Test Bank

Chapter 1: Psychological Research: The Whys and Hows of the Scientific Method

## Multiple Choice

1. The empiricism canon of the scientific method states that new knowledge is gained from \_\_\_\_\_\_.

a. authority figures

b. observations

c. intuition

d. logic

Ans: B

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Empiricism

Difficulty Level: Easy

2. The parsimony canon of the scientific method states that \_\_\_\_\_\_.

a. the simplest explanation of a phenomenon is most likely to be correct

b. observation is the best way of gaining new knowledge

c. phenomena have observable causes

d. explanations of phenomena should be able to be falsified if they are incorrect

Ans: A

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Parsimony

Difficulty Level: Easy

3. The determinism canon of the scientific method states that \_\_\_\_\_\_.

a. the simplest explanation of a phenomenon is most likely to be correct

b. observation is the best way of gaining new knowledge

c. phenomena have observable causes

d. explanations of phenomena should be able to be falsified if they are incorrect

Ans: C

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Determinism

Difficulty Level: Easy

4. The testability canon of the scientific method states that \_\_\_\_\_\_.

a. the simplest explanation of a phenomenon is most likely to be correct

b. observation is the best way of gaining new knowledge

c. phenomena have observable causes

d. explanations of phenomena should be able to be falsified if they are incorrect

Ans: D

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Testability

Difficulty Level: Easy

5. External validity is typically more important for \_\_\_\_\_\_ research than for \_\_\_\_\_\_ research.

a. scientific; non-scientific

b. non-scientific; scientific

c. basic; applied

d. applied; basic

Ans: D

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Basic and Applied Research

Difficulty Level: Easy

6. External validity is \_\_\_\_\_\_.

a. a type of research conducted in psychology

b. the degree to which a study’s results can be generalized to individuals and situations outside of the study

c. the degree to which a study provides a good test of a causal prediction

d. the degree to which the study accurately predicts results

Ans: B

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Basic and Applied Research

Difficulty Level: Easy

7. The scientific method involves gaining new knowledge through \_\_\_\_\_\_.

a. deduction

B intuition

c. authority

d. observation

Ans: D

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: How Psychologists Use the Scientific Method

Difficulty Level: Easy

8. Deciding that it must be raining because the weather person said it would rain today is an example of the \_\_\_\_\_\_ method of knowing?

a. intuition

b. authority

c. observation

d. deduction

Ans: B

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Why Psychologists Conduct Research

Difficulty Level: Medium

9. Deciding it must be raining because you look out the window and see rain falling is an example of the \_\_\_\_\_\_ method of knowing?

a. intuition

b. authority

c. observation

d. deduction

Ans: C

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Why Psychologists Conduct Research

Difficulty Level: Medium

10. Deciding it must be raining because you felt it would rain today is an example of the \_\_\_\_\_\_ method of knowing?

a. intuition

b. authority

c. observation

d. deduction

Ans: A

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Why Psychologists Conduct Research

Difficulty Level: Medium

11. Deciding it must be raining because you hear thunder is an example of the \_\_\_\_\_\_ method of knowing?

a. intuition

b. authority

c. observation

d. deduction

Ans: D

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Why Psychologists Conduct Research

Difficulty Level: Medium

12. A psychologist investigating the research question “Which neurotransmitters affect depressive behaviors?” is most likely conducting \_\_\_\_\_\_ research.

a. basic

b. applied

c. external

d. internal

Ans: A

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

13. A psychologist investigating the research question “Which type of therapy most effectively reduces depressive behaviors?” is most likely conducting \_\_\_\_\_\_ research.

a. basic

b. applied

c. external

d. internal

Ans: B

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

14. \_\_\_\_\_\_ research investigates fundamental aspects of behavior, whereas \_\_\_\_\_\_ research investigates solutions for real-world problems.

a. Internal; external

b. External; internal

c. Basic; applied

d. Applied; basic

Ans: C

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Knowledge

Answer Location: Basic and Applied Research

Difficulty Level: Easy

15. A study that investigates behavior as it naturally occurs in individuals would have a high degree of \_\_\_\_\_\_.

a. basic research

b. applied research

c. external validity

d. internal validity

Ans: C

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

16. One reason that Freud’s theories of personality have not been more influential in the field of psychology is that \_\_\_\_\_\_.

a. the theories do not specify causes for behavior

b. the theories are not the simplest explanations for behavior

c. the theories are too unusual

d. the theories are difficult to falsify

Ans: D

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Testability

Difficulty Level: Easy

17. The method of gaining knowledge that is most likely to yield accurate information is \_\_\_\_\_\_.

a. intuition

b. authority

c. observation

d. deduction

Ans: C

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: How Psychologists Use the Scientific Method

Difficulty Level: Easy

18. Relying on the works of Plato and Aristotle for knowledge about the world is an example of \_\_\_\_\_\_ method of knowing.

a. intuition

b. authority

c. observation

d. deduction

Ans: B

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Why Psychologists Conduct Research

Difficulty Level: Easy

19. Seeking only evidence that supports our beliefs and ignoring evidence that contradicts those beliefs is \_\_\_\_\_\_.

a. belief bias

b. confirmation bias

c. evidence bias

d. contradictory bias

Ans: B

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Testability

Difficulty Level: Easy

20. \_\_\_\_\_\_ was an influential scientist who used observations to understand the world.

a. Galileo

b. Freud

c. Richards

d. Matson

Ans: A

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Empiricism

Difficulty Level: Easy

21. The \_\_\_\_\_\_ canon helps scientists test their ideas more easily, because it is easier to develop a study that might falsify a simple explanation than to develop a study that might falsify a more complex explanation.

a. determinism

b. parsimony

c. testability

d. empiricism

Ans: B

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Parsimony

Difficulty Level: Easy

22. Early neuroscientists (e.g., Santiago Ramón y Cajal, Meyers, 2007) conducted \_\_\_\_\_\_ research studies to understand how neurons function.

a. complex

b. basic

c. confirmation

d. applied

Ans: B

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Knowledge

Answer Location: Basic and Applied Research

Difficulty Level: Easy

23. When we ask people to complete a survey we are using \_\_\_\_\_\_ to learn about behavior.

a. determinism

b. parsimony

c. testability

d. empiricism

Ans: D

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Application

Answer Location: Empiricism

Difficulty Level: Hard

24. The \_\_\_\_\_\_ provide(s) a general “how to” guide for psychologists designing research studies, because they help us conduct good tests of our explanations of the causes of behaviors and further our understanding of why certain behaviors occur.

a. canons of science

b. canons of phenomena

c. guide to science

d. guide to knowledge

Ans: A

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Knowledge

Answer Location: Testability

Difficulty Level: Easy

25. Knowledge gained in \_\_\_\_\_\_ studies can also help basic researchers refine their theories about how behavior works.

a. complex

b. basic

c. confirmation

d. applied

Ans: D

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

26. When one encounters reports of research in the media, asking questions to ascertain credibility would not include \_\_\_\_\_\_.

a. Who were the research subjects?

b. Was an appropriate sample tested?

c. Was an appropriate method used to investigate the question?

d. What is the gender of the researcher(s)?

Ans: D

KEY: Learning Objective: 1.1: Understand that knowledge of research in psychology has value beyond careers in research

REF: Cognitive Domain: Knowledge

Answer Location: Why Should I Care About Research if I Don’t Want to Do Research in My Career?

Difficulty Level: Easy

27. A psychologist investigating the research question “How much information can we store in short-term memory?” is most likely conducting \_\_\_\_\_\_ research.

a. basic

b. applied

c. external

d. internal

Ans: A

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

28. A psychologist investigating the research question “What type of work environment increases productivity of employees?” is most likely conducting \_\_\_\_\_\_ research.

a. basic

b. applied

c. external

d. internal

Ans: B

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

29. Applications of \_\_\_\_\_\_ research may not be obvious when it is initially conducted.

a. basic

b. applied

c. external

d. internal

Ans: A

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Knowledge

Answer Location: Basic and Applied Research

Difficulty Level: Easy

30. “I want to know if my phone is on. I decide that it is because my phone is always on.” is an example of \_\_\_\_\_\_.

a. intuition

b. authority

c. observation

d. deduction

Ans: D

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: How Psychologists Use the Scientific Method

Difficulty Level: Medium

31. “I want to know which direction I am facing. The Sun is setting to my right, and I know the Sun sets in the west, so I know that west is the direction where the Sun is setting.” is an example of \_\_\_\_\_\_.

a. intuition

b. authority

c. observation

d. deduction

Ans: D

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: How Psychologists Use the Scientific Method

Difficulty Level: Medium

32. “I want to know what my pancreas does. I know that my pancreas produces hormones important for digestion because that is what my high school biology teacher told me.” is an example of \_\_\_\_\_\_.

a. intuition

b. authority

c. observation

d. deduction

Ans: B

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: How Psychologists Use the Scientific Method

Difficulty Level: Medium

33. “I want to know how much sleep on average Americans get per night. I determine this by conducting a survey of Americans to learn that most Americans get an average of 6 to 8 hours of sleep per night” is an example of \_\_\_\_\_\_.

a. intuition

b. authority

c. observation

d. deduction

Ans: C

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: How Psychologists Use the Scientific Method

Difficulty Level: Medium

34. \_\_\_\_\_\_ is not a method of empiricism used to learn about behavior.

a. Observing people in their normal environment

b. Asking people to complete a survey

c. Relying on common sense

d. Asking people to come into a lab and complete a task on a computer

Ans: C

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Empiricism

Difficulty Level: Medium

35. A reporter who is writing an article on an important issue may only interview experts that support their views on the issue. This is an example of \_\_\_\_\_\_.

a. belief bias

b. confirmation bias

c. evidence bias

d. contradictory bias

Ans: B

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Testability

Difficulty Level: Medium

36. \_\_\_\_\_\_ factors can cause us to observe a particular behavior when we observe it only once and affects our result conclusions.

a. Confirmatory

b. Confounding

c. Chance

d. Conflicting

Ans: C

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Empiricism

Difficulty Level: Medium

37. Human factors professionals use research to help understand the best way to \_\_\_\_\_\_.

a. replicate work procedures

b. define safety policy

c. design products and interfaces

d. understand employee morale

Ans: C

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Why Should I Care About Research if I Don’t Want to Do Research in My Career?

Difficulty Level: Medium

38. Relying on common sense as a means of knowing about the world is referred to as the \_\_\_\_\_\_ method of knowing.

a. intuition

b. authority

c. deduction

d. observation

Ans: A

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Why Psychologists Conduct Research

Difficulty Level: Medium

39. Watson is collecting data to study “Does sleeplessness cause anxiety?”. This is an example of the \_\_\_\_\_\_ facet of the scientific method.

a. empiricism

b. determinism

c. parsimony

d. testability

Ans: B

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: How Psychologists Use The Scientific Method

Difficulty Level: Medium

## True/False

1. Observation is really what sets scientific fields apart from other fields of study.

Ans: T

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Using Science to Understand and Explain Behavior

Difficulty Level: Easy

2. As you encounter descriptions of psychological research, you may find that not all research fits neatly into basic or applied categories.

Ans: T

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

3. Some behaviors, such as mental processes, can be directly observed.

Ans: F

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Using Science to Understand and Explain Behavior

Difficulty Level: Easy

4. Research is the foundation of the field of psychology.

Ans: T

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Using Science to Understand and Explain Behavior

Difficulty Level: Easy

5. The applications of basic research may not be obvious when it is initially conducted.

Ans: T

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

6. There are six primary facets or *canons* (i.e., rules or principles that guide a field of study) that define the scientific method.

Ans: F

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Knowledge

Answer Location: How Psychologists Use the Scientific Method

Difficulty Level: Easy

7. Relying on an authority to learn about behavior gives researchers a more accurate understanding of the causes of behaviors than other methods of gaining knowledge.

Ans: F

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Why Psychologists Conduct Research

Difficulty Level: Easy

8. The only goal of psychological research is to be able to explain behavior by understanding the causes of different types of behavior.

Ans: F

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Determinism

Difficulty Level: Medium

9. It takes many studies conducted in many different contexts that produce results consistent with an explanation of behavior to support it.

Ans: T

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Testability

Difficulty Level: Easy

10. The goal of applied research is to understand the most fundamental processes of behavior and how they operate.

Ans: F

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

11. One lab observation is enough to be sure about the knowledge we are gaining.

Ans: F

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Empiricism

Difficulty Level: Easy

12. It takes only a few studies with results inconsistent with an explanation of behavior to falsify it.

Ans: T

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Testability

Difficulty Level: Medium

13. Making choices leads people to think more analytically study by Savani, Stephens, and Markus (2017) is an example of basic research.

Ans: T

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Basic and Applied Research

Difficulty Level: Medium

14. Assuming a link between two things means one caused the other is a common pitfall in behavioral research.

Ans: T

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Common Pitfalls and How to Avoid Them

Difficulty Level: Medium

## Essay

1. What are the four canons of the scientific method? Explain how each canon is used in scientific research.

Ans: Answers vary

Empiricism--observations are made to learn about behavior.

Determinism--observable phenomena are assumed to have observable causes--thus, determinism is used in psychological research to test causal explanations about behavior.

Parsimony--simpler explanations are tested before more complex explanations are pursued because simpler explanations are easier to test.

Testability--studies are designed in such a way to allow explanations to be falsified in order to avoid the positive test bias.

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Knowledge

Answer Location: How Psychologists Use the Scientific Method

Difficulty Level: Easy

2. Explain why the scientific method is not used to determine if an afterlife exists after death.

Ans: Answers vary

The existence of an afterlife is difficult to test in such a way that it can be falsified, because its nature is defined as something that is unobservable to living individuals.

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Application

Answer Location: Testability

Difficulty Level: Hard

3. What is the difference between basic and applied research? In what ways do these types of research interact in the field of psychology?

Ans: Answers vary

Basic research examines fundamental elements of behavior--applied research is conducted to solve a real-world problem--basic research allows theories of behavior to be developed that allow applied researchers to use the theories to develop solutions to problems that they can test. The results from applied research then give feedback to basic researchers to determine if the theories can be applied to real-world behaviors.

KEY: Learning Objective: 1.3: Evaluate research in terms of the basic–applied distinction

REF: Cognitive Domain: Analysis

Answer Location: Basic and Applied Research

Difficulty Level: Medium

4. How do the goals of basic and applied research differ? Provide an example of a research question for each type of research.

Ans: Answers vary

Basic research examines fundamental elements of behavior--applied research is conducted to solve a real-world problem--examples will vary.

KEY: Learning Objective: 1.1: Understand that knowledge of research in psychology has value beyond careers in research

REF: Cognitive Domain: Analysis

Answer Location: Basic and Applied Research

Difficulty Level: Medium

5. What is external validity?

Ans: Answers vary

External validity is the degree to which results of a study can be generalized to individuals and behaviors outside of the study.

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Knowledge

Answer Location: Basic and Applied Research

Difficulty Level: Easy

6. How is falsifiability used in psychological science? Define and explain.

Ans: Answers vary

Falsification of explanations of behavior advances psychological science much more than supporting explanations (Platt, 1964). Whenever researchers can show that an accepted explanation is not supported, it changes the direction of investigation in an area of research and moves psychological science forward in gaining new knowledge about behavior. Making predictions about the results they will find in their studies helps researchers contribute to the testability of their observations. With clear predictions made before a study is conducted, researchers can design good tests of their ideas about behavior and help them avoid falling prey to the confirmation bias in believing the results are consistent with their ideas regardless of how they turn out.

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Testability

Difficulty Level: Medium

7. For behaviors, such as mental processes, that cannot be directly observed (e.g., thoughts or memories) how do psychologists use empiricism for inferring information about these behaviors?

Ans: Answers vary

Psychologists have developed techniques for inferring information about mental processes through observation of specific behaviors that are affected by the mental processes. Psychologists then attempt to understand mental processes through observation of these behaviors and the investigation of the factors that influence those behaviors. That is what this book (and the course you are taking) is all about--understanding the methods psychologists use to observe, measure, and study behavior and mental processes.

KEY: Learning Objective: 1.2: Understand what it means to learn about behavior through observation

REF: Cognitive Domain: Comprehension

Answer Location: Using Science to Understand and Explain Behavior

Difficulty Level: Medium