it. The difference between theory and description—“why” versus “what”—echoes the difference between science and common sense. Common sense certainly helps describe *what* takes place in behavior but doesn’t compel us to understand *why* it takes place. The development of theory in understanding behavior sets science apart from everyday commonsense accounts.

Leary, M. (2011). *Behavioral research methods* (6<sup>th</sup> ed.). New York: Allyn and Bacon.

- [Return to Lecture Guide: An Introduction to \*Mastering the World of Psychology\*](#)  
 ◀ [Return to complete list of Lecture Launchers and Discussion Topics for Chapter 1](#)  
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## Lecture/Discussion 1.2: Biographical Profiles

Sergeant Joe Friday famously intoned, “Just the facts, ma’am.” If you’d like to share some fast facts about some pioneers in psychology, the snippets below may be of interest to you.

### ***Wilhelm Wundt (1832–1920)***

Born in Neckarau, Germany, Wilhelm Wundt was the fourth child of a Lutheran minister. Despite coming from a family that boasted numerous scholars, scientists, and physicians, Wundt initially was not a good student. After he dropped out of one high school, a teacher suggested that a reasonable goal for Wundt would be a career in the postal service. Wundt’s scholastic abilities improved, however, and in 1855 he graduated at the top of his class in medical school. Wundt then went to Berlin to study physiology with Johannes Müller, and he subsequently decided to become an experimental physiologist himself. Wundt then returned to the University of Heidelberg, where he worked as an assistant for Herman von Helmholtz. It was at Heidelberg that Wundt taught his first course in psychology. The year was 1862. In 1879, at the University of Leipzig, where he held a chair in philosophy, Wundt established the Institute for Experimental Psychology, the first laboratory whose formal purpose was the scientific investigation of the human mind. Wundt is one of the most prolific contributors to the field of psychology ever. It is estimated that between the years of 1853 and 1920, Wundt wrote 53,735 pages of text. Wundt was not only a voracious writer; he was also responsible for training numerous researchers, some of whom, such as Edward Titchener, brought versions of Wundt’s psychology to America.

### ***Edward Titchener (1867–1927)***

Edward Titchener, an Englishman and a student of Wilhelm Wundt, taught at Cornell University during the late 19th and early 20th centuries. Titchener is best known as the major proponent of structuralism, which focused on investigating the structure of conscious experience.

### ***Sigmund Freud (1856–1939)***

Sigmund Freud was born in Pribor, Czechoslovakia, in 1856. Although Freud was a gifted student, it took him eight years to finish his medical degree at the University of Vienna, partly because he was interested in so many topics. Freud first pursued a career as a neurologist, but financial concerns forced him into general medical practice. In cooperation with his friend Joseph Breuer, Freud began to treat hysterical women. This is unusual, because at the time there was no known cure for hysteria, which is now known as a conversion disorder. Through trial and error and feedback from his clients, Breuer and Freud developed the technique known as psychoanalysis. Its fundamental rule is honesty; clients must relay all thoughts and feelings uncensored to the analyst. Clients then follow their stream of thought wherever it may lead, a process known as free association. In the course of free association, clients often uncover traumatic events in the past and, upon reliving these events, often experience relief from their symptoms. Freud’s first major work, *The Interpretation of Dreams* (1900), detailed the process of dream interpretation, which he felt was the “royal road to the unconscious.” Although it took six years to sell the first 600 copies printed, this work was reprinted eight times during Freud’s lifetime. Although the technique of psychoanalysis is perhaps Freud’s most important legacy, he made many other substantial contributions to psychology. These include the recognition of the importance of sexuality and unconscious processes, a fully developed system of personality, and an appreciation for the conflict between individual desires and the constraints of society.

### ***William James (1842–1910)***

William James, often considered the father of American psychology, was born in New York City but spent much of his childhood traveling between the United States and Europe, where he attended several private schools. James’s interest in such varied fields as philosophy, religion, and science were cultivated at home in an enriched environment shared with his brother Henry James, the famous author. William James struggled to find a vocation that suited his various interests, trying his hand at art, chemistry, and finally, medicine. He received his MD from Harvard in 1868.

In 1872, James began teaching physiology at Harvard but was preoccupied by his ongoing and deep interest in such philosophical issues as free will and determinism. Though James considered himself a temporary dabbler in the discipline of psychology, his two-volume textbook, *Principles of Psychology* (1890), stood as the field's definitive textbook through the first half of this century. It is still considered one of the best-written texts on psychology and a source of many original ideas. James's contributions to psychology include the notion of a stream of consciousness, the importance of habit and instinct, and a complex theory of the self, theory of emotion, and opening the boundaries of psychology to include topics such as religious beliefs.

### **John Broadus Watson (1878–1958)**

Watson is best known for his insistence that as a true science, psychology's research methods must be objective and its subject matter observable. Often called "the founder of behaviorism," Watson is one of the most dynamic, if enigmatic, figures in the history of American psychology. Born in 1878 in Greenville, South Carolina, Watson had a fairly unremarkable childhood, displaying neither the drive nor the vivid imagination that characterized him in his adult life. His enthusiasm for research and academic accomplishment first developed when he became involved in research work at the University of Chicago. Throughout his career at the university, he studied physiology of behavior in laboratory animals, and the patterns he observed later became the basis for his behavioristic theories.

In 1908, he left the University of Chicago to join the faculty at Johns Hopkins University where he entered the limelight of academia with the publication of an article in which he clearly stated the behaviorist point of view. A manifesto of sorts, the paper argued that psychology must become an objective science, an experimental branch of the natural sciences whose goal would be to predict and control behavior. Watson was disenchanted with the introspective methods characterizing psychology at the time and advocated a purely objective and experimental means of studying behavior.

In 1914, Watson published a very important book, *Behavior: An Introduction to Comparative Psychology*, in which he advocated the study of animal behavior without resorting to "mentalistic concepts." This was the impetus behind the widespread study of rats and other animals for the purpose of developing behavior models in American psychology.

Watson's ideas leapt to prominence in a few short years. Because his redefinition of the discipline of psychology seemed to presage the course that modern psychology would take, he was elected president of the APA in 1915. In his presidential address, he linked Pavlovian theories of conditioning to his own behaviorist concepts.

The indefatigable Watson, meanwhile, had launched experiments in which he applied behavioristic concepts to child rearing. The "Little Albert" experiment, in which he conditioned fear in an infant, is probably his most famous work. His book, *Psychological Care of the Infant and Child*, was the product of his research, and its enthusiastic reception made him a sought-after expert on child care.

The whole range of human behavior fascinated Watson, and as early as 1917, he had begun studies into human sexual response. He observed sexual behavior in laboratory animals but wanted to explore the more complex changes that occurred in humans. The tenor of the times required the utmost discretion in pursuing this avenue of research. Watson used himself as a subject in his sexual response research. He secretly monitored his female laboratory assistant and himself during their sexual intercourse. When Watson's wife discovered the content of his experiments, she sued for divorce and had all of his records confiscated and destroyed. A major scandal resulted; Watson was dismissed from Johns Hopkins and married his research assistant. Unable to find an academic institution that would allow him a position on its faculty, he finally turned to private industry for employment in 1921.

During the years that followed, he applied the principles of behaviorism to public relations and advertising techniques. He collected demographic data as a basis for marketing campaigns and instituted the use of subliminal suggestion and hidden symbolism in advertisements. His expertise and enthusiasm for research in this new field made him a successful executive in one of the nation's largest advertising firms.

Although Watson continued to publish papers in scientific journals, he never again gained recognition from the scientific community. He died embittered at the age of 80.

### ***B.F. Skinner (1904–1990)***

Burrhus Frederic Skinner was born and raised in Susquehanna, Pennsylvania and received a bachelor's degree in English from Hamilton College in New York. Skinner enrolled in the experimental psychology program at Harvard and studied under E.G. Boring, earning his master's degree in 1930 and PhD in 1931. In 1936, he began his academic career at the University of Minnesota; then, in 1945, he took a position as chairman of the psychology department at Indiana University. In 1948, however, Harvard offered him a position, which he accepted, and he remained there for the rest of his life. Skinner died of leukemia in 1990.

While Skinner was at Harvard, he was heavily influenced by the work of John B. Watson. From this influence, Skinner dedicated his life's work to studying the relationship between reinforcement and observable behavior. Throughout his career, he insisted that psychology be a scientific, empirically driven discipline. He is considered by many to be one of the most important figures in 20th-century psychology, and his contribution to both clinical and experimental psychology is evident in the work of psychologists who followed his lead, and to this day, extend his work in associative learning research. The principles of reinforcement that he outlined were built on by clinical psychologists and applied to the conceptualization and treatment of mental disorders. The application of behaviorism to clinical psychology was not short lived, as empirically supported treatments for anxiety disorders (e.g., panic disorder, simple phobia) and child conduct problems are based upon behavioral principles.

### ***Max Wertheimer (1880–1943) and Kurt Koffka (1886–1941)***

Max Wertheimer and Kurt Koffka were early Gestalt psychologists who argued that psychological experience cannot be reduced to its basic elements. Rather, they asserted that behavior and thought as a whole must be studied in order to understand psychological experience.

Wertheimer was born in Prague, Austria-Hungary in 1880. His father directed a private business college and his mother was an accomplished amateur violinist. Wertheimer studied law, philosophy, and psychology at Charles University in Prague. He later studied philosophy and psychology at the University of Berlin under Carl Stumpf, and then moved to the University of Surzburg in 1904, obtaining his PhD under Oswald Kulpe. Wertheimer first discovered the phenomenon of apparent motion during a train trip, and later conducted studies on the phi illusion at Frankfurt, where Wolfgang Kohler and Kurt Koffka, his cofounders of the Gestalt school, participated as his research subjects. In 1933, Wertheimer fled Germany due to Hitler's rise to power, coming to the United States. He taught at the New School for Social Research in New York City until his death in 1943.

### ***Abraham Maslow (1908–1970)***

Maslow was a humanistic psychologist best known for his development of a hierarchy of needs that must be fulfilled in order for an individual to reach self-actualization—the ability to realize one's unique potential as a human being.

Maslow received his PhD at the University of Wisconsin in 1934 under Harry Harlow. He then taught at Wisconsin for a year, followed by appointments at Teachers College of Columbia University, Brooklyn College, and finally, Brandeis University, where he spent most of his academic career. He moved to Menlo Park, California in 1969 as a resident fellow of the Laughlin Foundation.

Maslow is considered one of the foremost proponents of humanistic psychology and was the founder of the *Journal of Humanistic Psychology*. He is particularly known for his theory of motivation and the concept of a hierarchy of needs, ranging from basic survival needs to the need for self-actualization. His influential writings include *Toward a Psychology of Being* (1962) and *Religion, Values and Peak Experiences* (1964). He served in 1968 as president of the APA.

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### Lecture/Discussion 1.3: African Americans and Psychology

Like women, African Americans faced many obstacles to their education and participation in psychology. Most white institutions would not accept African American students, and when they were able to enroll, they often experienced discrimination. In addition, few undergraduate black colleges offered a major in psychology until after the 1940s. Howard University, the only major black university offering graduate study, awarded 32 PhDs to African Americans from 1920 to 1950. During the same period only eight African Americans earned a PhD from one of the ten most prestigious white universities. Not only was earning the PhD difficult, employment opportunities were scarce for African American psychologists since neither white universities nor organizations in the private sector would hire them. Most taught at black colleges where opportunities to engage in research were limited, thus restricting opportunities for professional recognition. The situation for African American students has improved dramatically in recent years. Kenneth B. Clark, best known for his research on the effects of racial segregation, became the first African American elected as APA president in 1970.

Guthrie, R. V. (1976). *Even the rat was white: A historical view of psychology*. New York: Harper and Row.  
Schultz, D. P., & Schultz, S. E. (2016). *A history of modern psychology* (11<sup>th</sup> ed.). Boston: Cengage.

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### Lecture/Discussion 1.4: Women in the History of Psychology in America

Psychology has renewed its appreciation of diversity in human behavior. Part of that diversity includes celebrating the accomplishments and contributions of women to the field of psychology. Share with your students the stories of some key figures from psychology's history:

**Mary Whiton Calkins** (1863–1930) attended Harvard University and worked with William James, but because Harvard did not officially admit women into graduate programs, Calkins never received a PhD from Harvard. At best, Harvard offered her the degree from its sister school Radcliffe. She refused, stating that she ought to be given the degree from the institution where she earned it. Calkins collaborated with Edmund Sanford from neighboring Clark University on a variety of research projects. At that time, women with advanced degrees or training primarily received faculty positions at female colleges, such as Wellesley and Vassar Colleges. Calkins received a position at Wellesley College in 1887 and established a prolific laboratory in 1891 producing short-term memory research (Madigan & O'Hara, 1992). In 1906, Calkins was the first woman elected president of the APA.

**Margaret Floy Washburn** (1871–1939) was the first person, male or female, to receive a PhD from Edward B. Titchener in 1884, the leading structuralist in American experimental psychology at that time (Goodwin, 1999). She was also the first female to receive a PhD in the United States. Interestingly, Washburn never believed Titchener taught her much, as she became a leading comparative psychologist at Vassar College. She produced her most influential work in *The Animal Mind* in 1908, and in 1921, she was elected the second woman president of APA. She suffered a cerebral hemorrhage in 1937 and died from its complications in 1939 (Scarborough & Furumoto, 1987).

**Christine Ladd-Franklin** (1847–1930) was a mathematician who developed an interest in visual perception and made great contributions to theories of color vision (Furumoto, 1992). She married a math professor from Columbia University, and she occasionally taught adjunct courses there. However, she was rarely paid. Like Calkins, she did not receive her PhD, although she had completed all of the required work. Johns Hopkins University finally granted her the degree shortly before her death. She accepted the degree in person.



At the turn of the 20th century, one popular belief held that there was more variability in intelligence in men than in women. One implication of this belief was that even the brightest of women would never be as bright or even “outshine” the brightest of men. African American psychologist **Leta Stetter Hollingworth** (1886–1939) challenged these beliefs with her research, which showed no evidence that the distribution of intelligence test scores differed between men and women (Hollingworth, 1914). She also challenged the popular belief that women’s intellectual abilities were affected by their menstrual cycles, again finding no statistical evidence to support such claims (Silverman, 1992). Hollingworth’s contributions are often seen as the seedlings for the formal study of the psychology of women.

African American psychologist **Mamie Phipps Clark** (1917–1983) received her bachelor’s and master’s degrees from Howard University and her PhD from Columbia University in 1944. She is well known for her studies of racial differences in racial identity and self-concept (Clark & Clark, 1950). In the 1940s and 1950s racial segregation was becoming institutionalized, and Clark became interested in the effects of segregation on African American children. She conducted a series of studies in which African American and white children were shown black and white dolls. The children were first asked to pick the doll they most looked like, establishing a measure of racial identity. Then, children were asked which doll they would most like to play with. Both white and African American children preferred the white doll, suggesting for both races of children a preference and perhaps more value on being white. Clark’s work was considered and noted in the Supreme Court’s 1954 ruling in *Brown v. Board of Education* desegregation case, which ruled that public school segregation was unconstitutional.

Clark, K. B., & Clark, M. P. (1950). Emotional factors in racial identification and preference in Negro children. *Journal of Negro Education, 19*, 341–350.

Furumoto, L. (1992). Joining separate spheres: Christine Ladd-Franklin, woman-scientist. *American Psychologist, 47*, 175–182.

Furumoto, L., & Scarborough, E. (1992). Placing women in the history of psychology: The first American women psychologists. In J. S. Bohan (Ed.) *Seldom Seen, Rarely Heard* (pp. 337-353). Boulder, CO: Westview Press.

Goodwin, C. J. (1999). *A history of modern psychology*. New York: Wiley.

Hollingworth, L. S. (1914). Variability as related to sex differences in achievement. *American Journal of Sociology, 19*, 510-530.

Madigan, S., & O’Hara, R. (1992). Short-term memory at the turn of the century. *American Psychologist, 47*, 107–174.

Scarborough, E., & Furumoto, L. (1987). *Untold lives: The first generation of American women psychologists*. New York: Columbia University Press.

Silverman, L. K. (1992). Leta Stetter Hollingworth: Champion of the psychology of women and gifted children. *Journal of Educational Psychology, 84*, 20–27.

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## Lecture/Discussion 1.5: Clinical, Psychiatric, and Other Types of Psychological Training

“I just love psychology, because I want to help people! What’s a good school to go to so I can become a therapist?” As instructors, we welcome such wide-eyed enthusiasm in our students. As professionals, however, we recognize that the question is much more complicated. Choosing between MA, PhD, PsyD, MFCC, or other degree programs can be a challenge right from the start. Choosing a training emphasis, let alone some kind of broader ideological stance, is an even bigger challenge. By the time the decision making filters down to “is this the right program for me?” many a student may already be disheartened.

Shed some light on aspects of graduate training by sharing with your students the following lists, compiled from various ranking sources. For example, the website [www.socialpsychology.org](http://www.socialpsychology.org) routinely publishes lists of graduate program rankings. Here are the Top 10 graduate programs in psychology, based on “quality scores” compiled by the National Research Council:

- 1 .....Stanford University
- 2 .....University of Michigan—Ann Arbor
- 3 .....Yale University
- 4 .....University of California, Los Angeles
- 5 .....University of Illinois at Urbana-Champaign

- 6 ..... Harvard University
- 7 ..... University of Minnesota—Twin Cities
- 8 ..... University of Pennsylvania
- 9 ..... University of California, Berkeley
- 10 ..... University of California, San Diego

The National Research Council also compiled rankings of the top graduate programs in social psychology. Perhaps not surprisingly, many of the same schools are represented:

- 1 ..... Stanford University
- 2 ..... University of Michigan—Ann Arbor
- 3 ..... Yale University
- 4 ..... Harvard University
- 5 ..... University of California, Los Angeles
- 6 ..... University of Pennsylvania
- 7 ..... Carnegie-Mellon University
- 8 ..... University of California, Berkeley
- 9 ..... University of Minnesota—Twin Cities
- 10 ..... Cornell University

More of a change is seen when comparing graduate programs in clinical psychology:

- 1 ..... Yale University
- 2 ..... University of Pennsylvania
- 3 ..... University of Michigan—Ann Arbor
- 4 ..... University of Minnesota—Twin Cities
- 5 ..... University of California, Berkeley
- 6 ..... University of California, Los Angeles
- 7 ..... Indiana University, Bloomington
- 8 ..... University of Oregon
- 9 ..... University of Colorado, Boulder
- 10 ..... University of Washington

For historical comparison, Jean M. Kim and Edward C. Chang, of the University of Michigan, compiled rankings of U.S. and Canadian clinical psychology programs based on how well their graduates performed on the Examination for Professional Practice in Psychology (EPPP) between 1997 and 2006. The top 10 programs are listed below:

- 1 ..... University of Victoria
- 2 ..... University of Waterloo
- 3 ..... University of Illinois at Champaign-Urbana
- 4 ..... Rutgers University, New Brunswick
- 5 ..... Concordia University
- 6 ..... University of Wisconsin, Madison
- 7 ..... University of British Columbia
- 8 ..... Marquette University
- 9 ..... Temple University
- 10 ..... Queens University

And here are the Top 10 clinical psychology programs between 1988 and 1995, as reported by the Association for Psychological Science (APS) *Observer*:

- 1 ..... University of Oregon
- 2 ..... University of Waterloo
- 3 ..... University of Pennsylvania
- 4 ..... University of Delaware

|    |                                       |
|----|---------------------------------------|
| 5  | University of California, Los Angeles |
| 6  | University of Iowa                    |
| 7  | University of Minnesota               |
| 8  | University of Connecticut             |
| 9  | Yale University                       |
| 10 | University at Albany, SUNY            |

Finally, here are the rankings of top psychiatry programs, compiled by *U.S. News and World Report*:

|    |                                       |
|----|---------------------------------------|
| 1  | Harvard University                    |
| 2  | King’s College, London                |
| 3  | University of California, Los Angeles |
| 4  | Yale University                       |
| 5  | Stanford University                   |
| 6  | Columbia University                   |
| 7  | University of California, San Diego   |
| 8  | University of Pittsburgh              |
| 9  | Duke University                       |
| 10 | University College, London            |

You might share these data with your students for several purposes. First, be clear to point out that different metrics were used across these ranking systems and that certainly other standards apply. Second, note that a “good” program for one person might not be a good program for another. Differences in interests, future goals, prior experience, and so on can (and should) influence training decisions. Finally, make the point that a “good school” in general is not necessarily a good school for a specific subject matter. Harvey Mudd College is a wonderful school for engineering but not particularly for psychology.

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## Lecture/Discussion 1.6: Careers in Psychology

In the rush to begin covering the tremendous amount of material in introductory psychology, many instructors overlook more practical issues that would be of interest to introductory students, especially those who think they might major in psychology. It’s never too early to introduce students to psychology as a profession, and even students who do not major in psychology are bound to gain a greater understanding and appreciation for the field. After discussing the various subfields of psychology, devote some time (perhaps a class session) to issues pertaining to psychology as a career choice. There are a variety of activities and topics you could introduce, and several suggestions are given here.

To promote early student involvement in psychology, describe the goals and activities of Psi Chi, the International Honor Society in Psychology. Tell students (or better yet, bring in the Psi Chi President to tell students) about the requirements for joining (e.g., psychology major or minor, 3.0 GPA overall and in all psychology courses, completion of three semesters or five quarters of college courses) and the benefits of membership (e.g., interaction with psychology faculty and majors, participation in worthwhile activities related to psychology, an important honor that will be noticed by graduate schools). Along the same lines, explain to students how they might become student affiliates of the two biggest professional organizations in psychology, the American Psychological Association and the Association for Psychological Science. Both organizations have student application forms that you can make available. Stress to students the benefits of presenting their research (perhaps in their sophomore or junior years) at one of these national conferences or perhaps at a regional one (e.g., Southwestern Psychological Association, Western Psychological Association).

Give your students the “straight dope” about graduate school—how to get in, what it’s really like, and

what opportunities it affords. Tell students how you got interested in your major field and what life in graduate school was like. Explain degree plans (including how many years it takes, what is expected in the way of course work and research), funding opportunities (many students are surprised that teaching and research assistantships actually cover most graduate school expenses), and research and teaching opportunities. Bring in the latest edition of APA's *Guide to Graduate Study in Psychology* and give an overview of its purpose. Briefly outline for students what they should be doing during each year of their undergraduate career if they are interested in going to graduate school (e.g., when to study and take the GRE, when to send for applications, when to get research experience, when to ask for letters of recommendation). Encourage students to seek out a close relationship with a faculty member whose research interests coincide with theirs.

Finally, discuss career opportunities in psychology. Bring to class recent issues of the *APA Monitor* and *APS Observer* and show students representative job listings and requirements for consideration. Have someone from your career counseling center give a talk on opportunities for psychology majors (she or he may also have data on the current employment status of recent psychology graduates). Better yet, invite to class (a) a psychologist from an applied setting (e.g., a clinician in private practice, an I/O psychologist, a sports or forensic psychologist) and (b) a psychologist who works in an academic setting (this could be you, another faculty member at your college or university, or someone outside your institution) to talk about career opportunities and experiences.

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## Lecture/Discussion 1.7: The Characteristics of Good Reasoners

Reasoning skills are a central component of critical thinking (along with the other skills and dispositions described in Chapter 1 of the text). The following characteristics of good and bad reasoners are from the late Richard W. Paul of the Critical Thinking Community:

### *Characteristics of Good Reasoners*

1. **Reasoning has a purpose. Good reasoners:**
  - state their purpose clearly
  - distinguish it from related purposes
  - adopt realistic and significant purposes and goals
  - monitor their thinking for consistent goals
2. **Reasoning is an attempt to figure something out, to settle some question, to solve some problem. Good reasoners:**
  - are clear about the question they are trying to settle and can express it clearly
  - can break a question into sub-questions
  - distinguish significant from trivial and relevant from irrelevant questions
  - distinguish questions they can answer from questions they can't
  - are sensitive to the assumptions built into the questions they ask
3. **Reasoning is done from some point of view. Good reasoners:**
  - keep in mind that people have different points of view, especially on issues that are controversial
  - consistently articulate other points of view and reason from within those points of view
  - seek other viewpoints, especially when the issue is one they believe in passionately
  - have insight into areas and problems where they are most likely to be prejudiced
4. **All reasoning is based on data, information, evidence. Good reasoners:**
  - assert a claim only when they have sufficient evidence to back it up
  - can articulate and therefore evaluate the evidence behind their claims
  - actively search for information *against* (not just *for*) their own position

- key in on relevant information and disregard information or data that are irrelevant to the question at issue
- draw conclusions only to the extent that they are supported by the data
- state their evidence clearly and fairly

**5. Reasoning is expressed through, and shaped by, concepts and ideas. Good reasoners:**

- are aware of the key concepts and ideas they use
- are able to explain the basic implications of the key words and phrases they use
- are able to distinguish their special, nonstandard uses of words from standard uses
- are aware of irrelevant concepts and ideas
- use concepts and ideas in ways relevant to their functions
- can distinguish superficial from deep concepts

**6. Reasoning is based on assumptions. Good reasoners:**

- make assumptions that are clear
- make assumptions that are reasonable
- make assumptions that are consistent with each other

**7. Reasoning leads somewhere, has implications and consequences. Good reasoners:**

- clearly articulate significant implications and consequences of their reasoning
- search for negative as well as for positive consequences
- anticipate the likelihood of unexpected negative and positive implications

**8. Reasoning contains inferences by which we give meaning to data and come to conclusions. Good reasoners:**

- make inferences that are clear and precise
- usually make inferences that follow from the evidence or reasons presented
- often make inferences that are deep rather than superficial
- often make inferences or come to conclusions that are reasonable
- make inferences or come to conclusions that are consistent with each other

Wilson, J., & Binker, A.J.A. (2012). *Critical thinking: What every person needs to survive in a rapidly changing world* (2nd ed.). Rohnert Park, CA: Foundation for Critical Thinking.  
<http://www.criticalthinking.org/>

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## Lecture/Discussion 1.8: Damned Lies, Damned Statisticians

Joel Best has written an excellent book examining the misuse and abuse of statistics, especially those asserted in the public forum and used for social and political decision making. The book is a great source of lecture ideas and demonstrations; an anecdote from the introduction will illustrate the kind of material you might draw from.

Best served on the dissertation committee of a student who asserted the following claim in the first sentence of her or his dissertation prospectus: “Every year since 1950, the number of American children gunned down has doubled.” This dramatic statistic certainly attracts attention and would seem to call for strong, unambiguous, immediate legislation of all sorts. But as Best points out, there’s a certain stink hanging over this claim. Let’s say, for example, that in 1950 only one child was gunned down in America. That would mean that in 1951 two children were gunned down, in 1952 four children were gunned down, in 1953 eight children were gunned down, and so on. If this statistic were accurate, by 1965 there would have been 32,768 children gunned down (Best notes that FBI statistics for 1965 revealed only 9,960 criminal homicides of *any* kind in the entire country). By 1970 the number of deaths would have passed 1 million, and by 1980 it would have passed 1 billion. By 1983 there would have been 8.6 billion gunned down children (more than twice the population of the planet at that time), and by 1995, when this student

made this assertion, the number of American children gunned down would have been *35 trillion*—a staggering statistic indeed, but for a very different reason!

A little digging by Best revealed the error of the student's ways. The statement was harvested verbatim from a published article in a journal in the student's field, but the original statement was made by the Children's Defense Fund. However, the original statement read, "The number of American children killed each year by guns has doubled since 1950." Notice that this is a very different statement with a very different meaning: In 1994 the number of children "gunned down" was twice what it was in 1950. Some creative license on the part of the article's authors (and the student's lifting of it) led to the combinatorial confusion revealed by Best.

But there's more to the story. As Best points out, the population of the United States also rose between 1950 and 1994, by about 73%. We might therefore expect all kinds of events to increase, including the number of childhood fatalities. Because the population had nearly doubled, the number of childhood shootings (and number of cars purchased, and children born, and television sets bought, and books written, and any number of things) might indeed have seemed to increase just because there were more people. Moreover, there's some fuzziness about the claim itself. "Child" is a little sticky, given that some Children's Defense Fund statistics include anyone under the age of 25. Also, "died by gunshot" could include suicides and accidents as well as homicides. Finally, it's not clear who has compiled the information on these childhood deaths or how the counting was done.

Unfortunately, there are more than enough of these types of statistical missteps that you can share with your students. Use these examples to stress the importance of critical thinking and a keen evaluation of dubious claims.

Best, J. (2012). *Damned lies and statistics* (updated ed.). Berkeley, CA: University of California Press.

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## Lecture/Discussion 1.9: Case Studies of Vietnam War Experiences

An excellent example of how the case study works in psychological research is the work of Lambright (2003), who studied the responses of six Vietnamese volunteers (varying in age from 24 to 68) to the disruption in their daily lives and occupations, and the cultural adjustments brought about by the war in Vietnam. She conducted the interviews individually, in different locations throughout Vietnam during June and July of 2002. The six volunteers, from whom she obtained written consent, answered seven questions. Although the standard seven questions might suggest that this face-to-face interview was a highly structured one, Lambright was in fact free to follow-up any interesting answers with more questions as the need arose, making the interview an unstructured one. Here are two brief excerpts from those interviews, answers to the question "What about your culture explains its resilience during sustained disruption (such as war, famine, social and political crises)?"

(Nguyen Ban, 24) "A happy stable family takes care of each other...we all overcome together. We have a solid base to stand on... The Vietnamese are very flexible, adaptable to the situation. They are resilient; in the hard time they are unified and come together in a community to fight against the enemy..."

(Le Minh Viet, 68): Resilience, without the ability to adapt under circumstances, we wouldn't have survived the Chinese domination, the French, and all the wars over the centuries. Circumstances shape the attitudes, the emotions, and the behaviors. All of us are used to war situation and became acclimated so it minimizes trauma."

Notice that although both interviewees stress the adaptability of the Vietnamese, the younger Nguyen seems focused on how Vietnamese people might react in some future conflict—Nguyen did not live through wartime. The older Minh did experience the war and talks more about how the past affects his

culture now. This kind of detailed information is only possible in a case-study style of research. Mere observation would not provide the answers to Lambright's questions.

Interview Questions:

1. What about your culture explains its resilience during sustained disruption (such as war, famine, social and political crises)?
2. What lessons have been learned as a result?
3. How have these lessons been integrated into the current society?
4. Can you share some examples of adjustment to the turmoil, examples known within your area of expertise or with which you are personally familiar?
5. Can you give examples of maladjustment known within your area of expertise or with which you are personally familiar?
6. In thinking about your answers, what do you see as being particular to the Vietnamese culture that explains your response to the above questions?
7. Is there anything else you would like to add to this interview?

Lambright, L.L. (2003) Paper presented at International Conference, Midwest Institute for International/Intercultural Education, Cleveland, Ohio, April.

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## Lecture/Discussion 1.10: The Disadvantages of Survey Research

Surveys allow researchers to collect a great deal of data in a fairly short period of time. The most famous sex survey ever conducted in the United States is the Kinsey report, which consists of two volumes: *Sexual Behavior in the Human Male* (Kinsey, Pomeroy, & Martin, 1948) and *Sexual Behavior in the Human Female* (Kinsey, Pomeroy, Martin, & Gebhard, 1953). More than 10,000 men and women were interviewed in this survey, which revealed that behaviors considered abnormal or deviant—masturbation, oral sex, and homosexual activity—were far more common than most people had imagined. The Kinsey sample was flawed because it did not include African Americans and it underrepresented the poor and the elderly. Consequently, it provides a more accurate picture of the sexual behavior of white, middle-class America in the 1940s and 1950s than of the entire population. Furthermore, Kinsey used all male interviewers with female subjects, and this might have served to inhibit the responses of some of the women. Hence, the most important criterion for evaluating survey results is whether the sample is representative of the population to which the results are to be applied. Other issues include the wording of questions and the context of the survey (e.g., face-to-face interview, anonymous questionnaire, telephone survey).

Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. (1948). *Sexual behavior in the human male*. Philadelphia: Saunders.

Kinsey, A. C., Pomeroy, W. B., Martin, C. E., & Gebhard, P. H. (1953). *Sexual behavior in the human female*. Philadelphia: Saunders.

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## Lecture/Discussion 1.11: Correlations and Causal Relationships

There seems to be a general human tendency to attribute causality to correlated events. Laypeople, like psychologists, often impose patterns of (apparently) lawful regularity on observed events. Given what is perceived as an “effect,” we search for causes. Events are more likely to be singled out for attention and analysis when they are unusual, anomalous, and discontinuous with our prior experience. When such events are natural phenomena, they are typically relegated to the status of “cause” and then the search is directed toward their aftereffects.

One of the most persistent instances in which pseudo-correlations of behavioral consequences are reported to flow from salient natural and human events is the “baby boom” syndrome. For example, the allegation of increased birthrate nine months after a major power blackout in New York is well known, as is the baby boom in Israel nine months after their war with Egypt.

Invariably, when base rate data are used to compare the assumed “increase in births,” the effect vanishes. That is, when seasonal fluctuations in births are taken into account, there is no unusual effect left to relate to the nine-months-earlier unusual event. But that does not deter the correlation seekers. Three University of North Carolina sociologists attributed a 1955 drop in Southern birth rates to the Supreme Court’s 1954 school desegregation decision (Rindfuss, Reed, & St. John, 1978). They theorized that uncertain prospects for the future “demoralize” prospective parents (both whites and, to a lesser extent, blacks), causing them to postpone any children they might otherwise have conceived in the three- or four-month period immediately following the decision. The subsequent recovery in the birth rate is attributed to the realization that desegregation would in fact proceed slowly.

Rindfuss, R. R., Reed, J. S., & St. John, C. A. (1978). A fertility reaction to a historical event: Southern white birthrates and the 1954 desegregation ruling. *Science*, 201, 178-180.

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## Lecture/Discussion 1.12: The Experimental Method in Everyday Life

Present students with this scenario:

For breakfast one morning, Ahn had cereal and fruit. It was a brand new kind of cereal for her; she had never eaten it before. The fruit was also new to her. By noon, she had broken out in an itchy rash and concluded that either the cereal or the fruit had caused an allergic reaction. How can she find out whether the cereal or the fruit was the cause of the rash?

Students will come up with the idea of eating the new foods one at a time to see which one causes the rash. Tell them that they have just designed an experiment—the only kind of research that can identify a cause. Note that the hypothesized cause is the independent variable in an experiment. Point out that we use this kind of thinking on a daily basis, such as when a car won’t start or when the dishwasher makes a funny noise.

In the cereal and fruit example, the cereal and the fruit are independent variables and the rash is the dependent variable. One useful way of thinking about identifying independent and dependent variables is to remember that the basic hypothesis underlying any experiment is “X causes Y” (a cereal [X] caused a rash [Y]; a fruit [X] caused a rash [Y]). To test such hypotheses, X is manipulated in order to determine its effect on Y. Thus, X is the independent variable and Y is the dependent variable. Advise students that, when trying to identify independent and dependent variables (as might happen in the context of an exam question), they should put the variables in the scenario into an “X causes Y” statement.

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## Lecture/Discussion 1.13: Experimental and Control Groups

Use this example to illustrate the difference between experimental and control groups.

A researcher wanted to find out whether aspirin or acetaminophen was better for relieving headaches. She went to a shopping mall and asked people whether they had headaches or not. Those who did were given the opportunity to participate in her study. In a room

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especially prepared for the study, she gave each participant a capsule containing either aspirin, acetaminophen, a placebo, or no capsule. She determined which to give to each participant by random assignment. Next, participants were instructed to lie down in a dark room for an hour. After the hour had passed, the researcher asked whether the participant still had a headache. What are the independent and dependent variables in this study?

Remind students to use the “X causes Y” format to answer this question. Ask what would be X (type of medicine), and then ask what would be Y (headache after one hour). Next, ask whether the researcher can conclude that different medicines caused different results if, indeed, one group has fewer remaining headaches than the others. Use this discussion to point out the purpose of random assignment (equalize relevant variables, such as chronic illnesses, across groups) and the purpose of holding environment and activity (lying down in a dark room) constant across groups during the period in which the medicines should be exerting their physiological effects.

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### Lecture/Discussion 1.14: The Placebo Effect

During the 1950s, surgeons routinely performed a simple operation to relieve chest pain suffered by patients with angina pectoris. An amazing number of the patients—nearly 90%—reported relief from pain. An experimental study divided angina patients into two groups and informed them that they were going to have an operation that had a very high success rate in relieving angina pain. The actual surgery was performed on only half the patients. What was done with the other half would no longer be allowed according to ethical medical standards: The surgeons put the remaining half of the patients under general anesthesia, made the surgical incision in their chests, and then simply sewed them up again. When the patients awakened in the recovery room, they were told that the operation had been performed. The patients who had the sham surgery did even better than the patients who had undergone the actual operation! Their pain had been relieved simply by the power of suggestion.

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### Lecture/Discussion 1.15: Applied Experimental Psychology in the Real World

Students sometimes have difficulty understanding how general research results can be applied to situations in daily life. The following example provides connections between basic research in sensation and perception and sources of possible military or medical errors.

A number of devices use sound (beeps, clicks, etc.) to provide feedback about bodies, structures, or machines. These sounds are designed to provide information about deviations from a current situation. For example, in medicine, drops in heart rate or blood pressure are signaled by beeps from a monitoring device. Jet pilots receive information regarding the position of their planes in the form of sounds as well. The purpose of these devices is to provide immediate auditory feedback that signals potential problems, allowing a surgeon or pilot to be visually focused on something else at the time.

Unfortunately, research suggests that people often misperceive how sounds change when both their pitch and loudness change (Neuhoff, Kramer, & Wayand, 2002). Rather than noticing the changes immediately and accurately noting the meaning of the changes, individuals may miss the changes entirely or misinterpret them. Because of this misperception, people can't accurately judge the intended meanings of the sounds. Real-world complications that could arise from this problem range from medical mistakes to serious pilot errors. For example, if a pilot does not accurately identify the sounds of the flight system that are designed to alert him or her to possible mechanical issues, the chances of mechanical failure or

crashes may be increased. This result is contrary to the purposes of those feedback systems, which are designed to enhance safety. It appears that the assumptions of the developers of these systems regarding the accuracy of human interpretations of the sound may have been incorrect.

Edworthy, J. (2013). Medical audible alarms: a review. *Journal of the American Medical Informatics Association*, 20(3), 584-589.

Neuhoff, J. G., Kramer, G., & Wayand, J. (2002). Pitch and loudness interact in auditory displays: Can the data get lost in the map? *Journal of Experimental Psychology: Applied*, 8, 17-25.

Rodstrom, M.A. & Neuhoff, J.G. (2003). Increased pitch increases accuracy of voice identification. *Perceptual and Motor Skills*, 97, 665-70.

Seifritz, E., Esposito, F., Neuhoff, J.G., Di Salle, F. (2003). Sound analysis in auditory cortex: From temporal decomposition to perception. *Trends in Neurosciences*, 26, 231-232.

Sigrist, R., Rauter, G., Riener, R., & Wolf, P. (2013). Augmented visual, auditory, haptic, and multimodal feedback in motor learning: a review. *Psychonomic Bulletin & Review*, 20(1), 21-53.

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## Lecture /Discussion 1.16: An Historical Perspective on Research Ethics

When discussing the ethical treatment of human research participants several “classic” studies, which would be ethically questionable by today’s standards, serve as examples. For instance, many instructors discuss Stanley Milgram’s studies of obedience, Philip Zimbardo’s prison simulation, or Stanley Schachter’s studies of autonomic arousal and attribution. Students often have mixed reactions to these examples. Some find them relatively innocuous, whereas others have strong reactions to the treatments participants were asked to endure. The fact that such studies took place within relatively recent times compounds the issue. Some students see these 1960s’ experiments as long ago and of a different time, whereas others see them as examples of the unethical treatment psychologists still foist on people to this day.

To provide a context for these types of issues, your students might be interested in hearing about older examples of ethically questionable research. For example, Carney Landis, a noted psychologist of the 1920s and 1930s, conducted a series of studies dealing with the experience and expression of emotion. In one set of studies he was particularly interested in capturing facial expressions of emotion and used strong elicitors of emotion to produce them. For example, one situation involved dropping a lit firecracker underneath an unsuspecting subject’s chair, whereas another involved showing participants pornographic (for their day) photographs and photos of horribly disfiguring skin diseases.

Although these manipulations may seem harsh, Landis used stronger ones as well. For example, participants were instructed in one situation to plunge their hand into a pail of shallow water that, unbeknownst to them, contained three live frogs. (This manipulation was presumably used to evoke disgust.) To quote Landis, “After the subject had reacted to the frogs the experimenter said, ‘Yes, but you have not felt everything yet, feel around again.’ While the subject was doing so he received a strong...shock from an induction coil, attached to the pail by concealed wiring.”

And for the *coup de grâce*:

“The table in front of the subject was covered with a cloth. A flat tray and a butcher’s knife were placed on the cloth. A live white rat was given to the subject. He (sic) was instructed, ‘Hold this rat with your left hand and then cut off its head with the knife.’...In five cases where the subjects could not be persuaded to follow directions the experimenter cut off the head while the subject looked on.”

Mention is also made of a final experiment involving shock that “...varied from a just noticeable intensity to a strength which caused the subject to jump from the chair,” as well as other studies. Landis’s participants, in passing, included graduate students, a stenographer, a school teacher, and a 13-year-old boy with high blood pressure.

Although Landis has been singled out for examination here, there are certainly no lack of experiments from the 1920s through the 1960s that can provide examples of ethically dubious research. Discussing such studies, especially in light of current APA standards, should produce spirited discussion among your students.

Landis, C. (1924). Studies of emotional reactions II: General behavior and facial expression. *Comparative Psychology*, 4, 447-509.

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## Lecture/Discussion 1.17: Animals in Psychological Research

A controversial issue in psychology, and in many other fields of study, involves the use of animals in research. Is it ethical to subject animals to unnatural and/or painful situations in the pursuit of knowledge about the human condition? You might present students with some additional information about the use of animals in psychological research and the nature of the debate.

Psychologists who study animals are sometimes interested in comparing different species or hope to learn more about a particular species. Their work generally falls into the area of basic science, but often it produces practical benefits. For example, using behavioral principles, farmers have been able to reduce crop destruction by birds and deer without resorting to their traditional method—shooting the animals. Other psychologists are primarily interested in principles that apply to both animals and people. Because many animals have biological systems or behavioral patterns similar to those of human beings, using animals often allows more control over variables than would otherwise be possible. In some cases, practical or ethical considerations prevent the use of human beings as subjects. By studying animals, we can also clarify important theoretical issues. For example, we might not attribute the greater life expectancy of women solely to “lifestyle” factors and health practices if we find that a male-female difference exists in other mammals as well.

As the text points out, those who support the use of animals in research argue that animal studies have led to many improvements in human health and well-being. In recent years, however, animal research has provoked angry disputes over the welfare of animals and even over whether to do any animal research at all. Much of the criticism has centered on the medical and commercial use of animals, but psychologists have also come under fire. Critics of animal research have pointed to studies that produce no benefits for human beings but involve substantial harm to the animals being studied. A few years ago, for instance, a Maryland psychologist studying the nervous system was convicted of cruelty to animals after he cut the nerve fibers controlling limb sensation in 17 monkeys. The purpose of his research was to find ways to restore the use of crippled limbs in stroke victims. The charges alleged abusive treatment of the animals. The psychologist’s conviction was eventually reversed on appeal, but by then the government had withdrawn its funding of the project.

People have staked out extreme positions on both sides of this debate. The controversy has often degenerated into vicious name-calling by extremists on both sides. Some animal rights activists have vandalized laboratories and threatened and harassed researchers and their families; some scientists have unfairly branded all animal welfare activists as terrorists (Blum, 1994). A more positive result of the debate has been the close examination of the APA’s ethical code for the humane treatment of animals and the passage of stricter federal animal welfare regulations governing the housing and care of research animals. Most psychological organizations, however, oppose proposals to ban or greatly reduce animal research. The APA and other organizations feel that protective legislation for animals is desirable but must not jeopardize productive research that increases scientific understanding and improves human welfare.

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## ▼ CLASSROOM ACTIVITIES, DEMONSTRATIONS, AND EXERCISES

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### Activity 1.1: Misconceptions about Psychology

This activity expands on the idea behind the *Think about It* feature that opens Chapter 1 (text p. 2). You can use it to initiate a discussion of the scientific method and how it might be used to examine each of the misconceptions included in the “Knowledge of Psychology Test” ([Handout Master 1.2](#)).

One of the most popular and venerable activities for the introductory course is the administration and subsequent discussion of misconceptions about psychology. Although a new 65-item multiple-choice test was developed by McCutcheon (1991), the most popular test is the Test of Common Beliefs developed by Vaughan (1977). Vaughan’s test, however, has been criticized for the ambiguity of some of the items (Brown, 1984; Gardner & Dalsing, 1986; Ruble, 1986), the fact that all items have “false” as the correct response, which may lead to a response set tendency (Vaughan, 1977), and the finding that many of the items are not really misconceptions since they are often correctly answered (Gardner & Dalsing, 1986; Lamal, 1979). Griggs and Ransdell (1987) compared responses to Vaughan’s Test of Common Beliefs from students that had taken an introductory psychology course in high school to those of several other studies (Lamal, 1979; Gardner & Dalsing, 1986; Vaughan, 1977). Using a criterion of at least a 50% error rate for an item (i.e., they were answered as “true”), they identified 15 questions that met the criterion in at least two studies and had not been subject to earlier criticisms of ambiguity. These items are reproduced in [Handout Master 1.2](#) and are ordered from highest to lowest with respect to their average error rate. You can administer these items to your class and use the responses as a starting point for a discussion on commonsense notions and misconceptions about psychology. You may want to note to your students that many of these items are also answered incorrectly by psychologists and other social scientists (see Gardner & Hund, 1983). You can also tell your students that the correct answers to many of these items are discussed in their textbook.

Brown, L. T. (1983). Some more misconceptions about psychology among introductory psychology students. *Teaching of Psychology, 10*, 207–210.

Brown, L. T. (1984). Misconceptions about psychology aren’t always what they seem. *Teaching of Psychology, 11*, 75–78.

Gardner, R. M., & Dalsing, S. (1986). Misconceptions about psychology among college students. *Teaching of Psychology, 13*, 32–34.

Gardner, R. M., & Hund, R. M. (1983). Misconceptions of psychology among academicians. *Teaching of Psychology, 10*, 20–22.

Griggs, R. A., & Ransdell, S. E. (1987). Misconceptions tests or misconceived tests? *Teaching of Psychology, 14*, 210–214.

Lamal, P. A. (1979). College students’ common beliefs about psychology. *Teaching of Psychology, 6*, 155–158.

McCutcheon, L. E. (1991). A new test of misconceptions about psychology. *Psychological Reports, 68*, 647–653.

Ruble, R. (1986). Ambiguous psychological misconceptions. *Teaching of Psychology*, 13, 34–36.

Vaughan, E. D. (1977). Misconceptions about psychology among introductory psychology students. *Teaching of Psychology*, 4, 138–141.

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## Activity 1.2: Are Psychologists Scientists?

Before introducing students to the various subfields of psychology, make the point that all psychologists, regardless of their area of expertise, are indeed scientists. This brief exercise (adapted from Smith, 1982) also illustrates students' stereotypical view of psychologists as clinicians. First, write the word "psychologist" on the board and ask students to describe some characteristics and traits of the typical psychologist. With encouragement to freely answer with any words or images that come to mind, the following responses frequently come up: caring, patient, warm, lying on a couch, soothing, good listener, giving advice, and so on. After erasing these responses, write the word "scientist" on the board and ask students to do the same for the typical scientist. Their responses clearly indicate that their perceptions of "scientists" (which include traits like analytical, brilliant, and achieving and images of conducting research and wearing lab coats and pocket protectors) are markedly different from their perceptions of "psychologists." Near the end of in the exercise, a few students will invariably catch on and ask, "But aren't psychologists scientists?" which leads the class into a discussion of why their perceptions are so divergent. By this time, the idea that psychologists are *scientists* that study the mind and behavior rather than genes, chemicals, or subatomic particles makes perfect sense, and you can then describe cognitive psychologists as *scientists* who study human mental processes, developmental psychologists as *scientists* who study changes in capacities throughout the lifespan, and so on.

Smith, G. (1982). Introducing psychology majors to clinical bias through the adjective generation technique. *Teaching of Psychology*, 9, 238-239.

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## Activity 1.3: Psychology's Goals Applied to Matchmaking

Based only on the descriptions provided in the grid below, ask your class to guess which pairs of the people listed belong together. There is no right or wrong answer. Tell your students to follow their instincts.

Now lead your class in a discussion of their matchmaking decisions with respect to the goals of psychology:

- How would they describe the behaviors they engaged in while trying to settle on appropriate matches?
- Did they read all the descriptions before they began?
- Did they find the decisions easy to make?
- Did they change their minds several times?
- How would they explain their behavior?
- What rules do they believe they used to match up the couples? Were they most concerned about age? About occupations? About leisure activities? Did they use some combination of all three descriptions? What inferences did they make in their decisions, such as perceived gender? What does the factor(s) that they used most say about them personally and their selection of a partner?
- How might their explanation allow them to predict which real-world relationships would succeed?
- Suppose that based on their day-to-day observations of relationships, they focused on occupations while doing their matchmaking. Are they willing to generalize from the predictions they made on this task to predictions in the real world? Can they begin to imagine the types of

- research they might carry out to test those predictions?
- Does their explanation allow them to control or improve their own relationship-seeking behavior or to give better advice to others?
  - Have they learned from this exercise what matters most to them in a relationship? What more would they like to learn from research?
  - Could they learn something that would allow them to improve the quality of their own or other people’s lives?
  - If their research reveals the factors that help determine which relationships, in general, will endure, they should be able to improve the quality of people’s lives.

|   |   |
|---|---|
| <p>David<br/>Age: 21<br/>Job: Car mechanic<br/>Enjoys: Gourmet food</p>     | <p>Dana<br/>Age: 23<br/>Job: Advertising executive<br/>Enjoys: Movies</p> |
| <p>Chris<br/>Age: 29<br/>Job: Dog groomer<br/>Enjoys: Gardening</p>         | <p>Janet<br/>Age: 35<br/>Job: Lawyer<br/>Enjoys: Roller coasters</p>      |
| <p>Sandy<br/>Age: 54<br/>Job: Flight attendant<br/>Enjoys: Hang gliding</p> | <p>Karen<br/>Age: 18<br/>Job: Sales clerk<br/>Enjoys: Art museums</p>     |
| <p>Jamie<br/>Age: 20<br/>Job: Secretary<br/>Enjoys: Football</p>            | <p>Pat<br/>Age: 56<br/>Job: Pediatrician<br/>Enjoys: Opera</p>            |
| <p>Jerry<br/>Age: 37<br/>Job: College professor<br/>Enjoys: Comic books</p> | <p>Rahul<br/>Age: 22<br/>Job: Store manager<br/>Enjoys: Scuba diving</p>  |

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### Activity 1.4: Schools of Thought

This exercise will help students distinguish among the behaviorist, psychoanalytic, humanistic, and cognitive schools of thought. Instruct students to use their textbooks and lecture notes to classify each of the explanations of depression on [Handout Master 1.3](#). Students can complete the exercise individually or in groups.

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### Activity 1.5:

#### A Jigsaw Puzzle Approach to Learning the Early History of Psychology

For this activity, you will need one or more colorful children’s jigsaw puzzles, depending on class size. Each puzzle should measure approximately 9 inches by 12 inches and contain 12 to 15 pieces. There should be at least one puzzle piece per student. Thus, four puzzles would be needed for a class of 50.

Break the puzzles apart and distribute the pieces randomly throughout the class, being sure not to give adjacent puzzle pieces to adjacent students. After all students receive a piece, invite them to tell you everything they can about their piece. Ask them to consider you “an alien who has just landed from the mother ship,” someone for whom everything must be reduced to a basic level and explained in terms that cannot be reduced further. Their descriptions of the puzzle pieces should not assume prior knowledge on your part (e.g., “it has a Ninja turtle on it” would assume prior knowledge). Eventually, accept descriptions such as “it is round,” “it has color on it,” and “it has no odor” because these answers are more fundamental than the previous ones. This exercise helps students understand the difficulty of reducing anything to its most fundamental level. When they have nothing more to say, introduce the word *structuralism* as a way of knowing an object or behavior by reducing it to its most basic parts. Then, have students tell you how much they know about their piece and how much they still need to know about it. This helps students to realize the limits of structuralism.

Next, students should figure out what their piece does. Encourage them to mill about the room to find adjoining pieces. (This mingling also serves as an excellent icebreaker.) After the students see how their pieces work in conjunction with other pieces, introduce the word *functionalism* as a way of knowing an object or behavior by seeking to understand its function or purpose. In short, discuss what the piece can do and what it cannot do. Then, ask students if their knowledge of their piece is complete. Although they know what its parts are (structure) and what it does (function), is there more to know? As isolated groups of students hold their two-piece objects, they realize the limitations of this approach as well. Unless everyone continues to explore, they will not obtain larger meaning and additional knowledge.

Finally, have students continue to work with their pieces to assemble all relevant parts into a whole. Again, with multiple puzzles and random piece distribution, students must cooperate and communicate to create meaningful whole puzzles. After puzzle assembly, introduce the term *Gestalt psychology* as a way of knowing an object or behavior by creating a whole from parts, such that the whole derives its meaning only when the parts relate and work together. Ask if anyone has heard the maxim “The whole is greater than the sum of its parts” and explain its meaning in relation to what they have just learned.

Krauss, J. (1999). A jigsaw puzzle approach to learning history in introductory psychology. *Teaching of Psychology*, 26(4), 279–280.

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## Activity 1.6: Promoting Cultural Awareness

Lani Fujitsubo suggests an exercise that can be used profitably in Introductory Psychology as well as several other courses. Ask students to play the roles of family members and one or two newspaper reporters. The family is a group of aliens from outer space who have arrived on this planet, and the reporters are interviewing them for a story of interest to their readers. Fujitsubo provides the following background information for the family member volunteers to draw from:

*You are a family (mother, father, and child) from outer space whose spacecraft recently landed in the United States. You are doing your best to assimilate into this society and are being interviewed because your child won the local spelling bee. On your planet of origin you show respect by laughing out loud before answering a direct question. Men are not allowed to speak directly to others, and must whisper their requests to women who will then communicate directly. It is traditional to offer a gift or compliment to someone before making a request or asking for anything. If offended you use nonverbal communication to express your hurt feelings, the most common form of which is to briefly turn your back to the person. Apologies are made by briefly dipping your head. No one on*



*your planet is considered more important than anyone else, and competition is an unknown concept. Eye contact with males is considered offensive. A question is usually never answered directly because this implies that someone is an expert and causes others to lose face.*

After the demonstration, poll the reporters and family members for their reactions. Reporters often feel frustrated, confused, misunderstood, or helpless in the face of this interaction where they don't know the "rules." Family members might also find themselves misunderstood, offended, or frustrated at the inability of the reporter to understand their situation. Class discussion of this activity can focus on the importance of appreciating differences among others and understanding where and how miscommunications might arise. More importantly, use this exercise as an opportunity to highlight the role of culture in psychological research: Findings that might seem "universal" or "correct" (based on data from members of exclusively one culture) might not be so.

Fujitsu, L. C. (1999). The importance of cross-cultural sensitivity in psychology. In L. T. Benjamin, B. F. Nodine, R. M. Ernst, and C. B. Broeker (Eds.), *Activities handbook for the teaching of psychology (Vol. 4)*. Washington, DC: American Psychological Association.

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## Activity 1.7—Thinking about Your Interests in Psychology

Ask students to think about the various subfields in psychology, encouraging them to look ahead in their textbook for more information. Ask students to then rank their interests in psychology's specialty areas from 1 (*most interesting*) to 12 (*least interesting*).

Clinical psychology  
Cognitive psychology  
Comparative psychology  
Counseling psychology  
Developmental psychology  
Educational and school psychology  
General experimental psychology  
Industrial/organizational psychology  
Personality psychology  
Neuroscience and physiological psychology  
Quantitative psychology  
Social psychology

You may want to tabulate the class's interests and compare the results to the descriptive data described in the textbook. Also, it may be of interest to keep the students' rankings, then ask them to repeat the ranking at the end of the course; return their original rankings and ask students to discuss any changes that occurred (and why) from the beginning to the end of the course.

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## Activity 1.8: Perspectives in Psychology

This activity will help students summarize the various perspectives, distinguish among them, and appreciate the value of eclecticism. For this exercise, students should work in small groups. Each group should take one of the major psychological perspectives discussed in Chapter 1 (psychodynamic, behavioral, humanistic, cognitive, sociocultural, biopsychological, and evolutionary). In the first step, using their books and their minds, they are to outline the key figures as well as key terms and concepts on a PowerPoint slide or poster, in preparation for presenting their perspective to the class. In the second step

of this exercise, students are to read a brief case history and analyze the case according to their chosen perspective. The third step is to present their perspective and their analysis to the class.

If you have a small class, you can have each group present its perspective and analysis orally, using PowerPoint or posters as visual prompts. If you have a large class, you may want to have groups do posters, and then group posters on similar perspectives together around the edges of the room. You could then tour around the room and ask a few key questions of students from each group while other students look and listen.

Detailed instructions for this activity are contained in **Handout Master 1.4**. You should follow-up the presentations with a discussion of the difference between a perspective and a theory. Finally, you should conclude with a discussion of eclecticism, the notion that all of the perspectives are needed to construct comprehensive explanations of behavior and mental processes.

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### Activity 1.9—Contradictory Beliefs

Consider these contradictory beliefs:

*Birds of a feather flock together ..... Opposites attract*  
*Absence makes the heart grow fonder ..... Out of sight, out of mind*  
*You can't teach an old dog new tricks ..... Never too old to learn*  
*The squeaky wheel gets the grease ..... The nail that sticks up gets hammered down*  
*You can't judge a book by its cover ..... Where there's smoke, there's fire*  
*Better safe than sorry..... Nothing ventured, nothing gained*  
*Two heads are better than one ..... Too many cooks spoil the broth*  
*Never look a gift horse in the mouth ..... Beware of Greeks bearing gifts*

Often students will have anecdotal stories about each belief. Ask students to think about their beliefs from an empirical point of view. You may want to facilitate discussion by providing students with the following questions:

*Can you rely on a single person's account to believe in a phenomenon?*  
*How might each set of beliefs be tested empirically?*  
*When will you "believe" in a certain phenomenon?*

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### Activity 1.10: Wonder Horse Dials 911 to Save Boy's Life

Jane Halonen suggests a fun class exercise that tests students' understanding of experimental methodology principles. After you have covered the basics of correlation, experimentation, and causal inference, challenge your students to apply these principles by examining the outrageous claims made in tabloid headlines, many of which imply a causal relationship (e.g., dreaming in black-and-white improves your sex life; garlic diet improves memory ... but not breath; large gopher presence precedes volcano eruptions). For this exercise, bring in a variety of headlines from supermarket tabloids that are psychology related and causal sounding (or ask students to bring in examples). Challenge students to design simple studies that will accurately test whether the relationship claimed in the headline is a valid one. Halonen reports that students enjoy the opportunity to "think like scientists" in response to humorous and outrageous claims and that this exercise helps stimulate them to scrutinize causal claims from all sources and to design experiments more carefully and creatively (and, if that isn't enough, they can

practice their newfound skills in line at the grocery store)!

Halonen, J. S. (1986). *Teaching critical thinking in psychology*. Milwaukee: Alverno Productions.

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### Activity 1.11: Softens Hands While You Do Dishes

A variation of the tabloid exercise suggested above encourages students to apply experimental principles to claims they are bombarded with on a daily basis—television and magazine advertising. For this exercise, bring in (or have your students bring in) samples of advertising and have students critique the product claims of success according to principles of experimental methodology. Ads can be critiqued on several grounds, including the problem of personal testimony being unreliable, the absence of a control or comparison group, the presence of extraneous variables, the presence of plausible alternative explanations, unclear or undefined variables, or a lack of supporting statistics. Jane Halonen reports that students become enthusiastic about the usually dreaded topic of experimental methodology when they realize it has the potential to make them smarter consumers.

Halonen, J. S. (1986). *Teaching critical thinking in psychology*. Milwaukee: Alverno Productions.

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### Activity 1.12: Observational Research in the Dining Hall

Koschmann and Wesp (2001) provide several research activities for observational research, correlational research, and experimental research. One way to introduce students to research methods is to allow them to become more cognizant of their everyday surroundings and fellow classmates' behaviors. Koschmann and Wesp suggest that the college or university dining hall is an excellent "laboratory" to observe human behavior. Merely ask students to observe others during meals in the cafeteria, such as seat selection or food choices. You might encourage student research teams to decide which behaviors they wish to observe. Ask students to record their observations, maintain confidentiality, and "debrief" anyone who asked them what they were doing. During the next scheduled class, ask students to share their findings and to generate discussion about potential hypotheses that may provide a better understanding of the behaviors they observed.

Koschmann, N. & Wesp, R. (2001). Using a dining facility as an introductory psychology research laboratory. *Teaching of Psychology*, 28, 105–108.

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### Activity 1.13: Understanding Correlations

This exercise on correlations can be used as a classroom demonstration or as a take-home assignment following a lecture on the nature and uses of correlations. The student handout for this exercise is included as [Handout Master 1.5](#). Suggested answers are provided below; however, there are other reasonable explanations.

1. *Positive*. Mutual influence. Similar life experiences.
2. *Negative*. Orphanage environment has an adverse effect on cognitive development. Intelligent children are more likely to be adopted.

3. *Positive.* Violent pornography stimulates violent behavior. Both the violent crime and the number of stores are related to the size of cities. Violent criminals are attracted to violent pornography.
4. *Negative.* Absent students miss pearls of wisdom from the mouth of the instructor. Students with jobs or other responsibilities find it difficult both to get to class and to find time to study.
5. *Positive.* The money appropriated to control crime was poorly spent. The city grew during the eight years, resulting in more crime and more tax revenues.
6. *Positive.* Both variables are related to socioeconomic factors; children from affluent homes have both intellectual and physical advantages over children from substandard home environments. Age is the third variable that accounts for scores on both variables; older children have bigger vocabularies and are also stronger and better coordinated.

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### Activity 1.14: Which Descriptive Method Would You Use?

The following examples can be used to generate a discussion of the research methods used by psychologists. Write the following methods on the board: case histories, naturalistic observation, laboratory observation, surveys, tests, correlational studies, and experiments. Then, for each situation, ask students to decide which method is appropriate and briefly describe why.

1. Determining the favorite food of adolescents.  
Method: Survey  
Explanation: Adolescents constitute a large population and the information sought should be accessible through questionnaires or interviews. Care will be needed to gather a sample that is representative of the population under consideration.
2. Determining whether a person is introverted or extroverted.  
Method: Psychological test  
Explanation: The goal is to measure psychological qualities within an individual. Other methods (e.g., case history, naturalistic observation) might be employed, but they are more time consuming and do not offer the degree of standardization, reliability, and validity found in a well-constructed test.
3. Determining if frustration causes aggression.  
Method: Experiment  
Explanation: Cause-and-effect information is being sought. In science this information is obtained through experimentation in which the proposed causal variable is manipulated under controlled conditions.
4. Determining if level of education is associated with crime.  
Method: Correlation  
Explanation: This technique is used to determine if and how strongly two variables are related. Establishing that a correlation exists, however, does not address the issue of *why* two variables are related.
5. Determining how teenagers behave on their first date.  
Method: Naturalistic observation  
Explanation: A description of behavior as it occurs in a real-life situation is being sought. Making the observations without arousing suspicion in subjects could be problematic.

6. Determining the behavior of people who are anxious about participating in research.  
Method: Laboratory observation  
Explanation: The goal here can be readily achieved within an environment artificially set up by the experimenter. The advantage of this approach is that the investigator has greater control over the situation being studied.
  
7. Determining why a parent gave up a flourishing career to take care of young children full-time.  
Method: Case history  
Explanation: Making this determination requires in-depth information about the way a variety of psychological factors, expectations, values, motives, past experiences, and so forth, blend together within the person. This kind of information is unique to the person and could not be assessed through standardized tests.

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### Activity 1.15: Correlational and Experimental Research

Some students have difficulty understanding the difference between correlational research and experimental research. It might be useful to walk the class through an example where both kinds of research are illustrated with the same variables. Two examples that could be used this way are the relationship between violent television viewing and aggression and the relationship between similarity and liking. In both examples either variable could plausibly be caused by the other (or by some third factor); so the advance from correlational to experimental research, where causality has the potential to be determined, can be useful. Spend some time discussing how psychologists must be ingenious to turn concepts such as “liking” into measurable variables (this will help students appreciate the scientific process).

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### Activity 1.16: Using Memory to Demonstrate Experimental Methodology

This demonstration introduces the experimental method; however, it is equally applicable to the material in the memory chapter. Students are given the question, “Can we improve memory by using a mnemonic technique?” and are asked to design an experiment to test the hypothesis. The experiment is then conducted using procedures summarized below. Through this procedure, students are guided through a typical psychological experiment and are introduced to the concepts of independent variable, dependent variable, experimental and control groups, and control procedures.

Prepare a mnemonic technique and write it on small slips of paper to hand to some of the students (half of the class). Construct a list of common words to use in conjunction with the mnemonic. Here is one of many mnemonic techniques:

PRESIDENTIAL

Word List: Pet, Road, Eagle, Screen, Ink, Dog, Envelope, Number, Target, Income, Alley, Library

Begin a discussion of the experimental method by asking for definitions of a hypothesis. After discussing the students’ definitions tell them that they are going to conduct an experiment in class and provide them with the question above as the hypothesis. After defining mnemonic techniques, inform the class that you have a mnemonic technique but need to know how to proceed from this point. Students are asked for input as to how to test the hypothesis. Usually someone proposes that the class be divided into two

groups: one that receives the mnemonic and one that does not. Ask how the students should be assigned to each group. This leads us to a discussion of random assignment.

The experiment begins by passing out the slips of paper with the mnemonic to the “experimental” group. All students are then given the following instructions: “I am going to read a list of words; when I’m finished I want you to recall as many words as you can IN THE SAME ORDER AS THEY WERE READ.” Tell the experimental group how to use the mnemonic: “The letters of the word correspond to the first letter of each word in the list, so you can use the word to help you remember the order of the words in the list.”

Read the list of words, pausing for about four seconds between words. Then tell the students to write down as many words as they can remember in the same sequence as they were read. Allow about three minutes of recall time, and then ask the students to correct their own paper and tabulate the results on the board. This demonstration typically yields a large difference between the two groups. If desired, you can initiate a discussion of statistical inference and perhaps conduct some preliminary analyses. Discuss how the results pertain to the original hypothesis.

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### Activity 1.17: Testing Random Assignment

Students are sometimes leery of random assignment, thinking that the people with the best memory or the worst sense of smell will all end up in the same group and make the results of research undependable. This demonstration is designed to show that random assignment does produce equivalent groups.

Provide students with small cards and have them record their height in inches. If the class is small, ask them to record the height of their best friend on a second card. Collect the cards and then randomly assign them to several groups of 20. Have students calculate means for the groups.

The means should be quite close, illustrating that random assignment has produced equivalent groups. You might also explain that random assignment is not infallible and can be a source of experimental error.

This activity can be extended by using groups of different sizes, such as 2, 5, 10, 20, and 50, to show that the probability of getting groups that are *not* equivalent decreases as group size increases.

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### Activity 1.18: Give the Doctor Some Advice

This exercise describes research on the effects of drinking and driving. However, this study is flawed and students are asked to suggest ways to correct the errors. Distribute **Handout Master 1.6** as a basis for this exercise.

Suggested answers:

1. E
2. Possible confounding variables:  
The vodka and the placebo should be mixed in equal amounts of orange juice.  
Subjects should be chosen randomly and also assigned randomly to the different groups. (The same amount of alcohol affects males and females differently.)  
The researcher should not select friends, colleagues, or his own students as the subjects for this

research, or any research, because of possible experimenter expectancy and demand characteristics.

The subjects should participate at the same time of day since their last meal can determine how potent the effects of alcohol can be.

Informed consent should be obtained before the research, not after.

Given these many possible confounding variables, Dr. Sardonicus should be more cautious in his conclusions.

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### **Activity 1.19: Animal Rights Committee**

In this activity, students are asked to role-play members of an institutional animal rights committee and must decide whether to approve research projects involving animals (**Handout Master 1.7**). Divide students into small groups. Each group represents a committee and must discuss the merits of each research proposal arriving at a general consensus. Consult Herzog (1990) for further details regarding this class activity, as well as a summary of the two arguments (i.e., utilitarian versus rights).

Herzog, H. (1990). Discussing animal rights and animal research in the classroom. *Teaching of Psychology, 17*, 90-94.

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## STUDENT REVIEW RESOURCES

### ▼ CHAPTER REVIEW: CROSSWORD PUZZLE

The crossword puzzle in [Handout Master 1.8](#) will help students preview and/or review many of the important concepts in this course.

Answer Key:

#### Across

4. the phenomenon in which the expectations of the participants in a study can influence their behavior. **placebo**
5. the theory and therapy based on the work of Sigmund Freud. **psychoanalysis**
7. tendency of observers to see what they expect to see. **bias**
10. process of assigning subjects to the experimental or control groups randomly, so that each subject has an equal chance of being in either group. **random**
11. the scientific study of behavior and mental processes. **psychology**
12. tentative explanation of a phenomenon based on observations. **hypothesis**
14. a professional with an academic degree and specialized training in one or more areas of psychology. **psychologist**
15. early perspective in psychology associated with Wilhelm Wundt and Edward Titchener, in which the focus of study is the structure or basic elements of the mind. **structuralism**
16. in research, repeating a study or experiment to see if the same results will be obtained in an effort to demonstrate reliability of results. **replicate**
17. the entire group of people or animals in which the researcher is interested. **population**
18. a deliberate manipulation of a variable to see if corresponding changes in behavior result, allowing the determination of cause-and-effect relationships. **experiment**

#### Down

1. a measure of the relationship between two variables. **correlation**
2. thinking and making reasoned judgments about claims. **critical**
3. early perspective in psychology associated with William James, in which the focus of study is how the mind allows people to adapt, live, work, and play. **functionalism**
6. the process of examining and measuring one's own thoughts and mental activities. **introspection**
8. method system of gathering data so that bias and error in measurement are reduced. **scientific**
9. a medical doctor who has specialized in the diagnosis and treatment of psychological disorders. **psychiatrist**
13. perspective that focuses on the relationship between social behavior and culture. **Sociocultural**

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▼ **CHAPTER REVIEW: FILL-IN-THE-BLANK KEY TERMS EXERCISE**

The key terms exercise in **Handout Master 1.9** will help students preview and/or review many of the important concepts in this course. It can be administered with or without the key term bank (**Handout Master 1.9a**).

Answer Key:

- |                                 |                                     |
|---------------------------------|-------------------------------------|
| 1. representative sample        | 24. experimenter bias               |
| 2. behaviorism                  | 25. survey                          |
| 3. scientific method            | 26. sample                          |
| 4. descriptive research methods | 27. selection bias                  |
| 5. psychoanalysis               | 28. dependent variable              |
| 6. replication                  | 29. correlation                     |
| 7. basic research               | 30. experimental method             |
| 8. theory                       | 31. causal hypothesis               |
| 9. sociocultural approach       | 32. independent variable            |
| 10. applied research            | 33. experimental group              |
| 11. functionalism               | 34. double-blind technique          |
| 12. humanistic psychology       | 35. confounding variables           |
| 13. Gestalt psychology          | 36. random assignment               |
| 14. evolutionary psychology     | 37. placebo effect                  |
| 15. biological                  | 38. quasi-experiment                |
| 16. neuroscience                | 39. placebo                         |
| 17. psychological perspectives  | 40. structuralism                   |
| 18. cognitive psychology        | 41. control group                   |
| 19. critical thinking           | 42. information processing approach |
| 20. naturalistic observation    | 43. population                      |
| 21. correlational method        | 44. hypothesis                      |
| 22. laboratory observation      | 45. variable                        |
| 23. case study                  | 46. participant-related bias        |

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## HANDOUT MASTERS

- [1.1 Chapter 1 Learning Objectives](#)
- [1.2 Knowledge of Psychology Test](#)
- [1.3 Schools of Thought Exercise](#)
- [1.4 Perspectives in Psychology](#)
- [1.5 Understanding Correlations](#)
- [1.6 Give the Doctor Some Advice](#)
- [1.7 Animal Rights Committee](#)
- [1.8 Crossword Puzzle](#)
- [1.9 Fill-in-the-Blank Key Terms Exercise](#)
- [1.9a Key Term Bank \(Optional\)](#)

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Handout Master 1.1

## **CHAPTER 1 LEARNING OBJECTIVES**

- 1.1.1: Explain why psychologists use the scientific method
- 1.1.2: List the goals of psychology
- 1.2.1: Recall the early psychologists' contributions to the field of psychology
- 1.2.2: Describe the seven major schools of thought in psychology
- 1.2.3: Identify the seven contemporary psychological perspectives
- 1.2.4: List the specialty areas that exist in psychology
- 1.3.1: Demonstrate how psychologists evaluate theories
- 1.3.2: Describe how critical thinking helps you evaluate research
- 1.4.1: Compare the pros and cons of observational and case studies
- 1.4.2: Illustrate how researchers design useful surveys
- 1.4.3: Contrast the strengths and weaknesses of the correlational method
- 1.5.1: Explain how researchers use experiments to test causal hypotheses
- 1.5.2: Describe the limitations of the experimental method
- 1.6.1: Explain how participants' characteristics can influence a study's usefulness
- 1.6.2: Describe how researchers protect participants' and animals' rights

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## Handout Master 1.2

**Knowledge of Psychology Test**

*Instructions:* Read each item carefully and then circle whether you believe the statement to be true or false.

- T F 1. To change people's behavior toward members of ethnic minority groups, we must first change their attitudes.
- T F 2. By feeling people's faces, blind people can visualize how they look in their minds.
- T F 3. Children memorize much more easily than adults.
- T F 4. Unlike humans, the lower animals are motivated only by their bodily needs—hunger, thirst, sex, and so on.
- T F 5. "The study of the mind" is the best brief definition of psychology today.
- T F 6. The more you memorize by rote (e.g., poems), the better you will become at memorizing.
- T F 7. The best way to ensure that a desired behavior will persist after training is completed is to reward the behavior every single time it occurs throughout training (rather than intermittently).
- T F 8. Fortunately for babies, human beings have a strong maternal instinct.
- T F 9. The ability of blind people to avoid obstacles is due to a special sense that develops in compensation for their absence of vision.
- T F 10. By giving a young baby lots of extra stimulation (e.g., mobiles and musical toys), we can markedly increase its intelligence.
- T F 11. Psychiatrists are defined as medical people who use psychoanalysis.
- T F 12. Boys and girls exhibit no behavioral differences until environmental influences begin to produce such differences.
- T F 13. The high correlation between cigarette smoking and lung cancer proves that smoking causes lung cancer.
- T F 14. Genius is akin to insanity.
- T F 15. In love and friendship, more often than not, opposites attract one another.

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## Handout Master 1.3

**Schools of Thought in Psychology**

Classify each of the following explanations of depression as representative of (a) behaviorism, (b) psychoanalysis, (c) humanistic psychology, or (d) cognitive psychology.

1. Depression is the result of faulty thinking. Once people get the idea that bad things are going to happen to them, they focus most of their attention on bad things that have happened in the past or those they believe will happen in the future. This kind of thinking elicits the negative emotions associated with depression. Depressed people may even interpret good things, like success in school, in a negative way. They may say “I got lucky,” when they receive a good grade on an exam or essay. As a result, they miss out on the possible emotional improvement that might result from their attributing their success to their own ability and effort.
2. People feel depressed because of the way others respond to them when they express sad feelings. They get attention, and to keep the attention, they continue to behave in a depressed way. Alternatively, aversive stimuli are universally associated with unpleasant emotions such as sadness. Thus, depressed people may feel sad because they are exposed to aversive stimuli such as abuse. The factors influencing each individual’s behavior must be systematically analyzed in order to determine what must change in each case.
3. Depression comes from a lack of confidence in one’s own inner self. Depressed people question themselves or feel guilty about thoughts, feelings, and desires they have that they believe may disappoint others. As a result, they spend a great deal of time and energy trying to live up to others’ expectations. To be free of depression, each individual must learn to listen to her or his inner voice and to follow a self-determined path rather than trying to conform to the expectations of others.
4. Depression grows out of emotions, conflicts, and unpleasant experiences that are buried in the unconscious mind. Perhaps a depressed person was abused as a child and has repressed the experience because thinking about it makes her angry with the abuser. If the abuser was a parent, then the person may feel guilty about the anger. To avoid the unpleasant feelings of anger and guilt, the individual “forgets” about the experience. But pushing things down into the unconscious is a temporary solution; sooner or later, the negative emotions will come out. This is what is happening in depression: hidden negative feelings of some kind are being exhibited as sadness.

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Handout Master 1.4

## Perspectives in Psychology

### Step 1.

Pick one of the perspectives listed below. Each group, working together, is responsible for teaching the class about its viewpoint. Prepare a PowerPoint presentation or poster that summarizes the important points about your theory. Be sure to include the **names** of people who were most important in developing your theory and **key terms** and **concepts** associated with your theory. Be prepared to present your theory to the class.

**Biological**

**Learning**

**Cognitive**

**Sociocultural**

**Psychodynamic**

### Step 2.

Read the following case history. Working with your group, decide how a psychologist using your perspective would explain the CAUSE of Andrea's problem. *Do not rely on common sense and intuition in discussing this case. Imagine that you are a staunch advocate of this particular viewpoint and make your arguments from that point of view.* Write your ideas on your PowerPoint slide or poster and be prepared to present them to the entire class.

Andrea is a 19-year-old college student. She has requested counseling from her college counseling center at the urging of her friends. Andrea's friends believe that she may have an eating disorder. Andrea sees herself as fat, but to her friends she is startlingly thin. In fact, she is so thin that they are afraid she will become seriously ill. Andrea maintains this low weight mainly by eating practically nothing and drinking two quarts of water a day. She says she thinks about food "all the time" when she is restricting her food intake, but that she does not want to eat because she is afraid of getting fat. At other times, however, her hunger is so intense that she feels like she has to give in to the cravings. At those times she binges and eats huge amounts of food. For example, she once ate a half gallon of ice cream in a little over one hour. After her binges she works to get rid of the excess calories she has consumed by vomiting. She says she is starting to agree that she may have an eating problem. After interviewing Andrea, you are convinced that she meets criteria for a diagnosis of both anorexia and bulimia.

You are also interested in obtaining some background information about Andrea to aid in understanding her. She says that she started really worrying about her weight two years ago, when she was a junior in high school. At that time her parents were quarreling a lot and had even talked about divorce. She says that managing her eating made her feel more in control. She also noticed that, even though she still felt fat, people seemed to pay more attention to her and to respond to her better as she got thinner. She indicates that she likes having a more "boyish," more athletic figure.

### Step 3.

Present your perspective and your analysis of the case history to the class.

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Handout Master 1.5

### Understanding Correlations

Correlational studies show relationships between variables. If high scores on one variable predict high scores on the other variable, the correlation is *positive*. If high scores on one variable predict low scores on the other variable, the correlation is *negative*.



Showing that two variables are related does not justify claiming that a causal relationship exists. There may be a causal relationship, but other explanations usually exist. For example, the variables may be related because both have a causal relationship with a third variable.



For each of the correlational studies described below, decide whether the correlation is positive or negative and give two alternative explanations for each finding.

1. A study of married couples showed that the longer they had been married, the more similar their opinions on social and political issues were.

Positive or negative?

Explanation 1:

Explanation 2:

2. An intelligence test was given to all the children in an orphanage. The results showed that the longer children had lived in the orphanage, the lower their IQ scores.

Positive or negative?

Explanation 1:

Explanation 2:

3. In a study of American cities, a relationship was found between the number of violent crimes and the number of stores selling violence-depicting pornography.

Positive or negative?

Explanation 1:

Explanation 2:

4. A college professor found that the more class absences students have, the lower their grade in the course tends to be.

Positive or negative?

Explanation 1:

Explanation 2:

5. A politician running against a candidate who had been in office for eight years pointed out that violent crime had increased steadily during those eight years even though the administration appropriated more and more money to fight crime.

Positive or negative?

Explanation 1:

Explanation 2:

6. It was found that elementary-school children who made high scores on a vocabulary test also tended to make high scores on a test of physical strength and muscular coordination.

Positive or negative?

Explanation 1:

Explanation 2:

**► Return to Activity: Understanding Correlations**  
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## Handout Master 1.6

**Give the Doctor Some Advice**

Dr. Sardonicus has long been interested in the effects of alcohol on human behavior. His latest experiment involved giving college students one of three kinds of drinks:

- 3 oz. of 100 proof vodka mixed with a standard size glass of orange juice,
- 2 oz. of 100 proof vodka mixed with a small glass of orange juice, or
- 3 oz. of a nonalcoholic but vodka-flavored substance mixed with a standard size glass of orange juice.

Dr. Sardonicus recruited some of his subjects from the school's track team, which was easy because he is the assistant coach. He recruited the rest of his subjects from his introductory psychology class. Dr. Sardonicus assigned the women on the track team to the 2 oz. vodka group, the men from his class to the 3 oz. vodka group, and the women from his class to the nonalcoholic group.

The women on the track team participated right after they finished practicing, and students from his class participated at various times during the day. After each group had a chance to drink the beverage, he had them sit in an automobile simulator where their task was to step on the brake every time they saw a red light.

Much to his surprise, the 2 oz. group showed slower reaction times to the red light than the 3 oz. group. The nonalcoholic group was the quickest to react. As soon as the experiment was over, he explained to the subjects the true purpose of the experiment and had them sign an informed consent form. From his analysis of the results, Dr. Sardonicus concluded that drinking alcoholic beverages can slow reaction time for braking in college students who drive after drinking.

1. Based on his experiment, was Dr. Sardonicus's conclusion correct?
  - A. No, because he did not randomly select his subjects.
  - B. No, because he knew some of his subjects better than others.
  - C. Yes, because subjects in both experimental groups had slower reaction times than the control group.
  - D. Yes, because his results agree with what we all know from our experience with those who drink and drive.
  - E. No, because there were too many confounding variables in his experiment, including both A and B.
2. On the other side of this page, give Dr. Sardonicus some advice on how he might improve his research on drinking.

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## Handout Master 1.7

**Animal Rights Committee**

The following two cases illustrate the kinds of issues that are faced by animal welfare committees.

**Case 1:**

Professor King is a psychobiologist working on the frontiers of a new and exciting research area of neuroscience, brain grafting. Research has shown that neural tissue can be removed from the brains of monkey fetuses and implanted into the brains of monkeys that have suffered brain damage. The neurons seem to make the proper connections and are sometimes effective in improving performance in brain-damaged animals. These experiments offer important animal models for human degenerative diseases such as Parkinson's and Alzheimer's. Dr. King wants to transplant tissue from fetal monkey brains into the entorhinal cortex of adult monkeys; this is the area of the human brain that is involved with Alzheimer's disease.

The experiment will use 20 adult rhesus monkeys. First, the monkeys will be subjected to ablation surgery in the entorhinal cortex. After they recover, the monkeys will be tested on a learning task to make sure their memory is impaired. Three months later, half the animals will be given transplant surgery. Control animals will be subjected to sham surgery, and all animals will be allowed to recover for two months. They will then learn a task to test the hypothesis that the animals having brain grafts will show better memory than the control group.

Dr. King argues that this research is in the exploratory stages and can only be done using animals. She further states that by the year 2000 about two million Americans will have Alzheimer's disease and that her research could lead to a treatment for the devastating memory loss that Alzheimer's victims suffer.

**Case 2:**

The Psychology Department is requesting permission from your committee to use 10 rats per semester for demonstration experiments in a physiological psychology course. The students will work in groups of three; each group will be given a rat. The students will first perform surgery on the rats. Each animal will be anesthetized. Following standard surgical procedures an incision will be made in the scalp and two holes drilled in the animal's skull. Electrodes will be lowered into the brain to create lesions on each side. The animals will then be allowed to recover. Several weeks later, the effects of destroying this part of the animal's brain will be tested in a shuttle avoidance task in which the animals learn to cross over an electrified grid.

The instructor acknowledges that the procedure is a common demonstration and that no new scientific information will be gained from the experiment. He argues, however, that students taking the course in physiological psychology must have the opportunity to engage in small animal surgery and to see firsthand the effects of brain lesions.

Herzog, H. (1990). Discussing animal rights and animal research in the classroom, *Teaching of Psychology*, 17, 90-94.

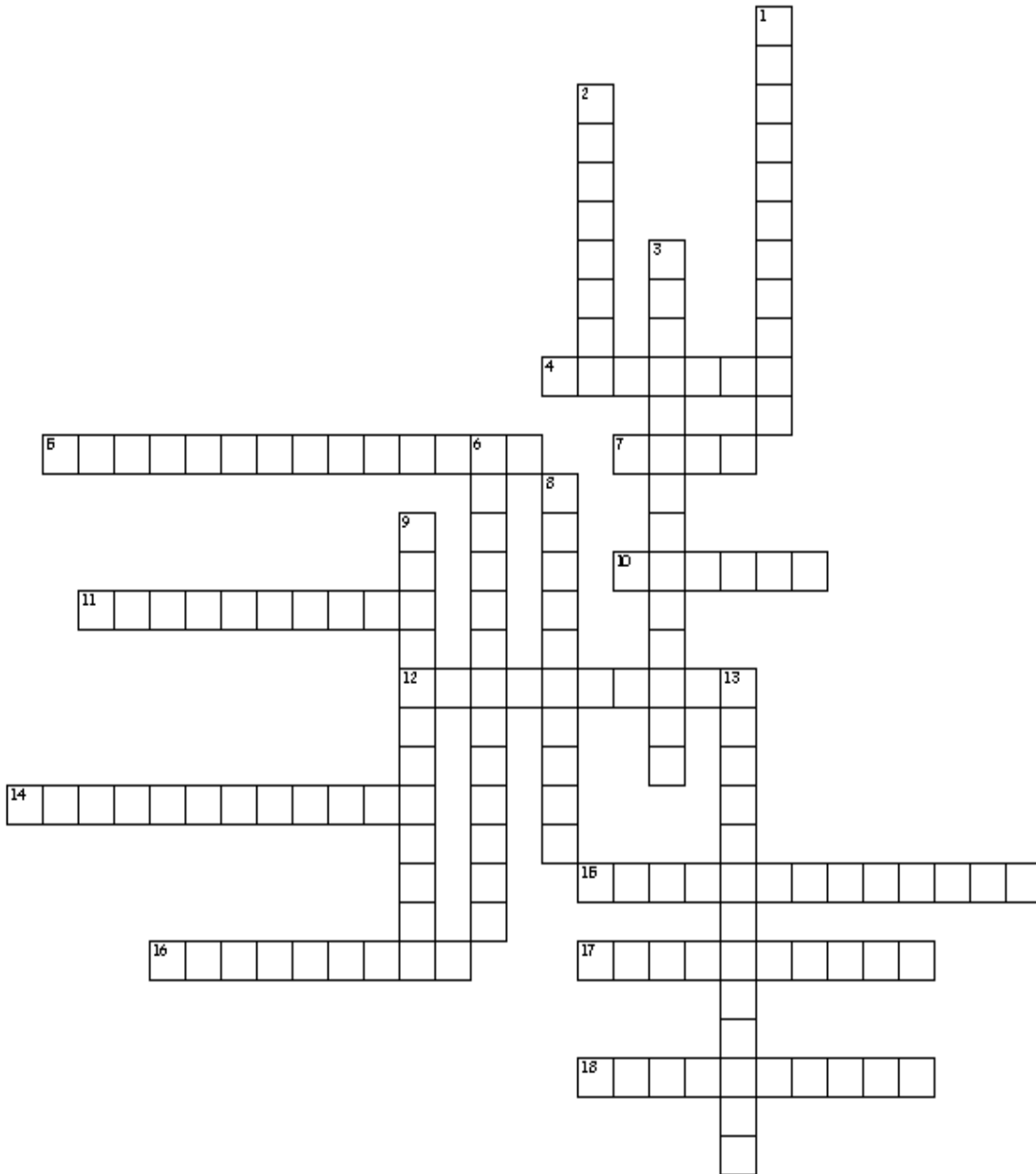
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Handout Master 1.8

### Chapter Review: Crossword Puzzle



**Across**

4. the phenomenon in which the expectations of the participants in a study can influence their behavior.
5. the theory and therapy based on the work of Sigmund Freud.
7. tendency of observers to see what they expect to see.
10. process of assigning subjects to the experimental or control groups randomly, so that each subject has an equal chance of being in either group.
11. the scientific study of behavior and mental processes.
12. tentative explanation of a phenomenon based on observations.
14. a professional with an academic degree and specialized training in one or more areas of psychology.
15. early perspective in psychology associated with Wilhelm Wundt and Edward Titchener, in which the focus of study is the structure or basic elements of the mind.
16. in research, repeating a study or experiment to see if the same results will be obtained in an effort to demonstrate reliability of results.
17. the entire group of people or animals in which the researcher is interested.
18. a deliberate manipulation of a variable to see if corresponding changes in behavior result, allowing the determination of cause-and-effect relationships.

**Down**

1. a measure of the relationship between two variables.
2. thinking and making reasoned judgments about claims.
3. early perspective in psychology associated with William James, in which the focus of study is how the mind allows people to adapt, live, work, and play.
6. the process of examining and measuring one's own thoughts and mental activities.
8. method system of gathering data so that bias and error in measurement are reduced.
9. a medical doctor who has specialized in the diagnosis and treatment of psychological disorders.
13. perspective that focuses on the relationship between social behavior and culture.

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## Handout Master 1.9

**Chapter Review: Fill-in-the-Blank Key Terms Exercise**

1. A \_\_\_\_\_ mirrors the population of interest; it includes important subgroups in the same proportions as they are found in that population.
2. The school of psychology founded by John B. Watson, \_\_\_\_\_, views observable, measurable behavior as the appropriate subject matter for psychology and emphasizes the key role of environment as a determinant of behavior.
3. The \_\_\_\_\_ is the orderly, systematic procedures that researchers follow as they identify a research problem, design a study to investigate the problem, collect and analyze data, draw conclusions, and communicate their findings.
4. \_\_\_\_\_ yield descriptions of behavior.
5. \_\_\_\_\_ is the term that Freud used for both his theory of personality and his therapy for the treatment of psychological disorders; the unconscious is the primary focus of psychoanalytic theory.
6. The process of repeating a study with different participants and preferably a different investigator to verify research findings is called \_\_\_\_\_.
7. \_\_\_\_\_ is conducted to seek new knowledge and to explore and advance general scientific understanding.
8. A \_\_\_\_\_ is a general principle or set of principles proposed to explain how a number of separate facts are related.
9. Psychologists who take the \_\_\_\_\_ argue that social and cultural factors may be just as powerful as evolutionary and physiological factors in affecting behavior and mental processing and that these factors must be understood when interpreting the behavior of others.
10. \_\_\_\_\_ is conducted specifically to solve practical problems and improve the quality of life.
11. \_\_\_\_\_ is an early school of psychology that was concerned with how humans and animals use mental processes in adapting to their environment.
12. The school of psychology that focuses on the uniqueness of human beings and their capacity for choice, growth, and psychological health is called \_\_\_\_\_.
13. \_\_\_\_\_ is the school of psychology that emphasizes that individuals perceive objects and patterns as whole units and that the perceived whole is more than the sum of its parts.
14. Proponents of \_\_\_\_\_ study how humans have adapted the behaviors required for survival in the face of environmental pressures over the long course of evolution.
15. \_\_\_\_\_ is the school of psychology that looks for links between specific behaviors and equally specific physiological processes that often help explain individual differences.
16. \_\_\_\_\_ is an interdisciplinary field that combines the work of psychologists, biologists, biochemists, medical researchers, and others in the study of the structure and function of the nervous system.

17. General points of view used for explaining people's behavior and thinking, whether normal or abnormal, are known as \_\_\_\_\_.
18. \_\_\_\_\_ is the school of psychology that views humans as active participants in their environment and studies mental processes such as memory, problem solving, decision making, perception, language, and other forms of cognition.
19. The process of \_\_\_\_\_ includes objectively evaluating claims, propositions, and conclusions to determine whether they follow logically from the evidence presented.
20. \_\_\_\_\_ is a descriptive research method in which researchers observe and record behavior in its natural setting, without attempting to influence or control it.
21. Researchers use the \_\_\_\_\_ to establish the degree of relationship between two characteristics, events, or behaviors.
22. \_\_\_\_\_ is a descriptive research method in which behavior is studied in a laboratory setting, where researchers can exert more control and use more precise equipment to measure responses.
23. In a \_\_\_\_\_, an individual or a small number of individuals are studied in great depth, usually over an extended period of time.
24. \_\_\_\_\_ is a phenomenon that occurs when a researcher's preconceived notions or expectations in some way influence participants' behavior and/or the researcher's interpretation of experimental results.
25. Researchers may use a \_\_\_\_\_, a descriptive research method in which researchers use interviews and/or questionnaires to gather information about the attitudes, beliefs, experiences, or behaviors of a group of people.
26. A \_\_\_\_\_ is a part of a population that is studied in order to reach conclusions about the entire population.
27. The assignment of participants to experimental or control groups in such a way that systematic differences among the groups are present at the beginning of the experiment is \_\_\_\_\_.
28. In an experiment, the \_\_\_\_\_ is the factor or condition that is measured at the end of the study and is presumed to vary as a result of the manipulations of the independent variable(s).
29. A \_\_\_\_\_ is a numerical value that indicates the strength and direction of the relationship between two variables, ranging from +1.00 to -1.00.
30. The \_\_\_\_\_ is the only research method that can be used to identify cause-effect relationships between two or more conditions or variables.
31. A \_\_\_\_\_ is a prediction about a cause-effect relationship between two or more variables.
32. In an experiment, the \_\_\_\_\_ is a factor or condition that is deliberately manipulated in order to determine whether it causes any change in another behavior or condition.
33. In an experiment, the \_\_\_\_\_ is exposed to an independent variable.

34. The \_\_\_\_\_ is a procedure in which neither the participants nor the experimenter know who is in the experimental and control groups until after the data have been gathered, a control for experimenter bias.
35. \_\_\_\_\_ are factors or conditions other than the independent variable(s) that are not equivalent across groups and could cause differences among the groups with respect to the dependent variable.
36. The process of selecting participants for experimental and control groups by using a chance procedure to guarantee that each participant has an equal probability of being assigned to any of the groups; a control for selection bias is called \_\_\_\_\_.
37. The \_\_\_\_\_ occurs in an experiment when a participant's response to a treatment is due to her or his expectations about the treatment rather than to the treatment itself.
38. When comparable groups are compared on a variable that cannot ethically be manipulated, the researcher is likely to have set up a \_\_\_\_\_.
39. A \_\_\_\_\_ is an inert or harmless substance given to the control group in an experiment as a control for the placebo effect.
40. \_\_\_\_\_ was the first formal school of thought in psychology, which endeavored to analyze the basic elements, or structure, of conscious mental experience.
41. In an experiment, the \_\_\_\_\_ is similar to the experimental group and is exposed to the same experimental environment but not the same treatment; it is used for purposes of comparison.
42. The \_\_\_\_\_ is an approach to the study of mental structures and processes that uses the computer as a model for human thinking.
43. The \_\_\_\_\_ is the entire group of interest to researchers to which they wish to generalize their findings; the group from which a sample is selected.
44. A \_\_\_\_\_ is a prediction about a relationship between two or more variables.
45. A \_\_\_\_\_ is any condition or factor that can be manipulated, controlled, or measured.
46. The type of bias in which a study's participants are not representative of the population to which results will be generalized is called \_\_\_\_\_.

**► Return to Student Review Resources: Chapter Review: Fill-in-the-Blank Key Terms Exercise**

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Handout Master 1.9a

**Key Terms Bank (Optional)**

1. applied research
2. basic research
3. behaviorism
4. biological psychology
5. case study
6. causal hypothesis
7. cognitive psychology
8. confounding variables
9. control group
10. correlation coefficient
11. correlational method
12. critical thinking
13. cross-cultural research
14. dependent variable
15. descriptive research methods
16. double-blind technique
17. evolutionary psychology
18. experimental group
19. experimental method
20. experimenter bias
21. functionalism
22. Gestalt psychology
23. humanistic psychology
24. hypothesis
25. independent variable
26. information-processing theory
27. laboratory observation
28. naturalistic observation
29. neuroscience
30. participant-related bias
31. placebo
32. placebo effect
33. population
34. positive psychology
35. psychoanalysis
36. psychological perspectives
37. psychology
38. quasi-experiments
39. random assignment
40. replication
41. representative sample
42. sample
43. scientific method
44. selection bias
45. sociocultural approach
46. structuralism
47. survey
48. theory
49. variable

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## ▼ Multimedia Resources

### Chapter 1 Video Content available:

Video: The Danger of False Beliefs (2:07)

Scott Lilienfeld discusses why harboring misbegotten beliefs can lead to dramatic real-world consequences.

Video: Multiple Perspectives in Psychology (0:30 each)

Seven short videos introduce viewers to the behavioral, psychoanalytic, humanistic, and other major perspectives in psychological science.

Video: Critical Thinking (1:42)

Carol Tavis discusses some myths and realities associated with critical thinking.

Video: How to Answer Psychological Questions (1:07)

A short synopsis of the many methods psychological scientists use in their investigations is provided.

Video: Scientific Methods (1:06)

The basics of experimentation are reviewed.

Video: Ethics and Psychological Research (1:19)

APA ethical standards and guidelines are summarized in this brief video.

### Chapter 1 Simulation Content available:

Simulation: The Scientific Method

Simulation: Correlation Does Not Prove Causation

### Chapter 1 Writing Practice Content available:

#### WRITING PRACTICE SAMPLE 1.1

Jake has become very anxious ever since he started taking harder classes in his major. The university's counselor diagnosed him with an anxiety disorder. Compare and contrast how the behavioral, humanistic, and cognitive approaches would view the origins and treatment of Jake's anxiety. Then, describe how psychologists view each of the three approaches today.

#### WRITING PRACTICE SAMPLE 1.2

Imagine you have been asked to create an experimental design to test the hypothesis that talking on a cell phone impairs driving skills. Explain why a control condition would be important to include in testing this hypothesis. How should subjects be assigned to conditions? How can the researchers design the experiment so that the only difference between both conditions is the use of a cell phone?

#### INSTRUCTOR-CREATED SAMPLE 1.1

Psychology is a discipline that spans many levels of analysis, yet the popular media often assigns only a single cause to a complex issue. Locate three media articles on an issue, such as homelessness or terrorism, and compare their views on the root causes and possible solutions to this issue. How many levels of analysis does each article consider?

#### INSTRUCTOR-CREATED SAMPLE 1.2

Most of us have heard the statistic that "half of all marriages end in divorce." Is this claim really true? Investigate different statistics concerning marriage and divorce rates in the United States and explain how they support or refute this claim. What research methods were used in compiling these statistics?

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