

TOTAL ASSESSMENT GUIDE

Chapter 2

How Psychologists Do Research

Section/Learning Objective		Factual	Conceptual	Applied
POP QUIZ 1	Multiple Choice	1,2,5,8	3,6,7,9	4,10
POP QUIZ 2	Multiple Choice	1,9,10	2,3,6,7	4,5,8
WHAT MAKES PSYCHOLOGICAL RESEARCH SCIENTIFIC? LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.	Multiple Choice	2,3,4,5,6,8	1,7,9,10	11,12
	True/False	1,2,3,4,5,		
	Short Answer	1		2
	Essay	1		
	Integrative Essay		3	
LO 2.1.B Explain why skepticism in science involves more than just disbelief.	Multiple Choice		13,14	
	True/False			
	Short Answer			
	Essay			
	Integrative Essay			
LO 2.1.C Explain why falsifiability is an important component of scientific research.	Multiple Choice	16	15	17
	True/False	7,8	6	
	Short Answer			3
	Essay			
	Integrative Essay			
LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.	Multiple Choice	19,21	18,20	
	True/False	9,10		
	Short Answer	11,12		
	Essay		4	
	Integrative Essay			
DESCRIPTIVE STUDIES: ESTABLISHING THE FACTS LO 2.2.A Describe the major ways participants are selected for psychological studies, and why the method of selection might influence interpretations of a study's outcomes.	Multiple Choice	23,25,26	24	
	True/False	13,14,15		
	Short Answer			4
	Essay			
	Integrative Essay			
LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.	Multiple Choice	27	28,29,30,32,33,35	31,34
	True/False	16	17	
	Short Answer		5	
	Essay			
	Integrative Essay		5	
LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.	Multiple Choice	36,42,43	37	38,39,40,41
	True/False		18,19	
	Short Answer			
	Essay			
	Integrative Essay			
LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.	Multiple Choice	44,45,47,48,52,56,59,60	53,55	46,49,50,51,54,57,58
	True/False	20,21,22,23,24,25,26, 27,28		
	Short Answer			6
	Essay			
	Integrative Essay			
LO 2.2.E Describe the advantages and limitations of using surveys in data collection.	Multiple Choice	61,65,66,67		62,63,64
	True/False	29,30		
	Short Answer			7
	Essay		2	
	Integrative Essay			

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Subject/Learning Obj.		Factual	Conceptual	Applied
CORRELATIONAL STUDIES: LOOKING FOR RELATIONSHIPS LO 2.3.A Illustrate with an example how a correlation coefficient gives both the size and direction of the relationship between two variables.	Multiple Choice	68,69,70,71,72,85,88,89,90	74,75,76,78,79,81,82,84,86,87,91,92,94,95	73,77,80,83,93
	True/False	31,32,33,34,35		
	Short Answer			
	Essay			
	Integrative Essay			
LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.	Multiple Choice	96,99	97	98
	True/False	36,37		
	Short Answer		8,9	
	Essay			
	Integrative Essay		2	
EXPERIMENTS: HUNTING FOR CAUSES LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.	Multiple Choice	100,101,103,108,109	102,104	105,106,107,110,111,112
	True/False	38,39,40,41,42,43,44		45
	Short Answer			
	Essay			3
	Integrative Essay			
LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.	Multiple Choice	116	117,119	113,114,115,118
	True/False	46,47		
	Short Answer			
	Essay			
	Integrative Essay			
LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.	Multiple Choice	122,123,125	124,126,127,128	120,121
	True/False	48,49,50,51,52,53,54,55,56,57,		
	Short Answer		10	
	Essay			
	Integrative Essay			
EVALUATING THE FINDINGS LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.	Multiple Choice	129,131		130,132
	True/False	58,59,60,61,62,63		
	Short Answer			
	Essay		4	
	Integrative Essay			
LO 2.5.B Explain what a statistically significant research result means to an experimenter.	Multiple Choice	133,134,135,137	136	
	True/False	64,65,66,67		
	Short Answer			
	Essay		5	
	Integrative Essay			
LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, metaanalysis, and Bayesian statistics allow us to judge the importance of a research outcome.	Multiple Choice	141,142,143	140	138,139
	True/False	68,69,71,72	70	
	Short Answer			
	Essay		6	
	Integrative Essay			
KEEPING THE ENTERPRISE ETHICAL LO 2.6.A Discuss why the principles of informed consent and debriefing are two key characteristics of a researcher's code of ethics.	Multiple Choice	144,145		
	True/False	73,74,75		
	Short Answer			
	Essay		7	
	Integrative Essay			
LO 2.6.B List and discuss four reasons why psychologists might use animals in research.	Multiple Choice	146	147	
	True/False	76		
	Short Answer			
	Essay			
	Integrative Essay			

Name _____

Chapter 2 – Pop Quiz 1

1. An organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships is called a(n) _____.

- a. hypothesis
- b. operational definition
- c. research design
- d. theory

Answer: d

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A theory is defined as an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.

2. The tendency to look for information that supports one's own belief is called:

- a. the principle of falsifiability.
- b. confirmation bias.
- c. denialism.
- d. cognitive inertia.

Answer: b

Learning Objective: LO 2.1.C Explain why falsifiability is an important component of scientific research.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Confirmation bias is defined as the tendency to look for or pay attention only to information that confirms one's own belief.

3. Research methods that depict behavior, but do not necessarily yield causal explanations, are called:

- a. experimental methods.
- b. blind studies.
- c. significance tests.
- d. descriptive methods.

Answer: d

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Descriptive methods allow researchers to describe and predict behavior but not necessarily to choose one explanation over competing ones.

4. Dr. Jones is conducting a(n) _____ research study. She carefully and systematically watches and records behavior, taking care to avoid affecting the subjects being studied.

- a. observational
- b. exploratory
- c. experimental
- d. double-blind

Answer: a

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: In observational studies, a researcher observes, measures, and records behavior, taking care to avoid intruding on the people (or animals) being observed.

5. Assessment instruments that are designed to tap unconscious feelings or motives are called:
- objective tests.
 - projective tests.
 - double-blind tests.
 - single-blind tests.

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Psychological tests, sometimes called assessment instruments, are procedures for measuring and evaluating personality traits, emotions, aptitudes, interests, abilities, and values. Projective tests are designed to tap unconscious feelings or motives.

6. A _____ is a measure of how strongly two variables are related to one another.
- relationship coefficient
 - meta-analysis
 - Bayesian statistic
 - correlation

Answer: d

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: A correlational study examines the extent to which two things are related to one another. Technically, a correlation is a numerical measure of the strength of the relationship between two things.

7. Which of the following is an example of a positive correlation?
- Height and weight
 - Average income and shoe sizes
 - Average income and the incidence of dental disease
 - School grades and number of hours spent playing video games

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A positive correlation means that high values of one variable are associated with high values of the other and that low values of one variable are associated with low values of the other. Height and weight are positively correlated; so are IQ scores and school grades.

8. Which variable does an experimenter manipulate when conducting experimental research?

- a. control variable
- b. confounding variable
- c. independent variable
- d. dependent variable

Answer: c

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

9. A result that is significant at the .05 level indicates that:
- a. the result was obtained purely by chance and is not real.
 - b. the probability that the result is due to real differences between groups is .05.
 - c. there is a positive relationship between variables.
 - d. the probability that the result occurred by chance is low, and therefore the result is probably real.

Answer: d

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Experiments: Hunting for Causes

Difficulty level: Difficult

Skill level: Understand the Concepts

Rationale: Psychologists consider a result to be significant if it would be expected to occur by chance only rarely, and “rarely” usually means five or fewer times in 100 repetitions of the study. We would then say that the result is significant at the .05 level, or $p < .05$, where p stands for probability and .05 is referred to as the p value.

10. Dr. Marks is conducting a research study that involves human subjects. The people who participate in the study must participate voluntarily and must know enough about the study to make an intelligent decision about participating. This concept is known as:
- a. the Milgram doctrine.
 - b. the APA code.
 - c. informed consent.
 - d. human welfare.

Answer: c

Learning Objective: LO 2.6.A Discuss why the principles of informed consent and debriefing are two key characteristics of a researcher’s code of ethics.

Topic: Keeping the Enterprise Ethical

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The APA code calls on psychological scientists to respect the dignity and welfare of the people they study. Participants must enter a study voluntarily and must know enough about it to make an intelligent decision about taking part, a doctrine known as informed consent.

Name _____

Chapter 2 – Pop Quiz 2

1. A statement that attempts to predict or account for a set of phenomena is called a(n) _____.
a. hypothesis
b. axiom
c. corollary
d. theory

Answer: a

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A hypothesis is defined as a statement that attempts to predict or to account for a set of phenomena; scientific hypotheses specify relationships among events or variables and are empirically tested.

2. _____ is essential to the scientific process in order to determine whether results are accurate or just a fluke.
a. Replication
b. Confirmation bias
c. Forming a hypothesis
d. Refutation

Answer: a

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Scientists must be willing to tell others where they got their ideas, how they tested them, and what the results were. They must do this clearly and in detail so that other scientists can repeat, or replicate, their studies and verify—or challenge—the findings. Replication is an essential part of the scientific process because sometimes what seems to be a fabulous phenomenon turns out to be only a fluke.

3. Which of the following is an advantage of case studies?
a. Case studies produce a more detailed picture of an individual than other methods do.
b. The information produced in a case study is easy to interpret.
c. Data collected during a case study can be easily generalized to other individuals.
d. Case studies are less susceptible to researcher bias than other methods.

Answer: a

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Case studies illustrate psychological principles in a way that abstract generalizations and cold statistics never can, and they produce a more detailed picture of an individual than other methods do. In

4. Dr. Littman-Smith is conducting research in Kenya to learn about the ways that mothers and their toddlers interact as they go about their day. It is most likely that she is engaged in:
a. naturalistic observation.
b. laboratory observation.
c. exploratory research.

- d. experimental research.

Answer: a

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: Naturalistic observation is used to find out how animals and people behave in their natural environments.

5. Tessa does not want to get her son vaccinated because she heard an actress on a talk show say that vaccines cause autism. Her pediatrician tells her that this is a(n) _____, most likely caused by the fact that autism tends to be diagnosed around the same age that children receive vaccines, and that vaccines are actually proven to be safe.

- a. illusory correlation
- b. strong correlation
- c. correlation coefficient
- d. positive correlation

Answer: a

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: Many supposed “correlations” reported in the media or on the Internet are based on rumor and anecdote, and turn out to be small or meaningless. Some are merely illusory correlations, apparent associations between two things that are not really related.

6. People who are willing to take part in surveys usually have opinions and views that are different from those who decline to take part. This phenomenon is called:

- a. volunteer bias.
- b. experimenter’s bias.
- c. confirmation bias.
- d. systematic bias.

Answer: a

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Volunteer bias is a shortcoming of findings derived from a sample of volunteers instead of a representative sample; the volunteers may differ from those who did not volunteer.

7. Which of the following pairs of variables would illustrate a negative correlation?

- a. Ocean temperature and the number of people at the beach
- b. Adult shoe size and IQ scores
- c. The price of a car and the mileage on the odometer
- d. Height and weight

Answer: c

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A negative correlation means that high values of one variable are associated with low values of the other.

8. Dr. Clark predicts that in her experiment, the _____ variable will be affected by the changes she makes to the _____ variable.
- extraneous, experimental.
 - dependent, independent
 - stable, manipulated.
 - independent, dependent.

Answer: b

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The dependent variable is the variable that an experimenter predicts will be affected by manipulations of the independent variable. The independent variable is the variable that an experimenter manipulates.

9. A(n) _____ is defined as a set of techniques for combining data from a number of related studies to determine the explanatory strength of a particular independent variable.
- meta-analysis
 - effect size
 - longitudinal study
 - confidence interval

Answer: a

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: A popular set of statistical techniques called meta-analysis provides an especially good way to measure the overall “weight” of a finding because it combines data from a number of related studies instead of assessing each study’s results separately.

10. Which of the following is true regarding the use of non-human animals in psychological research?
- They must give informed consent before being used.
 - They are no longer used in psychological research.
 - Federal regulations governing their housing and care have been strengthened.
 - The APA objects to their use.

Answer: c

Learning Objective: LO 2.6.B List and discuss four reasons why psychologists might use animals in research.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Federal laws governing the housing and care of research animals—particularly our closest relatives, the great apes—are stronger than they used to be; no future research can be done on apes unless it is vital to human welfare and cannot be conducted with other methods.

Multiple Choice Questions

1. In the cycle of scientific research, a theory is _____ when new evidence is gathered.
- proven
 - replaced
 - revised
 - a law

Answer: c

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: By examining the evidence, modifications, extensions, and revisions to the theory can take place, thereby generating new hypotheses and continuing the cycle of research investigation.

2. Which of the following is the correct order for scientific research?
- Evidence, prediction, hypothesis, theory
 - Prediction, evidence, hypothesis, theory
 - Hypothesis, evidence, theory, prediction
 - Theory, hypothesis, prediction, evidence

Answer: d

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Theories allow a researcher to derive testable hypotheses, and make predictions about the pattern of results that should occur. Hypotheses are tested empirically by gathering data on operationally defined variables. By examining the evidence, modifications, extensions, and revisions to the theory can take place, thereby generating new hypotheses and continuing the cycle of research investigation.

3. An organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships is called a(n) _____
- hypothesis.
 - operational definition.
 - research design.
 - theory.

Answer: d

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A theory is an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.

4. In the scientific use of the term, a “theory” is _____.
- a prediction about the outcome of a given experiment or study
 - an organized system of assumptions and principles that purports to explain a set of observations and how they are related
 - a precise definition of a term in a hypothesis, which specifies how it will be observed and measured
 - a scientist’s best guess about the cause of an event or phenomenon

Answer: b

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A theory is an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.

5. A scientific theory can be thought of as a(n) _____.
a. personal opinion
b. established truth
c. system of assumptions
d. empirical proof

Answer: c

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A theory is an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.

6. A statement that attempts to predict or account for a set of phenomena is called a(n) _____.
a. hypothesis
b. axiom
c. corollary
d. theory

Answer: a

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A hypothesis is a statement that attempts to predict or to account for a set of phenomena; scientific hypotheses specify relationships among events or variables and are empirically tested.

7. Which of the following statements is true of a hypothesis?
a. It is a sentence negating the assumption that is considered correct by a researcher.
b. It is a theory that has not yet been accepted by most scientists.
c. It is a statement about a relationship between variables that may be empirically tested.
d. It is a precise definition of a term used in a theory.

Answer: c

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A hypothesis is a statement that attempts to predict or to account for a set of phenomena; scientific hypotheses specify relationships among events or variables and are empirically tested.

8. An operational definition is _____.
a. a statement that attempts to describe or explain a given behavior
b. an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships
c. a precise definition of a term, which specifies the processes required for observing and measuring the phenomenon being investigated
d. a statement that is accepted without proof and regarded as fundamental to a subject

Answer: c

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: An operational definition is a precise definition of a term in a hypothesis, which specifies the operations for observing and measuring the process or phenomenon being defined.

9. An operational definition specifies _____.
a. how something is to be observed and measured
b. how the purpose of a study will be explained to the participants
c. the meaning of a term in commonly used, non-scientific language
d. which research methods will be used in a study

Answer: a

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: In a prediction, terms for the phenomena to be tested are given operational definitions, which specify how the phenomena in question are to be observed and measured. The prediction can then be tested using systematic methods.

10. Before research can proceed, the hypothesis must be made more _____ through the use of operational definitions.
a. empirical
b. accurate
c. precise
d. theoretical

Answer: c

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: From a theory, a psychological scientist derives a hypothesis, which may be quite general. But before any research can be done, the hypothesis must be made more precise in order to leads to predictions about what will happen in a particular situation. Terms are given operational definitions, which specify how the phenomena in question are to be observed and measured.

11. Marcy is trying to define “anxiety” in such a way that it specifies how it is to be observed, measured, and empirically tested. She is attempting to find an appropriate _____.
a. hypothesis
b. corollary
c. theoretical definition
d. operational definition

Answer: d

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: An operational definition is a precise definition of a term in a hypothesis, which specifies the operations for observing and measuring the process or phenomenon being defined.

12. Hannah decides to test whether engineering majors have greater visual-spatial abilities than students with other majors. Hannah decides to define visual-spatial ability in terms of how long it takes each participant to complete a jigsaw puzzle. This is an example of a(n) _____.

- a. operational definition
- b. theoretical definition
- c. corollary
- d. hypothesis

Answer: a

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: An operational definition is a precise definition of a term in a hypothesis, which specifies the operations for observing and measuring the process or phenomenon being defined.

13. Skepticism in scientific research means _____.

- a. acquiring knowledge by means of observation or experimentation
- b. refusing to accept empirical evidence
- c. believing a claim is true unless you have evidence that it is wrong
- d. treating conclusions, both new and old, with caution

Answer: d

Learning Objective: LO 2.1.B Explain why skepticism in science involves more than just disbelief.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: In the world of science, skepticism means treating conclusions, both new and old, with caution.

14. Which of the following statements about skepticism is correct?

- a. Skepticism about a claim is generally unnecessary if the person making the claim is an authority on the topic.
- b. Skepticism in science is the willingness to accept an idea without empirical evidence.
- c. Skepticism means always refusing to believe the claims of authorities in the field.
- d. Good scientists must balance skepticism and openness to new ideas.

Answer: d

Learning Objective: LO 2.1.B Explain why skepticism in science involves more than just disbelief.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: "Skepticism" is not simply about debunking some claim, but showing why the claim is invalid—so that better methods can replace it. Skepticism and caution, however, must be balanced by openness to new ideas and evidence.

15. The principle of falsifiability means that _____.

- a. scientists must be careful not to falsify their results.
- b. all theories will eventually be shown to be false.
- c. a scientist must state an idea in such a way that it can be refuted or disproved by counterevidence.
- d. theories that have not been proven are considered false.

Answer: c

Learning Objective: LO 2.1.C Explain why falsifiability is an important component of scientific research.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: The principle of falsifiability states that a scientific theory must make predictions that are specific enough to expose the theory to the possibility of disconfirmation; that is, the theory must predict not only what will happen but also what will not happen.

16. The tendency to look for information that supports one's own belief is called _____
- a. the principle of falsifiability.
 - b. confirmation bias.
 - c. denialism.
 - d. cognitive inertia.

Answer: b

Learning Objective: LO 2.1.C Explain why falsifiability is an important component of scientific research.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Confirmation bias occurs when people look for and accept evidence that supports their pet theories and assumptions and ignore or reject evidence that contradicts their beliefs.

17. Dennis believes that women are worse drivers than men. He always notices examples of poor women drivers, but ignores evidence to the contrary, such as poor male drivers or good female drivers. Dennis' behavior is an example of _____
- a. the principle of falsifiability.
 - b. critical thinking.
 - c. the confirmation bias.
 - d. skepticism.

Answer: c

Learning Objective: LO 2.1.C Explain why falsifiability is an important component of scientific research.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: Confirmation bias occurs when people look for and accept evidence that supports their pet theories and assumptions and ignore or reject evidence that contradicts their beliefs.

18. Which of the following statements is true?
- a. Scientists should keep their research covert so as to protect their ideas from plagiarism.
 - b. It is a waste of time and money to replicate a study that has already been done.
 - c. Disclosure of the details of a study is important so that others can verify or refute the findings.
 - d. Peer reviews take place after research findings are announced publicly.

Answer: c

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Science depends on the free flow of ideas and full disclosure of the procedures used in a study. Secrecy is a big "no-no"; scientists must be willing to tell others where they got their ideas, how they tested them, and what the results were. They must do this clearly and in detail so that other scientists can repeat, or replicate, their studies and verify—or challenge—the findings.

19. Scientists are expected to submit their results to professional journals, which then send the findings to experts for evaluation before publication. This process is called _____
- a. replication.
 - b. publish or perish.

- c. peer review.
- d. falsification.

Answer: c

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Scientists are expected to submit their results to professional journals, which send the findings to experts in the field for evaluation before deciding whether to publish them. This process, called peer review, is an effort to ensure that the work lives up to accepted scientific standards.

20. A major purpose of peer review is to:
- a. verify the credentials of the researchers who worked on a project.
 - b. make sure the results of a study fit with current scientific theories.
 - c. determine whether the work lives up to accepted scientific standards.
 - d. make sure that the research does not involve animals as subjects.

Answer: c

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Peer review is an effort to ensure that the scientific research lives up to accepted scientific standards.

21. The peer review process _____
- a. verifies the credentials of the researchers who work on a project.
 - b. is part of science's system of checks and balances.
 - c. ensures that the competition among scientists doing similar research is in check.
 - d. makes sure that the research does not involve animals as subjects.

Answer: b

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: The peer-review process gives science a built-in system of checks and balances. Individuals are not necessarily objective, honest, or rational, but science forces them to subject their findings to scrutiny and to justify their claims.

22. Researchers prefer to select participants who accurately represent the larger population that the researchers are interested in. This type of a group is called a _____ sample.
- a. double-blind
 - b. cross-cultural
 - c. volunteer
 - d. representative

Answer: d

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A representative sample is a group of individuals, selected from a population for study, which matches the population on important characteristics such as age and sex.

23. A group of individuals that matches the population on important characteristics such as age and sex is called a(n) _____
- a. volunteer group.
 - b. representative sample.
 - c. unrepresentative sample.
 - d. general sample.

Answer: b

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A representative sample is a group of individuals, selected from a population for study, which matches the population on important characteristics such as age and sex.

24. Which of the following would be considered a good example of a representative sample of college students in the United States?
- a. All the students from a particular rural college
 - b. Every male student from three colleges in Texas
 - c. A diverse population in both urban and rural college classrooms in several states
 - d. Self-identified student volunteers who found your survey on the Internet

Answer: c

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Difficult

Skill level: Understand the Concepts

Rationale: A representative sample is a group of individuals, selected from a population for study, which matches the population on important characteristics such as age and sex.

25. In a psychological research study, a sample made up of those who happen to be available at the time of study is called a _____ sample.
- a. representative
 - b. quota
 - c. random
 - d. convenience

Answer: d

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Psychologists and others who study human behavior must often settle for a sample of people who happen to be available—a "convenience" sample—and more often than not, this means undergraduate students.

26. Research methods that depict behavior, but do not necessarily yield causal explanations, are called _____
- a. experimental methods.
 - b. single-blind studies.
 - c. significance tests.

d. descriptive methods.

Answer: d

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Descriptive methods are methods that yield descriptions of behavior but not necessarily causal explanations.

27. Which of the following is a descriptive method used in psychological research?

- a. Experiment
- b. Case study
- c. Double-blind study
- d. Single-blind study

Answer: b

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A case study (or case history) is a detailed description of a particular individual based on careful observation or formal psychological testing.

28. A detailed description of a particular individual based on careful observation or formal psychological testing is called a(n) _____

- a. observational study.
- b. correlational study.
- c. case study.
- d. survey.

Answer: c

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: A case study (or case history) is a detailed description of a particular individual based on careful observation or formal psychological testing.

29. Which of the following is an advantage of case studies?

- a. They can be used to study existing situations when ethical considerations would prevent using randomized trials.
- b. They have no serious drawbacks because they are easy to interpret.
- c. Data collected provides causal explanations of descriptive behavior.
- d. Case studies are less susceptible to researcher bias than other methods.

Answer: a

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Case studies are most commonly used by clinicians, but sometimes academic researchers use them as well, especially when they are just beginning to study a topic or when practical or ethical considerations prevent them from gathering information in other ways.

30. Which of the following is a disadvantage of case studies?
- a. Case studies produce a less detailed picture of an individual than other methods.
 - b. Case studies have only limited usefulness for deriving general principles of behavior.
 - c. Data from case studies is more abstract, vague, and general than data from other methods.
 - d. The amount of control used in case studies makes them very artificial.

Answer: b

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Because one person may be unrepresentative of the group the researcher is interested in, case studies have only limited usefulness for deriving general principles of behavior.

31. A researcher studies the history of a suicide bomber who attempted to blow up a police station. The researcher's goal is to understand the events and personality traits that led the person to become a bomber. This type of research is called a(n) _____
- a. case study.
 - b. observational study.
 - c. correlational study.
 - d. survey study.

Answer: a

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A case study (or case history) is a detailed description of a particular individual based on careful observation or formal psychological testing.

32. An academic researcher would use the case study method for a research study when:
- a. a new discovery has been made regarding a cause-and-effect relationship.
 - b. the relationship between two variables needs to be established.
 - c. ethical considerations prevent the usage of other sources of information.
 - d. the purpose of the research is to track down a cause.

Answer: c

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Case studies are most commonly used by clinicians, but sometimes academic researchers use them as well, especially when they are just beginning to study a topic or when practical or ethical considerations prevent them from gathering information in other ways.

33. _____ are usually sources of hypotheses, rather than tests of hypotheses.
- a. Correlational studies
 - b. Case studies
 - c. Psychological tests

d. Regression analyses

Answer: b

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: The case study method has only limited usefulness for deriving general principles of behavior; case studies are usually only sources, rather than tests, of hypotheses.

34. Dr. Sardonicus wants to know whether or not the first three years of life are critical for acquiring language. She decides to study a child who was tragically deprived of human language by her parents. This type of research is called a(n) _____

- a. correlational study.
- b. experiment.
- c. survey.
- d. case study.

Answer: d

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: Case studies are most commonly used by clinicians, but sometimes academic researchers use them as well, especially when they are just beginning to study a topic or when practical or ethical considerations prevent them from gathering information in other ways.

35. Which of the following statements is true about case studies?

- a. Case studies require a large number of participants.
- b. Case studies are extremely useful for deriving general principles of behavior.
- c. Conclusions obtained from case studies are highly reliable.
- d. Researchers often resort to case studies when other methods would be unethical.

Answer: d

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Case studies are most commonly used by clinicians, but sometimes academic researchers use them as well, especially when they are just beginning to study a topic or when practical or ethical considerations prevent them from gathering information in other ways.

36. In a(n) _____ study, a researcher carefully and systematically watches and records behavior, taking care to avoid affecting the subjects being studied.

- a. observational
- b. exploratory
- c. experimental
- d. double-blind

Answer: a

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: An observational study is defined as a study in which a researcher carefully and systematically observes and records behavior without interfering with the behavior; it may involve either naturalistic or laboratory observation.

37. An advantage of observational studies is that _____
- a. they can provide accurate descriptions of behavior.
 - b. the presence of observers can alter the behavior being observed.
 - c. they can answer questions about cause and effect.
 - d. they allow experimenters to manipulate variables.

Answer: a

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Often, an observational study is the first step in a program of research; it is helpful to have a good description of behavior before you try to explain it.

38. Dawn is systematically recording the behaviors of the kids in a nursery school, taking pains to avoid being obvious about what she is doing. Dawn is engaging in a(n) _____
- a. observational study.
 - b. exploratory research.
 - c. experimental research.
 - d. double-blind study.

Answer: a

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: An observational study is defined as a study in which a researcher carefully and systematically observes and records behavior without interfering with the behavior; it may involve either naturalistic or laboratory observation.

39. Katy is doing a study using _____ for her advanced psychology class. She goes to the university dining hall and makes notes on her fellow students' behavior and activities. She is careful to avoid drawing attention to herself so her subjects will behave as usual.
- a. naturalistic observation
 - b. laboratory observation
 - c. exploratory research
 - d. experimental research

Answer: a

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: An observational study is defined as a study in which a researcher carefully and systematically observes and records behavior without interfering with the behavior; it may involve either naturalistic or laboratory observation.

40. To test whether people in bars drink more when they are in groups than when they are alone, researchers visited all the pubs in a city. They ordered beers and recorded observations on napkins and pieces of newspaper. Why did they keep their identities in disguise?

- a. They were conducting a double-blind study.
- b. They wanted to make sure the study had test-retest reliability.
- c. They needed to determine the experimenter effects in the study at a later point in time.
- d. They wanted the people they were observing to behave naturally.

Answer: d

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: An observational study is defined as a study in which a researcher carefully and systematically observes and records behavior without interfering with the behavior; it may involve either naturalistic or laboratory observation.

41. Tess agrees to sleep in an artificial setting for three nights so that researchers can obtain information about her brain and muscle activity during sleep. She is taking part in a research method called _____.

- a. a single-blind study
- b. a double-blind study
- c. naturalistic observation
- d. laboratory observation

Answer: d

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: In laboratory observation, researchers have more control over the situation. They can use sophisticated equipment, determine the number of people who will be observed, maintain a clear line of vision, and so forth.

42. Psychologists sometimes prefer to make observations in a laboratory setting rather than a naturalistic setting. The primary advantage of laboratory observation over naturalistic observation is:

- a. it costs less money.
- b. participants take their participation more seriously in a professional environment.
- c. researchers have more control over the research study.
- d. laboratory observation is more natural.

Answer: c

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: In laboratory observation, researchers have more control over the situation. They can use sophisticated equipment, determine the number of people who will be observed, maintain a clear line of vision, and so forth.

43. A major disadvantage of using laboratory observation in a research study is that:

- a. the presence of researchers may cause participants to act differently than they would in their natural surroundings.
- b. it can be used only for explaining behavior and not for describing it.
- c. it is often considered unethical.
- d. researchers have less control of the situation than they do in a naturalistic observation.

Answer: a

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: One shortcoming of laboratory observation is that the presence of researchers and special equipment may cause people to behave differently than they would in their usual surroundings.

44. Procedures used to measure and evaluate personality traits, emotional states, aptitudes, and values are called:
- a. laboratory observations.
 - b. psychological tests.
 - c. significance tests.
 - d. meta-analyses.

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Psychological tests, sometimes called assessment instruments, are procedures for measuring and evaluating personality traits, emotions, aptitudes, interests, abilities, and values.

45. Assessment instruments that are designed to tap unconscious feelings or motives are called:
- a. objective tests.
 - b. projective tests.
 - c. double-blind tests.
 - d. single-blind tests.

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Projective tests are designed to tap unconscious feelings or motives.

46. Greta agrees to an evaluation designed to tap her unconscious feelings and motives. Greta will be given a(n):
- a. objective test.
 - b. projective test.
 - c. double-blind test.
 - d. single-blind test.

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: Projective tests are designed to tap unconscious feelings or motives.

47. Assessment instruments that are designed to measure beliefs, feelings, or behaviors of which an individual is aware are called:
- a. projective tests.
 - b. objective tests.
 - c. double-blind tests.
 - d. single-blind tests.

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Objective tests, also called inventories, measure beliefs, feelings, or behaviors of which an individual is aware.

48. If a psychological test is standardized, _____
- a. it has been approved for use by the APA.
 - b. it is always administered to a random sample of participants.
 - c. it has been demonstrated to be valid.
 - d. uniform procedures have been developed for giving and scoring the test.

Answer: d

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: One test of a good test is whether it is standardized, having uniform procedures for giving and scoring the test.

49. When Haylee takes a personality test, the researcher gives her detailed instructions and plenty of time to complete it. But Tyler takes the same test and is given only vague instructions and a limited amount of time. This procedural difference shows that the test lacks:
- a. validity.
 - b. standardization.
 - c. reliability.
 - d. variability.

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: One test of a good test is whether it is standardized, having uniform procedures for giving and scoring the test.

50. Hadley is told that the achievement test he is taking is a standardized test. This means that:
- a. the test has been approved by the APA.
 - b. the test will be measuring what it is intended to measure.
 - c. similar scores occur when the test is given in a standard laboratory setting or in a naturalistic setting.
 - d. uniform procedures exist for giving and scoring the test.

Answer: d

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: One test of a good test is whether it is standardized, having uniform procedures for giving and scoring the test.

51. When Hoshi takes a personality test, she is told that the resulting score is compared to norms; that is, the test:
- a. measures what it is designed to measure.
 - b. results are compared to established standards of performance.
 - c. produces the same results from one time to the next.
 - d. predicts other criteria of the personality trait in question.

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: Scoring on standardized tests is usually done by referring to norms, or established standards of performance. The usual procedure for developing norms is to give the test to a large group of people who resemble those for whom the test is intended. Norms determine which scores can be considered high, low, or average.

52. Reliability in psychological testing means that the test _____
- a. actually measures what it is supposed to measure.
 - b. is fair.
 - c. is unbiased.
 - d. produces the same results from one time and place to the next.

Answer: d

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Reliable tests are consistent. If a test yields consistent scores from one time and place to another time and place, it is reliable.

53. In order to be useful, a psychological test must be reliable; that is, it must:
- a. measure what it is designed to measure.
 - b. compare results against established standards of performance.
 - c. produce the same results from one time to the next.
 - d. predict other criteria of the trait in question.

Answer: c

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Reliable tests are consistent. If a test yields consistent scores from one time and place to another time and place, it is reliable.

54. When Joyce takes a personality test, she is told that the test is reliable; that is, it:

- a. measures what it is designed to measure.
- b. compares its results against established standards of performance.
- c. produces the same results from one time to the next.
- d. predicts other criteria of the personality trait in question.

Answer: c

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: Reliable tests are consistent. If a test yields consistent scores from one time and place to another time and place, it is reliable.

55. If a psychological test measures what it is supposed to measure, it has which of the following properties?
- a. Reliability
 - b. Validity
 - c. Variability
 - d. Standardization

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Reliable tests are consistent. If a test yields consistent scores from one time and place to another time and place, it is reliable.

56. A psychological test is said to have content validity if:
- a. the items in the test broadly represent the trait in question.
 - b. its results are comparable to established standards of performance.
 - c. it produces the same results from one time to the next.
 - d. it predicts other measures of the personality trait in question.

Answer: a

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: To be useful, a test must also have validity, measuring what it sets out to measure.

57. Juan is given a vocational-interest test and is then asked to attempt the same test a week later. The test administrator wants to measure the _____ of the test.
- a. content validity
 - b. test-retest reliability
 - c. alternate-forms reliability
 - d. criterion validity

Answer: b

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: Psychologists can measure test–retest reliability by giving the test twice to the same group of people and comparing the two sets of scores statistically.

58. Ken is given a vocational-interest test and then takes a test, similar in format but with different questions, a week later. The test administrator wants to measure the _____ of the test.

- a. content validity
- b. test-retest reliability
- c. alternate-forms reliability
- d. criterion validity

Answer: c

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: People tend to do better the second time they take a test, after they have become familiar with it. A solution is to compute alternate-forms reliability by giving different versions of the same test to the same group on two separate occasions.

59. A psychological test is said to have criterion validity if _____

- a. it measures what it is designed to measure.
- b. its results are comparable to established standards of performance.
- c. it produces the same results from one time to the next.
- d. it predicts other criteria of the personality trait in question.

Answer: d

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Criterion validity, the ability to predict independent measures, or criteria, of the trait in question.

60. In most cases, the pop-psychology tests found in magazines and newspapers _____

- a. have not been evaluated for their reliability but are valid tests.
- b. have not been evaluated for their validity but are reliable tests.
- c. have not been evaluated for their validity or reliability.
- d. have been evaluated for their validity and reliability.

Answer: c

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Criticisms and reevaluations of psychological tests keep psychological assessment honest and scientifically rigorous. In contrast, the pop-psych tests found in magazines, newspapers, and on the Internet usually have not been evaluated for either validity or reliability.

61. _____ gather information by asking people directly about their experiences, attitudes, or opinions.

- a. Surveys
- b. Inventories
- c. Projective tests
- d. Naturalistic observations

Answer: a

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Surveys are questionnaires and interviews that ask people directly about their experiences, attitudes, or opinions.

62. Which descriptive method would be most appropriate for studying the attitudes of a random sample of people toward stem cell research?

- a. Observation
- b. Case study
- c. Survey
- d. Test

Answer: c

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: Whereas psychological tests usually generate information about people indirectly, surveys are questionnaires and interviews that gather information by asking people directly about their experiences, attitudes, or opinions.

63. The magazine *Lover's Delight* publishes a survey of its female readers called "The Sex Life of the American Wife." It reports that 87 percent of all wives like to make love in rubber boots. The critical flaw in this research would be that _____

- a. the sample is not representative of American wives.
- b. a psychological test, rather than a survey, should have been given.
- c. rubber boots are not equally available in all regions of the country.
- d. "making love" has not been operationally defined.

Answer: a

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A nonrepresentative sample does not necessarily mean that a survey is worthless or uninteresting, but it does mean that the results may not hold true for other groups.

64. A magazine called *Teen's Delight* publishes a survey of its readers called "School Life of a Typical American Teen." A critical flaw in this research is the fact that _____

- a. the sample surveyed is not necessarily representative of American teens.
- b. the survey is valid but is not reliable.
- c. a projective test would have produced more accurate results than a survey.
- d. an objective test would have produced more accurate results than a survey.

Answer: a

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A nonrepresentative sample does not necessarily mean that a survey is worthless or uninteresting, but it does mean that the results may not hold true for other groups.

65. People who are willing to take part in surveys usually have opinions and views that are different from those who decline to take part. This phenomenon is called _____
- a. volunteer bias.
 - b. experimenter's bias.
 - c. confirmation bias.
 - d. systematic bias.

Answer: a

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Volunteer bias is a shortcoming of findings derived from a sample of volunteers instead of a representative sample; the volunteers may differ from those who did not volunteer.

66. Which of the following statements is true?
- a. A sample's size is more critical than its representativeness.
 - b. Surveys are procedures used to measure and evaluate people's abilities and aptitudes.
 - c. The likelihood of lying on a survey is the same even when respondents are guaranteed anonymity.
 - d. A problem with surveys is that sometimes people lie or misinterpret the question.

Answer: d

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: One problem with surveys, and with self-reports in general, is that people sometimes lie, especially when the survey is about a touchy or embarrassing topic.

67. According to your textbook, the likelihood of lying about a sensitive topic on a survey is reduced when respondents _____
- a. are paid for their participation in the survey.
 - b. receive explanations regarding the importance of the survey.
 - c. are questioned by an interviewer of the same age.
 - d. are guaranteed anonymity.

Answer: d

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The likelihood of lying on surveys is reduced when respondents are guaranteed anonymity and allowed to respond in private.

68. A _____ is a measure of how strongly two variables are related to one another.
- a. relationship coefficient
 - b. meta-analysis
 - c. Bayesian statistic
 - d. correlation

Answer: d

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Correlation means a measure of how strongly two variables are related to one another.

69. A statistical measure of the relationship between two variables is known as:
- correlation.
 - the association coefficient.
 - association.
 - arbitrage.

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Correlation means a measure of how strongly two variables are related to one another. Specifically, a correlation is a numerical measure of the strength of the relationship between two things.

70. A _____ study is a descriptive study that looks for a consistent relationship between two phenomena.
- causal
 - case
 - correlational
 - exploratory

Answer: c

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A descriptive study that looks for a consistent relationship between two phenomena is called a correlational study.

71. A correlation is a numerical measure of the _____
- unintended changes in subjects' behavior due to cues from the experimenter.
 - strength of the relationship between two variables.
 - behaviors of subjects of different ages compared at a given time.
 - behaviors of subjects followed and periodically assessed over time.

Answer: b

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Correlation means a measure of how strongly two variables are related to one another. Specifically, a correlation is a numerical measure of the strength of the relationship between two things.

72. A negative correlation means that _____
- the high values of one variable are associated with the low values of the other.
 - the high values of one variable are associated with the high values of the other.
 - the low values of one variable are associated with the low values of the other.
 - there is no relationship between the two variables.

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A negative correlation means that high values of one variable are associated with low values of the other.

73. Julie finds that the more she sleeps on the eve of an exam, the higher the score she gets on the exam. There is _____ correlation between the amount Julie sleeps and her exam scores.

- a. a negative
- b. a positive
- c. a perfect
- d. no actual

Answer: b

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A positive correlation is an association between increases in one variable and increases in another—or between decreases in one and in another.

74. Which of the following pairs of variables are likely to be positively correlated?

- a. Outdoor temperature and hot chocolate sales
- b. Damage to a car and speed at the time of accident
- c. The price of a car and the age of a car
- d. Hours spent watching TV and grade point average

Answer: b

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A positive correlation is an association between increases in one variable and increases in another—or between decreases in one and in another.

75. Which of the following pairs of variables are likely to be negatively correlated?

- a. Room size and time required to paint walls
- b. Amount of studying and test grade
- c. Value of a collectable item and the number of those items known to exist
- d. Ocean temperature and the number of people at the beach

Answer: c

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A negative correlation means that high values of one variable are associated with low values of the other. Rare collectables (i.e., few are known to exist) are typically more expensive than ones that are more common. As the number known to exist goes down, the cost goes up.

76. Which of the following pairs of variables are likely to be uncorrelated?

- a. Average income and the incidence of dental disease

- b. Adult shoe size and IQ scores
- c. The price of a car and the age of a car
- d. Hours spent watching TV and grade point average

Answer: b

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: If no relationship exists between two variables, we say that they are uncorrelated. Shoe size and IQ scores are uncorrelated.

77. Which of the following is an example of a positive correlation?
- a. The more kumquats Jane ate, the higher she scored on successive IQ tests.
 - b. The more kumquats Mark ate, the lower he scored on successive IQ tests.
 - c. Jane ate kumquats, while Mark took an IQ test.
 - d. Mark ate oranges because Jane finished all the kumquats.

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A positive correlation is an association between increases in one variable and increases in another—or between decreases in one and in another.

78. Which of the following pairs of variables illustrates a negative correlation?
- a. Ocean temperature and the number of people at the beach
 - b. Adult shoe size and IQ scores
 - c. The price of a car and the mileage on the odometer
 - d. Height and weight

Answer: c

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A negative correlation means that high values of one variable are associated with low values of the other. There is a negative relationship between the price of a car and its mileage. The more miles driven, the less a car is typically worth.

79. Two sets of observations assessing students' heights and their respective weights are compared. Which of the following is most likely true?
- a. The two variables will be both positively and negatively correlated.
 - b. The two variables will be uncorrelated.
 - c. The two variables will be negatively correlated.
 - d. The two variables will be positively correlated.

Answer: d

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: A positive correlation is an association between increases in one variable and increases in another—or between decreases in one and in another. Height and weight are positively correlated; that is, in general, the taller a person is, the more he or she weighs.

80. Which of the following represents a positive correlation?
- a. Jack has a higher level of education and a higher than his brother, Tim.
 - b. Tim has less education than his brother, Jack, but he makes more money.
 - c. Jack has a high level of education and Tim likes to waterski.
 - d. Tim has more education than his brother, Tim, but also has children.

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A positive correlation is an association between increases in one variable and increases in another—or between decreases in one and in another. In this case, Jack's high level of education correlates with his higher income.

81. Which of the following is the correct definition of "correlation"?
- a. Characteristics of behavior or experience that cause other phenomenon..
 - b. Characteristics of behavior or experience that can be measured or described by a numeric scale.
 - c. A measure of how strongly two variables are related to one another.
 - d. A descriptive study that looks for a consistent relationship between two phenomena.

Answer: c

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Correlation is defined as a measure of how strongly two variables are related to one another.

82. Which of the following is the correct definition of "positive correlation"?
- a. A measure of how strongly two variables are related to one another.
 - b. An association between increases in one variable and decreases in another.
 - c. An association between increases in one variable and increases in another—or between decreases in one and in another.
 - d. A measure that shows that two variables have no relationship to each other.

Answer: c

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A positive correlation is defined as an association between increases in one variable and increases in another—or between decreases in one and in another.

83. In his research on male pattern baldness, Dr. Toupee has observed that, on average, men with less hair tend to be older than men with more hair. This would be considered a(n) _____ correlation.
- a. positive
 - b. false
 - c. negative

- d. causal

Answer: c

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: : A negative correlation means that high values of one variable are associated with low values of the other. According to Dr. Toupee's findings, as a man's age increases, his amount of hair decreases.

84. Two sets of observations assessing hat size and seasonal allergies are compared. Which of the following is the most likely outcome?

- a. The two variables will be both positively and negatively correlated.
- b. The two variables will be uncorrelated.
- c. The two variables will be negatively correlated.
- d. The two variables will be positively correlated.

Answer: b

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: It is unlikely that shoe size and IQ are related in any way.

85. The correlation coefficient conveys:

- a. the size and direction of the relationship between two variables.
- b. whether one variable causes the other variable to happen.
- c. the unintended changes in a subject's behavior due to the experimenter's cues.
- d. whether or not the principle of falsifiability applies to each variable.

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The statistic used to express a correlation is called the correlation coefficient. This number conveys both the size of the correlation and its direction.

86. Which of the following correlation coefficient values indicate the strongest relationship between two variables?

- a. +.50
- b. -.80
- c. +.70
- d. -.10

Answer: b

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: If the correlation between two variables is $+0.80$, it means that they are strongly related. If the correlation is -0.80 , the relationship is just as strong, but it is negative. When there is no association between two variables, the coefficient is zero or close to zero.

87. A correlation coefficient of $+1.73$ means that:
- a. the relationship between the two variables is very strong.
 - b. the relationship between the two variables is very weak.
 - c. as one variable increases, so does the other.
 - d. a calculation error has been made.

Answer: d

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Difficult

Skill level: Understand the Concepts

Rationale: Correlations can only range from -1.00 to $+1.00$, therefore a calculation error has been made.

88. When two variables are not related, the correlation coefficient will be close to:
- a. $.00$.
 - b. -1.00 .
 - c. $+1.00$.
 - d. $+.50$.

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: The closer the correlation coefficient is to 0, the weaker the relationship. A correlation coefficient of 0 indicates no relationship.

89. When two variables have a strong positive correlation, the correlation coefficient will be close to:
- a. $.00$.
 - b. $+1.00$.
 - c. -1.00 .
 - d. $+.50$.

Answer: b

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Correlation coefficients close to $+1.00$ indicate strong positive relationships.

90. When two variables have a strong negative correlation, the correlation coefficient will be close to:
- a. $.00$.
 - b. -1.00 .
 - c. $+1.00$.
 - d. $.50$.

Answer: b

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Correlation coefficients close to -1.00 indicate strong negative relationships.

91. Which of the following correlation coefficient values indicate the strongest relationship between two variables?
- a. $-.74$
 - b. $-.42$
 - c. $-.35$
 - d. $+.05$

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: When there is no association between two variables, the coefficient is zero or close to zero, so a strong correlation coefficient will be closer to either $+1$ or -1 .

92. Which of the following correlation coefficient values indicate the strongest relationship between two variables?
- a. $+.74$
 - b. $+.68$
 - c. $+.69$
 - d. $+.71$

Answer: a

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: When there is no association between two variables, the coefficient is zero or close to zero, so a strong correlation coefficient will be closer to either $+1$ or -1 .

93. Marguerita conducts a study in which she finds that there is no correlation between the number of calories a person consumes in a day and his or her IQ. The correlation coefficient here would be close to:
- a. $+1.00$.
 - b. $+0.50$.
 - c. -0.50 .
 - d. $.00$.

Answer: d

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: When there is no association between two variables, the coefficient is zero or close to zero.

94. Which of the following statements is true about correlation?
- a. Positive correlations are meaningful, but negative ones are not.
 - b. Negative correlations are weak, but positive ones are strong.
 - c. Correlations close to $+1.0$ or 1.0 are strong, whereas correlations close to 0 are weak.

- d. A strong correlation is indicative of a causal relationship between variables.

Answer: c

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: The closer the correlation coefficient is to 0, the weaker the relationship and the closer the correlation coefficient is to +1.00 or -1.00, the stronger the relationship.

95. A correlational study determined that the higher a male monkey's level of testosterone, the more aggressive it is likely to be. This would mean that:
- testosterone causes aggression.
 - testosterone and aggression are uncorrelated.
 - testosterone and aggression are negatively correlated.
 - testosterone and aggression are positively correlated.

Answer: d

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Correlations indicate strength and direction of relationships, but do not indicate cause and effect. A positive correlation is defined as an association between increases in one variable and increases in another—or between decreases in one and in another.

96. Apparent associations between two things that are not really related are called _____ correlations.
- illusory
 - positive
 - negative
 - erroneous

Answer: a

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Illusory correlations are apparent associations between two things that are not really related. Illusory correlations can create dangerous beliefs and cause great social harm.

97. Some correlational studies have found that people who are chronically depressed are more likely than non-depressed people to develop cancer. Which of the following can be derived from the study?
- Chronic depression causes cancer.
 - Early, undetected cancer causes depression.
 - Depressed people tend to smoke, causing cancer.
 - Chronic depression and cancer occur in the same people in these studies.

Answer: d

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Correlation tells us about relationships, but not causal relationships. Even when a correlation is real, it does not necessarily demonstrate a causal relationship between the variables.

98. Dr. Friday observes that more muggings tend to occur during hot weather. Which of the following is true?
- This is a negative correlation because both muggings and hot weather are negative.
 - This is an example of a correlation that demonstrates causation.
 - This research proves that criminal behavior is caused by hot weather.
 - This is a positive correlation that does not demonstrate causation.

Answer: d

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: Correlation tells us about relationships, but not causal relationships. Even when a correlation is real, it does not necessarily demonstrate a causal relationship between the variables.

99. Why can it be difficult to interpret a correlation between two variables?
- Correlation does not establish a relationship.
 - A correlation does not establish causation.
 - Most correlations are illusory.
 - Most correlations are negative.

Answer: b

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Even when correlations are meaningful, they can still be hard to interpret because a correlation does not establish causation.

100. A controlled test of a hypothesis, in which the researcher manipulates one variable in order to discover its effect on another variable, is called a(n) _____
- correlational study.
 - experiment.
 - survey.
 - single-blind study.

Answer: b

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: An experiment is defined as a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.

101. A(n) _____ allows a researcher to control and manipulate the situation being studied.
- survey
 - experiment
 - case study
 - correlational study

Answer: b

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: An experiment is defined as a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.

102. Experiments are more valuable than other research methods because _____
- a. they are always double-blind.
 - b. they can determine correlations.
 - c. they require informed consent.
 - d. they allow a determination of cause-effect relationships.

Answer: d

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Experiments are the only method that allows a determination of cause and effect.

103. Ideally, in an experimental situation, everything is held constant except for the _____, which is manipulated by the researchers.
- a. control variable
 - b. dependent variable
 - c. independent variable
 - d. extraneous variable

Answer: c

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

104. In an experimental situation, the independent variable is _____
- a. a placebo.
 - b. measured.
 - c. held constant.
 - d. manipulated.

Answer: d

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

105. Milton is a researcher who wants to know whether eating chocolate makes people nervous. Some participants are given two bars of chocolate to eat and some are given no chocolate at all, and then all of the participants are tested for nervousness an hour later. In this experiment, the amount of chocolate eaten _____

- a. would be a dependent variable.
- b. would be a placebo.
- c. would be an independent variable.
- d. may be either an independent or dependent variable.

Answer: c

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

106. Professor Marshall wants to know whether eating sweets before bedtime causes children to take longer to fall asleep. In his experiment, whether or not a sweet is given before bedtime is the _____

- a. independent variable.
- b. dependent variable.
- c. control variable.
- d. extraneous variable.

Answer: a

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

107. A researcher plans to conduct an experiment to test whether a cup of hot milk at night helps people fall asleep faster than usual. In this study, the independent variable is _____

- a. the amount of time it takes participants to fall asleep.
- b. the consumption of hot milk at bedtime.
- c. the number of participants drinking hot milk at bedtime.
- d. the number of hours each participant sleeps for.

Answer: b

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

108. Which variable does an experimenter manipulate when conducting experimental research?

- a. control variable
- b. confounding variable
- c. independent variable
- d. dependent variable

Answer: c

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

109. A variable that is predicted to be affected by an experimenter's manipulations in experimental research is called a(n) _____ variable.

- a. extraneous
- b. dependent
- c. confounding
- d. independent.

Answer: b

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A dependent variable is a variable that an experimenter predicts will be affected by manipulations of the independent variable.

110. Dr. Robert's research hypothesis proposes that consuming a low carbohydrate diet will result in increased weight loss. One group of participants follows a low-carb diet for three weeks, whereas a second group follows a high-carb diet containing the same number of calories for three weeks. The average number of pounds lost for each group is then compared. What is the dependent variable?

- a. Number of pounds lost
- b. Length of time on the diet
- c. The amount of carbs in each diet
- d. The number of calories in each diet

Answer: a

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A dependent variable is a variable that an experimenter predicts will be affected by manipulations of the independent variable.

111. In a laboratory, smokers are asked to drive using a computerized driving simulator and cover the maximum distance possible, while avoiding rear-end collisions. Some volunteers are given a real cigarette to smoke immediately before the test. Others smoke a fake cigarette without nicotine. The number of collisions the two groups make is to be compared. In this study, the independent variable is _____

- a. the use of nicotine.
- b. the use of a driving simulator.
- c. the number of collisions.
- d. the speed of each driver.

Answer: b

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

112. In a laboratory, smokers are asked to drive using a computerized driving simulator and cover the maximum distance possible, while avoiding rear-end collisions. Some volunteers are given a real cigarette to smoke immediately before the test. Others smoke a fake cigarette without nicotine. The number of collisions the two groups make is to be compared. In this study, the dependent variable is:

- a. the use of nicotine.
- b. the use of a driving simulator.
- c. the number of collisions.
- d. the speed of each driver.

Answer: c

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A dependent variable is a variable that an experimenter predicts will be affected by manipulations of the independent variable.

113. In a laboratory, smokers are asked to drive using a computerized driving simulator and cover the maximum distance possible, while avoiding rear-end collisions. Some volunteers are given a real cigarette to smoke immediately before the test. Others smoke a fake cigarette without nicotine. The number of collisions the two groups make is to be compared. The control group in this scenario consists of _____.

- a. volunteers who smoke real cigarettes.
- b. volunteers who smoke fake cigarettes.
- c. all the experimenters.
- d. all the volunteers.

Answer: b

Learning Objective LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: In an experiment, a comparison condition is required in which participants are not exposed to the same treatment as in the experimental condition. These participants are the control group.

114. In a laboratory, smokers are asked to drive using a computerized driving simulator and cover the maximum distance possible, while avoiding rear-end collisions. Some volunteers are given a real cigarette to smoke immediately before the test. Others smoke a fake cigarette without nicotine. The number of collisions the two groups make is to be compared. The experimental group in this scenario consists of _____.

- a. volunteers who smoke real cigarettes.
- b. volunteers who smoke fake cigarettes.
- c. all the experimenters.
- d. all the volunteers.

Answer: a

Learning Objective LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The experimental group is the group that is exposed to the manipulations of the independent variable.

115. In a laboratory, smokers are asked to drive using a computerized driving simulator and cover the maximum distance possible, while avoiding rear-end collisions. Some volunteers are given a real cigarette to smoke

immediately before the test. Others smoke a fake cigarette without nicotine. The number of collisions the two groups make is to be compared. In this study, the cigarette without nicotine is a(n) _____

- a. dependent variable.
- b. placebo
- c. double-blind procedure.
- d. hypothesis.

Answer: b

Learning Objective LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A placebo is an inactive substance or fake treatment used as a control in an experiment or given by a medical practitioner to a patient.

116. _____ are fake treatments or inactive substances used as a control in an experiment.

- a. Double-blinds
- b. Alternative medicines
- c. Clinical trials
- d. Placebos

Answer: d

Learning Objective LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A placebo is an inactive substance or fake treatment used as a control in an experiment or given by a medical practitioner to a patient.

117. Which of the following is critical in testing new drugs because of the optimism that the new drugs may create in the minds of the users?

- a. Standardization
- b. Having a small sample size
- c. Laboratory observation
- d. Use of a placebo

Answer: d

Learning Objective LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: A placebo is an inactive substance or fake treatment used as a control in an experiment or given by a medical practitioner to a patient. If the placebo produces the same result as the real thing, the reason must be the participants' expectations rather than the treatment itself. Placebos are critical in testing new drugs because of the optimism that a potential "miracle cure" often brings with it.

118. An experiment is conducted to test a new antianxiety drug. After taking the drug, 35 percent of the participants receiving the medication report less anxiety, compared to 36 percent of those taking a placebo. The researchers should conclude that _____

- a. participants knew which group they were in.
- b. the medication itself probably has no real effect on anxiety.
- c. the drug actually increases anxiety.
- d. the drug is an effective treatment for anxiety.

Answer: b

Learning Objective LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A placebo is an inactive substance or fake treatment used as a control in an experiment or given by a medical practitioner to a patient. If the placebo produces the same result as the real thing, the reason must be the participants' expectations rather than the treatment itself.

119. Subjects are randomly assigned to experimental and control groups to _____
- a. make the two groups as similar as possible in all major characteristics.
 - b. eliminate the placebo effect.
 - c. establish possible correlations between the independent and dependent variables.
 - d. eliminate experimenter effects.

Answer: a

Learning Objective: LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: Experimenter effects are unintended changes in study participants' behavior due to cues that the experimenter inadvertently conveys.

120. Professor Villanueva has developed a new form of therapy that he believes reduces anxiety. When he explains the experiment to his research assistants, he tells them that the participants in Group A are highly anxious and the participants in Group B are slightly anxious. Group C shows no signs of anxiety. Why might a scientist be skeptical of his claim?
- a. There is no control group to compare to the people in his program.
 - b. He lacks a well-developed hypothesis.
 - c. Over 30 percent of the people did not improve.
 - d. There may be experimenter effects caused by the researchers' expectations about the participants.

Answer: d

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: Experimenter effects are unintended changes in study participants' behavior due to cues that the experimenter inadvertently conveys.

121. The participants for an experiment are randomly assigned to either the experimental or control group. Although the researchers know which group each participant has been assigned to, the participants do not know if they are in the experimental or control group. Which type of study is this an example of?
- a. Single-blind
 - b. Correlational
 - c. Field research
 - d. Double-blind

Answer: a

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: A single-blind study is an experiment in which participants do not know whether they are in an experimental or a control group.

122. Unintended changes in subjects' behavior due to cues inadvertently given by the experimenter in an experimental study are called _____

- a. conformation biases.
- b. experimenter effects.
- c. volunteer biases.
- d. reifications.

Answer: b

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Experimenter effects are unintended changes in study participants' behavior due to cues that the experimenter inadvertently conveys.

123. A _____ is an experiment in which neither the participants nor the individuals running the experiment know if a given participant is in the experimental or the control group until after the results are tallied.

- a. double-blind study
- b. single-blind study
- c. meta-analysis
- d. correlational study

Answer: a

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A double-blind study is an experiment in which neither the participants nor the individuals running the experiment know if participants are in the experimental or the control group until after the results are tallied.

124. The main advantage of a _____ study is that the results cannot be influenced by the expectations of either the participants or the experimenters.

- a. correlational
- b. single-blind
- c. double-blind
- d. observational

Answer: c

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: A double-blind study is an experiment in which neither the participants nor the individuals running the experiment know if participants are in the experimental or the control group until after the results are tallied.

125. Descriptive or experimental research that is conducted in a natural setting outside of the laboratory is called:

- a. double-blind.

- b. single-blind.
- c. field research.
- d. correlational research.

Answer: c

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Field research is defined as descriptive or experimental research conducted in a natural setting outside the laboratory.

126. Some psychologists have called for more field research because experimental studies _____
- a. cannot identify cause and effect.
 - b. often involve artificial situations.
 - c. do not allow firm conclusions to be drawn.
 - d. may miss vital information due to participants' inaccurate memories.

Answer: b

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: in an experiment, the researcher designs and sets up what is often a rather artificial situation, and the participants try to do as they are told. For this reason, many psychologists have called for more field research, the careful study of behavior in natural contexts such as schools and the workplace.

127. Field research may yield more applicable results than laboratory research because _____
- a. placebos are not used.
 - b. there is no experimental group.
 - c. there is no control group.
 - d. the situation is less artificial.

Answer: d

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: in an experiment, the researcher designs and sets up what is often a rather artificial situation, and the participants try to do as they are told. For this reason, many psychologists have called for more field research, the careful study of behavior in natural contexts such as schools and the workplace.

128. Which of the following is a major concern that can affect cross-cultural research?
- a. Stereotyping all members of a culture as being the same
 - b. Restrictions placed on foreign researchers
 - c. Lack of norms for standardization
 - d. Anti-science bias in unsophisticated cultures

Answer: a

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: When researchers describe average differences across societies, they may be tempted to oversimplify their findings, which can lead to stereotyping.

129. Researchers use descriptive statistics when they want to _____
- a. draw inferences about how statistically meaningful a study's results are.
 - b. organize and summarize research data.
 - c. combine and analyze data from many studies.
 - d. assess how likely it is that a study's results occurred merely by chance.

Answer: b

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Descriptive statistics are defined as statistical procedures that organize and summarize research data.

130. A statistician adds all of the test scores for a group of participants and then divides the sum by the number of participants. The result of his calculation is the _____ of the test scores.
- a. arithmetic mean
 - b. effect size
 - c. p value
 - d. standard deviation

Answer: a

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: An arithmetic mean is an average calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set.

131. The _____ tells us how clustered or spread out individual scores are around an arithmetic mean.
- a. arithmetic mean
 - b. p value
 - c. confidence interval
 - d. standard deviation

Answer: d

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The standard deviation tells us how clustered or spread out the individual scores are around the mean; the more spread out they are, the less "typical" the mean is.

132. A researcher is studying the amount of sleep college students get each night. She notices that there is a lot of variability in the data, with some students typically sleeping for around eight hours a night and some sleeping around five hours a night. One way to measure how spread out the data scores are is to use _____
- a. the arithmetic mean.
 - b. meta-analysis.
 - c. inferential statistics.

- d. the standard deviation.

Answer: d

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The standard deviation tells us how clustered or spread out the individual scores are around the mean; the more spread out they are, the less “typical” the mean is.

133. Inferential statistics are _____
- a. statistical procedures that allow researchers to draw inferences about how statistically meaningful a study’s results are.
 - b. statistical procedures that organize and summarize research data.
 - c. averages that are calculated by adding up a set of quantities and multiplying the sum by the total number of quantities in the set.
 - d. a set of techniques for combining data from a number of related studies to determine the explanatory strength of a particular independent variable.

Answer: a

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Inferential statistics are defined as statistical procedures that allow researchers to draw inferences about how statistically meaningful a study’s results are.

134. Which of the following is a type of inferential statistic?
- a. Median
 - b. Significance test
 - c. Arithmetic mean
 - d. Standard deviations

Answer: b

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Historically, the most commonly used inferential statistics have been significance tests, which tell researchers how likely it is that their result occurred by chance.

135. Psychologists typically consider a result to be significant if it would be expected to occur by chance _____ times in 100 repetitions of the study.
- a. 5 or fewer
 - b. 10 or fewer
 - c. 20 or fewer
 - d. 40 or fewer

Answer: a

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Psychologists consider a result to be significant if it would be expected to occur by chance only rarely, and “rarely” usually means five or fewer times in 100 repetitions of the study.

136. A result that is significant at the .05 level indicates that _____
- a. the result was obtained purely by chance and is not real.
 - b. the probability that the result is due to real differences between groups is .05.
 - c. there is a positive relationship between variables.
 - d. the probability that the result occurred by chance is low, and therefore the result is probably real.

Answer: d

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Difficult

Skill level: Understand the Concepts

Rationale: A .05 level of significance means that there is less than 5 percent probability that the results were due to chance. If, however, the significance test shows that the p value is greater than .05, many researchers would have little confidence in the study's result.

137. A _____ draws a range a little higher and lower than the sample mean to help depict where the true mean probably lies.
- a. confidence interval
 - b. standard deviation
 - c. significance test
 - d. descriptive statistic

Answer: a

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A confidence interval is defined as a statistical measure that provides, with a specified probability, a range of values within which a population mean is likely to lie.

138. After their marriage, Patrick and Mary Anne agreed to participate in a research project that investigated differences in the level of marital satisfaction over time. Every five years they had to complete a survey that indicated their marital satisfaction. Patrick and Mary Anne are participants in a _____
- a. single-blind study.
 - b. double-blind study.
 - c. longitudinal study.
 - d. cross-sectional study.

Answer: c

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: A longitudinal study is a study in which people (or animals) are followed and periodically reassessed over a period of time.

139. A psychologist is studying gender relationships in childhood and early adolescence. Students from each grade are separately observed during lunchtime at school in order to assess their seating preferences. The researcher is conducting a _____
- a. cross-sectional study.
 - b. longitudinal study.
 - c. single-blind study.
 - d. double-blind study.

Answer: a

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Apply What You Know

Rationale: In a cross-sectional study, people (or animals) of different ages are compared at a given time.

140. Techniques such as meta-analysis are useful in psychology because _____
- a. they help reduce unintended changes in subjects' behavior due to cues given by the experimenter.
 - b. they allow for the careful study of behavior in schools, workplaces, and other natural contexts.
 - c. they provide a range of values within which the mean of a population is likely to lie.
 - d. rarely does one study alone prove anything, and this technique analyzes data from many studies.

Answer: d

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A meta-analysis is a set of techniques for combining data from a number of related studies to determine the explanatory strength of a particular independent variable.

141. _____ is a technique that allows a researcher to combine data from numerous studies.
- a. Significance testing
 - b. Meta-analysis
 - c. Cross-sectional research
 - d. Longitudinal research

Answer: b

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A meta-analysis is a set of techniques for combining data from a number of related studies to determine the explanatory strength of a particular independent variable.

142. _____ is an objective, standardized way of describing the strength of the independent variable's influence on the dependent variable.
- a. Effect size
 - b. Significance level
 - c. Meta-analysis
 - d. Bayesian statistics

Answer: a

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Effect size is defined as an objective, standardized way of describing the strength of the independent variable's influence on the dependent variable.

143. _____ involve a formula for calculating the likelihood of a hypothesis being true and meaningful, taking into account relevant prior knowledge.

- a. Mathematical statistics
- b. Descriptive statistics
- c. Inferential statistics
- d. Bayesian statistics

Answer: d

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Bayesian statistics uses a formula for calculating the likelihood of a hypothesis being true and meaningful, taking into account relevant prior knowledge.

144. As a result of controversy over the use of deception in research, _____

- a. the APA now does not allow deception.
- b. debriefing is required when deception is used.
- c. participants who are deceived must receive therapy free of charge if requested.
- d. deception is allowed only if the participants are volunteers.

Answer: b

Learning Objective: LO 2.6.A Discuss why the principles of informed consent and debriefing are two key characteristics of a researcher's code of ethics.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The APA code requires that participants be thoroughly debriefed when the study is over and told why deception was necessary. In addition to debriefing, the APA's ethical guidelines require researchers to show that any deception is justified by a study's potential value and to consider alternative procedures.

145. People who participate in research studies must participate voluntarily and must know enough about the study to make an intelligent decision about participating. This concept is known as _____

- a. the Milgram doctrine.
- b. the APA code.
- c. informed consent.
- d. human welfare.

Answer: c

Learning Objective: LO 2.6.A Discuss why the principles of informed consent and debriefing are two key characteristics of a researcher's code of ethics.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Informed consent is the doctrine that anyone who participates in human research must do so voluntarily and must know enough about the study to make an intelligent decision about whether to take part.

146. Which of the following is one of the reasons for the use of non-human animals in psychological research?

- a. Because what is true for a non-human species will also be true for humans.
- b. Animals are no longer used in psychological research.
- c. To improve human welfare.
- d. To improve the treatment of laboratory animals.

Answer: c

Learning Objective: LO 2.6.B List and discuss four reasons why psychologists might use animals in research.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: One of the reasons psychologists conduct experiments with non-human animals is to improve human welfare.

147. An essential part of scientific thinking is not only how to use statistics correctly, but also how to identify the misuse of statistics. A primary reason for the misuse of statistics is _____

- a. distrust of all statistics from studies with counterintuitive results.
- b. a conflict with “real-life” issues.
- c. animal research.
- d. innumeracy.

Answer: d

Learning Objective: LO 2.6.B List and discuss four reasons why psychologists might use animals in research.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: A primary reason for the misuse of statistics is “innumeracy” (mathematical illiteracy).

True-False Questions

1. A hypothesis is an organized system of assumptions and principles that purports to explain a specified set of phenomena.

Answer: False

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A hypothesis is defined as a statement that attempts to predict or to account for a set of phenomena; scientific hypotheses specify relationships among events or variables and are empirically tested.

2. A theory is an organized system of assumptions and principles that purports to explain a specified set of phenomena.

Answer: True

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A theory is defined as an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.

3. A hypothesis is a statement that attempts to predict or account for a set of phenomena.

Answer: True

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A hypothesis is defined as a statement that attempts to predict or to account for a set of phenomena; scientific hypotheses specify relationships among events or variables and are empirically tested.

4. A theory is a statement that attempts to predict or account for a set of phenomena.

Answer: False

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A theory is defined as an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.

5. Operational definitions specify how the phenomena in question are to be observed and measured.

Answer: True

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Operational definition is defined as a precise definition of a term in a hypothesis, which specifies the operations for observing and measuring the process or phenomenon being defined.

6. Violations of the principle of falsifiability rarely take place in everyday life.

Answer: False

Learning Objective: LO 2.1.C Explain why falsifiability is an important component of scientific research.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: The principle of falsifiability is often violated in everyday life because all of us are vulnerable to the confirmation bias: the tendency to look for and accept evidence that supports our pet theories and assumptions and to ignore or reject evidence that contradicts our beliefs.

7. The principle of falsifiability is the tendency to avoid information that would prove one's belief to be false.

Answer: False

Learning Objective: LO 2.1.C Explain why falsifiability is an important component of scientific research.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The principle of falsifiability is defined as the principle that a scientific theory must make predictions that are specific enough to expose the theory to the possibility of disconfirmation; that is, the theory must predict not only what will happen but also what will not happen.

8. Confirmation bias is the tendency to look for information that supports one's beliefs.

Answer: True

Learning Objective: LO 2.1.C Explain why falsifiability is an important component of scientific research.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts Rationale: The principle of falsifiability is often violated in everyday life because all of us are vulnerable to the confirmation bias: the tendency to look for and accept evidence that supports our pet theories and assumptions and to ignore or reject evidence that contradicts our beliefs.

9. Replication is an essential part of the scientific process.

Answer: True

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Replication is an essential part of the scientific process because sometimes what seems to be a fabulous phenomenon turns out to be only a fluke.

10. Replication occurs when scientists repeat a study in order to verify or challenge its findings.

Answer: True

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: scientists must be willing to tell others where they got their ideas, how they tested them, and what the results were. They must do this clearly and in detail so that other scientists can repeat, or replicate, their studies and verify—or challenge—the findings.

11. In order to maintain scientific objectivity, psychologists do not work on research that is sponsored by private, for-profit businesses.

Answer: False

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Being only human, scientists may put too much trust in their personal experiences, be biased by a conflict of interest when they are funded by private industry, or permit ambition to interfere with openness.

12. Scientists are expected to submit their study's results for peer review before any announcements regarding the study are made to the public.

Answer: True

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Scientists are expected to submit their results to professional journals, which send the findings to experts in the field for evaluation before deciding whether to publish them. This process, called peer review, is an effort to ensure that the work lives up to accepted scientific standards. Peer review and scientific publication are supposed to precede announcements to the public through press releases, Internet postings, or popular books. The research community acts as a jury, scrutinizing and sifting the evidence, judging its integrity, approving some viewpoints, and relegating others to the scientific scrap heap.

13. A representative sample is a group of participants that accurately represents the larger population that the researcher is interested in.

Answer: True

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Representative sample is defined as a group of individuals, selected from a population for study, which matches the population on important characteristics such as age and sex.

14. Descriptive methods yield characterizations of behavior but not necessarily causal explanations.

Answer: True

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Descriptive methods allow researchers to describe and predict behavior but not necessarily to choose one explanation over competing ones.

15. Experiments yield descriptions of behavior but cannot provide causal explanations.

Answer: False

Learning Objective: LO 2.2.A Describe the major ways participants are selected for psychological studies and why the method of selection might influence interpretations of a study's outcomes.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Descriptive methods allow researchers to describe and predict behavior but not necessarily to choose one explanation over competing ones. Experiments can demonstrate causation.

16. Case studies are most commonly used by clinicians.

Answer: True

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A case study (or case history) is a detailed description of a particular individual based on careful observation or formal psychological testing. Case studies are most commonly used by clinicians, but sometimes academic researchers use them as well, especially when they are just beginning to study a topic or when practical or ethical considerations prevent them from gathering information in other ways.

17. Case studies are usually sources of hypotheses, rather than tests of hypotheses.

Answer: True

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Because one individual may be unrepresentative of the group the researcher is interested in, the case study method has only limited usefulness for deriving general principles of behavior. Therefore, case studies are usually only sources, rather than tests, of hypotheses.

18. Observational studies are more useful for describing behavior than for explaining behavior.

Answer: True

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: Observational studies, like other descriptive methods, are more useful for describing behavior than for explaining it.

19. A shortcoming of laboratory observation is that the presence of researchers may cause participants to behave differently than they would in their usual surroundings.

Answer: True

Learning Objective: LO 2.2.C Discuss the advantages and disadvantages of using observational methods as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Understand the Concepts

Rationale: One shortcoming of laboratory observation is that the presence of researchers and special equipment may cause people to behave differently than they would in their usual surroundings.

20. The usual procedure for developing norms for a test is to give the test to a large group of people who resemble those for whom the test is intended.

Answer: True

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: The usual procedure for developing norms is to give the test to a large group of people who resemble those for whom the test is intended. Norms determine which scores can be considered high, low, or average.

21. When psychologists say that a test has been standardized, they mean that uniform procedures for giving and scoring the test have been developed.

Answer: True

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: One test of a good test is whether it is standardized, having uniform procedures for giving and scoring the test. It would hardly be fair to give some people detailed instructions and plenty of time and others only vague instructions and limited time.

22. The ability of a test to measure what it is designed to measure is called its reliability.

Answer: False

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Validity means the test measures what it is designed to measure.

23. The ability of a test to measure what it is designed to measure is called standardization.

Answer: False

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Validity means the test measures what it is designed to measure.

24. The ability of a test to measure what it is designed to measure is called validity.

Answer: True

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Validity means the test measures what it is designed to measure.

25. Psychologists measure test-retest reliability by giving different versions of the same test to the same group on two separate occasions.

Answer: False

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Psychologists can measure test–retest reliability by giving the test twice to the same group of people and comparing the two sets of scores statistically. If the test is reliable, individuals' scores will be similar from one session to another.

26. Psychologists measure alternate-forms reliability by giving different versions of the same test to the same group on two separate occasions.

Answer: True

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: People tend to do better the second time they take a test, after they have become familiar with it. A solution is to compute alternate-forms reliability by giving different versions of the same test to the same group on two separate occasions.

27. Psychologists measure test-retest reliability by giving the same test twice to the same group of people.

Answer: True

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Psychologists can measure test–retest reliability by giving the test twice to the same group of people and comparing the two sets of scores statistically. If the test is reliable, individuals' scores will be similar from one session to another.

28. Psychologists measure alternate-forms reliability by giving the same test twice to the same group of people.

Answer: False

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: People tend to do better the second time they take a test, after they have become familiar with it. A solution is to compute alternate-forms reliability by giving different versions of the same test to the same group on two separate occasions.

29. Computer technology can help reduce lying on surveys because many people feel more anonymous when they answer questions on a computer.

Answer: True

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Technology can help researchers overcome some of the problems inherent in conducting surveys. Because many people feel more anonymous when they answer questions on a computer than when they complete a paper-and-pencil questionnaire, computerized questionnaires can reduce lying.

30. The likelihood of lying in surveys is reduced when the respondents are guaranteed anonymity.

Answer: True

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Because many people feel more anonymous when they answer questions on a computer than when they complete a paper-and-pencil questionnaire, computerized questionnaires can reduce lying.

31. The word “correlation” is often used as a synonym for “relationship.”

Answer: True

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The word correlation is often used as a synonym for “relationship,” which is why a correlational study examines the extent to which two things are related to one another.

32. A correlation is a numerical measure indicating the cause-and-effect relationship between two variables.

Answer: False

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Correlation is defined as a measure of how strongly two variables are related to one another. Correlation does not indicate causation.

33. An association between increases in one variable and decreases in the other variable is called a negative correlation.

Answer: True

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Negative correlation is defined as an association between increases in one variable and decreases in another.

34. An association between decreases in one variable and decreases in the other variable is called a negative correlation.

Answer: False

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Positive correlation is an association between increases in one variable and increases in another—or between decreases in one and in another.

35. An association between increases in one variable and decreases in the other variable indicates that the two variables are uncorrelated.

Answer: False

Learning Objective: LO 2.3.A Illustrate with an example how the correlation coefficient gives both the size and direction of the relationship between two variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: If no relationship exists between two variables, we say that they are uncorrelated. Negative correlation is defined as an association between increases in one variable and decreases in another.

36. When a correlation coefficient indicates a strong relationship between two variables, one variable is causing the other.

Answer: False

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Even when correlations are meaningful, they can still be hard to interpret because a correlation does not establish causation.

37. When two variables are correlated, one variable may or may not be causing the other.

Answer: True

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Even when correlations are meaningful, they can still be hard to interpret because a correlation does not establish causation.

38. An experiment is a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.

Answer: True

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: An experiment is defined as a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.

39. A laboratory observation is a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.

Answer: False

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an

example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: An experiment is defined as a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.

40. The variable that an experimenter manipulates is called the dependent variable in an experiment.

Answer: False

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A variable that an experimenter manipulates is the independent variable.

41. Ideally, everything in an experiment except the independent variable is held constant.

Answer: True

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Ideally, everything in the experimental situation except the independent variable is held constant, that is, kept the same for all participants.

42. The variable that an experimenter manipulates is called the independent variable.

Answer: True

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Independent variable is defined as a variable that an experimenter manipulates.

43. Ideally, everything in an experiment except the dependent variable is held constant.

Answer: False

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Ideally, everything in the experimental situation except the independent variable is held constant, that is, kept the same for all participants.

44. The value of the independent variable is affected by manipulations to the dependent variable.

Answer: False

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Dependent variable is defined as a variable that an experimenter predicts will be affected by manipulations of the independent variable.

45. A researcher wants to know whether eating chocolate makes people nervous. Some participants are given two bars of chocolate to eat and some are given no chocolate at all, and then all of the participants are tested for nervousness an hour later. In this experiment, the amount of chocolate eaten is the independent variable.

Answer: True

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Apply What You Know

Rationale: The aspect of an experimental situation manipulated or varied by the researcher is known as the independent variable.

46. In a control condition, subjects are not exposed to the same treatment of the independent variable as in an experimental condition.

Answer: True

Learning Objective: LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: In the control condition, participants are treated exactly as they are in the experimental condition, except that they are not exposed to the same treatment or manipulation of the independent variable. Without a control condition, you cannot be sure that the behavior you are interested in would not have occurred anyway, even without your manipulation.

47. Control groups are used in both experimental and non-experimental studies.

Answer: True

Learning Objective: LO 2.4.B Explain the difference between an experimental group and a control group, and discuss how random assignment helps create these two groups.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Experiments usually require both an experimental condition and a comparison, or control condition. Control groups are also crucial in many nonexperimental studies.

48. In a single-blind experiment, participants do not know if they are in an experimental group or a control group.

Answer: True

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Single-blind study is defined as an experiment in which participants do not know whether they are in an experimental or a control group.

49. If a placebo produces the same results as the real treatment, the reason must be the participants' expectations about the treatment, rather than the treatment itself.

Answer: True

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: In some kinds of studies, people in the control group get a placebo, a fake treatment or sugar pill that looks, tastes, or smells like the real treatment or medication, but is phony. If the placebo produces the same result as the real thing, the reason must be the participants' expectations rather than the treatment itself.

50. Medical placebos usually take the form of pills or injections that contain active ingredients.

Answer: False

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: In some kinds of studies, people in the control group get a placebo, a fake treatment or sugar pill that looks, tastes, or smells like the real treatment or medication, but is phony.

51. An experimenter's friendly smile or cold demeanor can affect people's responses in an experiment.

Answer: True

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Experimenter effects are unintended changes in study participants' behavior due to cues that the experimenter inadvertently conveys. Even an experimenter's friendly smile or cold demeanor can affect people's responses.

52. Single-blind studies are conducted in order to avoid the powerful influence of experimenter effects on the results of an experiment.

Answer: False

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: In a single-blind study, participants do not know whether they are in the experimental or control group, but the experimenters do. In a double-blind study, neither the participant nor the experimenter knows in which group a participant has been placed.

53. When compared to other methods, an advantage of experiments is that the participants are always representative of the larger population.

Answer: False

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Just as in other kinds of studies, in psychological experiments, the participants are typically college students and may not always be representative of the larger population.

54. Field research refers to descriptive or experimental research that is conducted on agricultural issues.

Answer: False

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Field research is defined as descriptive or experimental research conducted in a natural setting outside the laboratory.

55. A disadvantage of experimental research is that it does not permit identification of cause and effect.

Answer: False

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Experiment is defined as a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another. Experiments allow the experimenter to draw conclusions about cause and effect—about what causes what.

56. An advantage of field research is that it allows the use of sophisticated equipment.

Answer: False

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Use of sophisticated equipment is an advantage of laboratory observation. Field research allows the careful study of behavior in natural contexts such as schools and the workplace.

57. To reify means to regard an intangible process, such as a feeling, as if it were a literal object.

Answer: True

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: To reify means to regard an intangible process, such as a feeling, as if it were a literal object. In cultural psychology, reification—treating “culture” as a thing instead of a collection of beliefs and traditions—can lead to circular reasoning,

58. Descriptive statistics are statistical procedures that organize and summarize research data.

Answer: True

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Descriptive statistics are defined as statistical procedures that organize and summarize research data.

59. Inferential statistics are statistical procedures that organize and summarize research data.

Answer: False

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Descriptive statistics are defined as statistical procedures that organize and summarize research data.

Inferential statistics are statistical procedures that allow researchers to draw inferences about how statistically meaningful a study's results are.

60. The arithmetic mean is a commonly used measure of variability.

Answer: False

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The arithmetic mean is an average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set. It is the most commonly used type of average.

61. The arithmetic mean is an average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set.

Answer: True

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The arithmetic mean is an average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set.

62. The standard deviation is an average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set.

Answer: False

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The arithmetic mean is an average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set. Standard deviation is a commonly used measure of variability that indicates the average difference between scores in a distribution and their mean.

63. The standard deviation is a commonly used measure of variability that indicates the average difference between scores in a distribution.

Answer: True

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Standard deviation is a commonly used measure of variability that indicates the average difference between scores in a distribution and their mean.

64. Descriptive statistics allow researchers to draw inferences about how statistically meaningful a study's results are.

Answer: False

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Descriptive statistics are defined as statistical procedures that organize and summarize research data. Inferential statistics are statistical procedures that allow researchers to draw inferences about how statistically meaningful a study's results are.

65. Inferential statistics allow researchers to draw inferences about how statistically meaningful a study's results are.

Answer: True

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Inferential statistics are statistical procedures that allow researchers to draw inferences about how statistically meaningful a study's results are.

66. If a significance test shows that the p value of a result is greater than .05, researchers would have high confidence in the study's result.

Answer: False

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: A result is significant at the .05 level, or $p < .05$, where p stands for probability and .05 is referred to as the p value. If a p value greater than .05, many researchers would have little confidence in the study's result, although they might still want to do further research to confirm their judgment.

67. A result is considered significant if it would occur by chance more than 5 times in 100 repetitions of the study.

Answer: False

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Moderate

Skill level: Remember the Facts

Rationale: Psychologists consider a result to be significant if it would be expected to occur by chance only rarely, and "rarely" usually means five or fewer times in 100 repetitions of the study.

68. A study in which subjects of different ages are compared at a given time is called a cross-sectional study.

Answer: True

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A cross-sectional study is a study in which people (or animals) of different ages are compared at a given time.

69. A study in which subjects of different ages are compared at a given time is called a longitudinal study.

Answer: False

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: A cross-sectional study is defined as a study in which people (or animals) of different ages are compared at a given time. A longitudinal study is a study in which people (or animals) are followed and periodically reassessed over a period of time.

70. A result may be statistically significant, yet be of little consequence in everyday life.

Answer: True

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Moderate

Skill level: Understand the Concepts

Rationale: A result may be statistically significant yet be small and of little consequence in everyday life because the independent variable does not explain most of the variation in people's behavior.

71. Meta-analysis combines data from a number of related studies instead of assessing each study's results separately.

Answer: True

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Meta-analysis refers to a set of techniques for combining data from a number of related studies to determine the explanatory strength of a particular independent variable.

72. Bayesian statistics involve a formula that takes prior knowledge into consideration when evaluating any finding.

Answer: True

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Bayesian statistics is defined as statistics that involve a formula for calculating the likelihood of a hypothesis being true and meaningful, taking into account relevant prior knowledge.

73. The American Psychological Association (APA) has a code of ethics that all of its members are supposed to follow.

Answer: True

Learning Objective: LO 2.6.A Discuss why the principles of informed consent and debriefing are two key characteristics of a researcher's code of ethics.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: The American Psychological Association (APA) has a code of ethics that all members must follow. Even people who are not members of the APA, whether working in the United States or around the world, often follow the code in their research. The code of ethics is subject to frequent reexamination.

74. The APA's ethical guidelines require researchers to show that any deceptive procedures are justified by a study's potential value.

Answer: True

Learning Objective: LO 2.6.A Discuss why the principles of informed consent and debriefing are two key characteristics of a researcher's code of ethics.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: In social psychology especially, a study's design sometimes calls for an elaborate deception. The APA's ethical guidelines require researchers to show that any deception is justified by a study's potential value and to consider alternative procedures.

75. The American Psychological Association's ethical guidelines require researchers to avoid studies that involve volunteer deception.

Answer: False

Learning Objective: LO 2.6.A Discuss why the principles of informed consent and debriefing are two key characteristics of a researcher's code of ethics.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: In social psychology especially, a study's design sometimes calls for an elaborate deception. The APA's ethical guidelines require researchers to show that any deception is justified by a study's potential value and to consider alternative procedures.

76. A majority of psychological research studies involve animals.

Answer: False

Learning Objective: LO 2.6.B List and discuss four reasons why psychologists might use animals in research.

Topic: Keeping the Enterprise Ethical

Difficulty level: Easy

Skill level: Remember the Facts

Rationale: Animals are used in only a small percentage of psychological studies, but they play a crucial role in some areas.

Short Answer Questions

1. What is the difference between a theory and a hypothesis?

Answer: A good answer will include the following key points:

- A theory is an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.
- A hypothesis is a statement that attempts to predict or to account for a set of phenomena; scientific hypotheses specify relationships among events or variables and are empirically tested.
- A theory precedes hypothesis; the hypothesis is based on the theory.

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Remember the Facts

2. Ralph Waldo Emerson wrote “Nothing great was ever achieved without enthusiasm.” How would you frame this question in clear and concrete terms so that it could be tested? Specify an operational definition for the major terms.

Answer: A good answer could include any of the following options:

- To achieve something great, a person must have enthusiasm.
- A possible operational definition for a great achievement might be an achievement that is reported in a national news magazine.
- A possible operational definition of enthusiasm might be an average rating of 8 or higher on a 10-point rating scale on a standardized test of enthusiasm.

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Apply What You Know

3. Dr. Benjamin Rush treated yellow fever by bloodletting. He attributed each recovery to the bloodletting and each death to the severity of the yellow fever. What rule of science did he violate?

Answer: A good answer will include the following key points.

- Rush violated the principle of falsifiability.
- There was no possible counterevidence that could refute his theory.
- He also did not look for contradictory evidence and so was guilty of confirmation bias.

Learning Objective: LO 2.1.C Explain why falsifiability is an important component of scientific research.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Difficult

Skill level: Apply What You Know

4. Explain the purpose and process of peer review.

Answer: A good answer will include the following key points.

- The purpose of peer review is to ensure that research lives up to accepted scientific standards.
- When a scientist sends research results to a professional journal for publication, the report is sent to experts in the field for evaluation and suggestions for revision prior to publication.

Learning Objective: LO 2.1.D Describe why openness and replication are important qualities of the scientific enterprise.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Moderate

Skill level: Understand the Concepts

5. What are the disadvantages associated with psychological case study research?

Answer: A good answer will include the following key points.

- Case studies have only limited usefulness for deriving general principles of behavior.
- This is especially true when information is missing or hard to interpret.
- It is also true if the individual being studied is unrepresentative of the group that a researcher is interested in.

Learning Objective: LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Understand the Concepts

6. A psychologist is planning to gather information about a group of subjects through the use of psychological tests. What will ensure that the tests provide useful results?

Answer: A good answer will include the following key points.

- Standardization: one test of a good test is whether it is standardized, having uniform procedures for giving and scoring the test.
- Reliability: producing the same results from one time and place to the next or from one scorer to another.
- Validity: measuring what it sets out to measure.

Learning Objective: LO 2.2.D Explain why norms, reliability, and validity are the three key hallmarks of any standardized psychological test.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

7. Jamal comes across some survey results on the Internet that conclude that people who watch cat videos with hip-hop music or cooler than people who watch cat videos with dubstep music. What are some things he should look out for before deciding to believe the results of this survey?

Answer: A good answer will include the following key points:

- Volunteer bias: people who are willing to volunteer their opinions may differ from those who decline to take part.
- Which questions were (and were not) asked and how the questions were phrased? These aspects of a survey's design may reflect assumptions about the topic or encourage certain responses.
- What are the credentials of those designing the test or survey? Are they likely to use a well-designed survey or just make something up?

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Moderate

Skill level: Apply What You Know

8. A correlation between "A" and "B" does not necessarily mean that "A" causes "B." Why? Explain using this example: The higher a male monkey's level of the hormone testosterone, the more aggressive he is likely to be.

Answer: A good answer will include the following key points.

- Correlation does not indicate causation.
- A positive correlation between testosterone levels and aggression could mean that testosterone causes aggression.
- It could also mean that aggressive behavior causes an increase in testosterone levels.
- It could also mean that some other unspecified variable causes both high testosterone levels and high aggression.
- It could also mean that unknown variables affect each phenomenon, which are only related in time.

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

9. If TV watching is positively correlated with children's aggressiveness, then in what possible ways could this relationship be explained?

Answer: A good answer will include the following key points:

- Watching TV could cause children to behave aggressively.
- Aggressiveness in children could cause them to watch more TV.
- Another unspecified variable could cause both TV watching and increased aggressiveness.
- Other unspecified variables could affect either TV watching or increased aggressiveness.

Learning Objective: LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Correlational Studies: Looking for Relationships

Difficulty level: Moderate

Skill level: Understand the Concepts

10. Experiments have long been the method of choice in psychology. However, the experiment does have its limitations. Describe these limitations and explain why many psychologists have called for more field research.

Answer: A good answer will include the following key points.

- One limitation of experiments is experimenter effects. That is, if participants know whether they are in the experimental or control group, their expectations may affect the results.
- A researcher's expectations can also influence the results of an experiment.
- If participants are not representative of the larger population of interest, the results cannot be generalized.
- Controlled experiments may result in artificial situations in which behavior is not normal and cannot be generalized to the real world.
- Field research can at least partially overcome this last objection.

Learning Objective: LO 2.4.C Explain why single-blind and double-blind procedures are crucial to establishing the soundness of an experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Moderate

Skill level: Understand the Concepts

Essay Questions

1. What are the different part of the cycle of scientific research? What happens during each part of the cycle?

Answer: A good answer will include the following key points:

- The cycle of scientific research begins with theory, then developing a hypothesis, making predictions, and gathering evidence.
- Theories allow a researcher to derive testable hypotheses, and make predictions about the pattern of results that should occur.
- Hypotheses are tested empirically by gathering data on operationally defined variables.
- By examining the evidence, modifications, extensions, and revisions to the theory can take place, thereby generating new hypotheses and continuing the cycle of research investigation.

Learning Objective: LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: What Makes Psychological Research Scientific?

Difficulty level: Difficult

Skill level: Understand the Concepts

2. The president of the Parent Teacher Association (PTA) is concerned after reading that during puberty, children have increased needs for sleep. She wants to find out if other parents of middle-school children would support a later starting time for school. At one of the Tuesday night meetings, she conducts a survey of the PTA members in order to address this question. When she asks those parents in support of the change to raise their hands, she discovers that 85 percent of the parents support a later starting time. What information has she gained by conducting this survey? What shortcomings exist in her survey?

Answer: A good answer will include the following key points.

- She has learned that a majority of other PTA members who attend meetings support a later starting time.
- A major shortcoming is that the PTA members at the meeting may not be representative of all parents of students at the school in question.

Learning Objective: LO 2.2.E Describe the advantages and limitations of using surveys in data collection.

Topic: Descriptive Studies: Establishing the Facts

Difficulty level: Difficult

Skill level: Understand the Concepts

3. A researcher hypothesizes that adults will respond differently to the same baby depending on how whether the child is dressed in “girl clothes” or “boy clothes.” Her colleague, on the other hand, hypothesizes that boys and girls are treated equally and that only temperamental differences lead to differences in their handling. Design a research study to test their hypotheses.

Answer: A good answer will include the following key points.

- Two babies with similar temperament should be selected, one male and one female.
- Participants in the experimental group will be exposed to a baby dressed in clothing usually considered appropriate to the opposite sex.
- Participants in the control group will be exposed to an infant dressed in clothing usually considered appropriate for that sex.
- All participants will be observed for 10 minutes while interacting with the baby and their behaviors carefully noted.
- Behaviors of participants in the experimental and control groups will be compared.
- This would be a single-blind study, since the participants do not know the actual sex of either child but the researchers do.

Learning Objective: LO 2.4.A Contrast an independent variable from a dependent variable and give an example of each concept in a psychology experiment.

Topic: Experiments: Hunting for Causes

Difficulty level: Difficult

Skill level: Apply What You Know

4. Why is it important to go beyond averages when summarizing data? What other descriptive statistics are used to help interpret data?

Answer: A good answer will include the following key points:

- An average (arithmetic mean) may not actually occur in any individual case.
- Descriptive statistics are needed to organize and summarize research data.
- The standard deviation tells us how clustered or spread out the individual scores are around the mean; the more spread out they are, the less “typical” the mean is.

Learning Objective: LO 2.5.A Provide an example of how the arithmetic mean and standard deviation could be used to compare the performance of two groups of research participants.

Topic: Evaluating the Findings

Difficulty level: Difficult

Skill level: Understand the Concepts

5. Rarely does a psychological study have completely straightforward results. Usually there is some possibility that the difference between two groups could be due to chance. Explain how inferential statistics help us determine how statistically meaningful a study’s results are.

Answer: A good answer will include the following key points:

- Inferential statistics allow researchers to draw inferences about how statistically meaningful a study’s results are.
- Significance tests, which tell researchers how likely it is that their result occurred by chance, are the most commonly used inferential statistics.
- If research is statistically significant, there is a good probability that the difference found in the study is real.
- Psychologists consider a result to be significant if it would be expected to occur by chance only rarely, and “rarely” usually means five or fewer times in 100 repetitions of the study.

Learning Objective: LO 2.5.B Explain what a statistically significant research result means to an experimenter.

Topic: Evaluating the Findings

Difficulty level: Difficult

Skill level: Understand the Concepts

6. When the relationship between age and mental abilities is studied through cross-sectional methods, the results often conflict with the findings from longitudinal studies. Explain the basic procedures in each type of study and then discuss why the two methods sometimes yield different results.

Answer: A good answer will include the following key points.

- Longitudinal studies examine the same people over a period of time, reassessing them periodically.
- Cross-sectional studies examine groups of people of different ages at the same time.
- Longitudinal studies are especially useful to study changes in individuals over time.
- The two types of studies can reach different conclusions because cross-sectional studies measure generational differences, in addition to changes that occur as people age.

Learning Objective: LO 2.5.C Compare cross-sectional and longitudinal studies, and discuss how effect size, meta-analysis, and Bayesian statistics allow us to judge the importance of a research outcome.

Topic: Evaluating the Findings

Difficulty level: Difficult

Skill level: Understand the Concepts

7. Psychologists follow a code of ethics that has been developed by the APA. Explain the APA code in regard to research with human participants.

Answer: A good answer will include the following key points.

- The APA code of ethics expects scientists to respect the dignity and welfare of human participants and specifies a number of guidelines to guarantee this.
- People must participate in research voluntarily—informed consent should be obtained.

- Participants should be protected from physical and mental harm—if risks exist, participants must be informed in advance.
- Participants must be given the right to withdraw from research at any time without penalty.
- If deception is involved, participants must be debriefed.

Learning Objective: LO 2.6.A Discuss why the principles of informed consent and debriefing are two key characteristics of a researcher's code of ethics.

Topic: Keeping the Enterprise Ethical

Difficulty level: Difficult

Skill level: Remember the Facts

Integrative Essay Questions: Linking the Chapters

1. What makes psychological research scientific? This chapter points out the importance of precision in the pursuit of knowledge. How does this principle of good science correspond to the critical thinking guideline, “Define Your Terms,” discussed in Chapter 1?

Answer: A good answer will include the following key points.

- The requirement for precision in science includes both stating specific hypotheses and providing operational definitions of all variables.
 - This directly corresponds with the guideline requiring that critical thinkers define the terms that they use.
- Learning Objective: LO 1.2.B List eight important critical-thinking guidelines, and give an example of how each applies to the science of psychology.

Topic: Ch. 1 Thinking Critically and Creatively About Psychology; Ch. 2 What Makes Psychological Research Scientific?

Difficulty level: Difficult

Skill level: Applying What You Know

2. In Chapter 2, we read about the disastrous consequences that can take place when conclusions are drawn solely on the basis of case studies. How does the alleged connection between autism and vaccinations illustrate the importance of the critical thinking guidelines discussed in Chapter 1?

Answer: A good answer will include the following key points:

- No convincing evidence exists between autism and vaccinations.
- Once the suspect elements were removed from vaccinations, the incidence of autism did not decline.
- The coincidence seems to be that the symptoms of autism occur about the same time that children are vaccinated.
- Even when a correlation is meaningful, a correlation does not establish causation.
- Critical Thinking Guideline: Don’t Oversimplify: Critical thinkers look beyond the obvious, resist easy generalizations, and reject either–or thinking. Critical thinkers want more evidence than one or two stories before drawing sweeping conclusions.

Learning Objective: LO 1.2.B List eight important critical-thinking guidelines, and give an example of how each applies to the science of psychology; LO 2.3.B Explain why a correlation between two variables does not establish a causal relationship between those variables.

Topic: Ch 1 Thinking Critically and Creatively about Psychology; Ch 2 Correlational Studies: Looking for Relationships

Difficulty level: Difficult

Skill level: Understand the Concepts

3. Unlike plays and poems, scientific theories are not judged by how pleasing they are. Instead, a theory must be backed by empirical evidence if it is to be taken seriously. Integrate this information from Chapter 2 with the critical thinking guideline, “Avoid Emotional Reasoning,” that you studied in Chapter 1.

Answer: A good answer will include the following key points:

- Theories must be based on empirical evidence.
- They should not be based on emotion, intuition, or appeal to authority.
- Critical Thinking Guideline: Avoid Emotional Reasoning. Emotion has a place in critical thinking, but when gut feelings replace clear thinking, the results can be dangerous. The fact that you really, really feel strongly that something is true—or want it to be—doesn’t make it so.

Learning Objective: LO 1.2.B List eight important critical-thinking guidelines, and give an example of how each applies to the science of psychology; LO 2.1.A Distinguish between a theory, a hypothesis, and an operational definition.

Topic: : Ch 1 Thinking Critically and Creatively about Psychology; Ch 2 What Makes Psychological Research Scientific?

Difficulty level: Difficult

Skill level: Understand the Concepts

4. How wise is popular wisdom? In Chapter 1, we pondered how many old sayings have other old sayings that contradict them. For example, a common saying is “You can’t teach old dogs new tricks.” But we also hear “You are never too old to learn.” Now that you have read Chapter 2, design a research study in order to test these sayings. Provide your reasoning in selecting a particular research method, subjects, and other key details.

Answer: A good answer will include the following key points.

- One method that could be used is laboratory observation.
- A representative group of older people should be selected as participants.
- An attempt should be made to teach the participants a new task, such as searching the Internet for information.
- Participants should then be tested to see whether or not they were able to learn the task.

Learning Objective: LO 1.1.B Provide examples of pseudoscience, psychobabble, popular opinion, and “plain old common sense” related to psychological topics, and describe how scientific psychology would address such claims. LO 2.2.A Describe the major ways participants are selected for psychological studies, and why the method of selection might influence interpretations of a study’s outcomes.

Topic: Ch 1 Psychology, Pseudoscience, and Popular Opinion; Ch 2 Descriptive Studies: Establishing the Facts

Difficulty level: Difficult

Skill level: Apply What You Know

5. Which research method did Sigmund Freud rely upon? Analyze what you know about his theory given your understanding of research methods. What are the strengths and limitations of his approach?

Answer: A good answer will include the following key points:

- Freud’s theory was based on case studies.
- Case studies are useful for studying unusual or rare cases and for generating hypotheses for further research.
- One drawback to case studies is that information is often missing or hard to interpret.
- Observers may have biases that influence which facts get noticed and which are ignored.
- Memory of observers may be selective or inaccurate, making conclusions unreliable.
- Most important, the person studied may be unrepresentative of the group that a researcher is interested in.
- The case study method has only limited usefulness for deriving general principles of behavior.
- The limitations of the case study method make it likely that Freud’s theory has only limited usefulness.

Learning Objective: LO 1.3.C Compare the three early psychologies of structuralism, functionalism, and psychoanalysis, and identify the major thinkers who promoted each of these schools of thought. LO 2.2.B Discuss the advantages and disadvantages of using case studies as a means of data collection.

Topic: Ch 1 Psychology’s Past: From the Armchair to the Laboratory; Ch 2 Descriptive Studies: Establishing the Facts

Difficulty level: Difficult

Skill level: Understand the Concepts