

## CHAPTER 1: Psychology Is a Way of Thinking

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### LEARNING OBJECTIVES

Learning Objective 1.1: Articulate how the roles of consumers and producers of psychological research are similar and how they differ.

Learning Objective 1.2: Explain how theories and data interact to form empirical inquiry.

Learning Objective 1.3: Identify examples of basic and applied research and describe the interactions between the two kinds of research.

Learning Objective 1.4: Describe the role of the peer-review process in science.

Learning Objective 1.5: Give examples of ways that researchers dig deeper by doing more than just one study on a research question.

Learning Objective 1.6: Describe the differences between empirical journals and popular journalism; describe the goals of each format and give examples of ways that journalists can write better stories about scientific news.

### MULTIPLE CHOICE

1. Which of the following is an example of being a *producer* of research?
  - a. Administering an anxiety questionnaire
  - b. Applying a new therapy technique
  - c. Writing an opinion article about a psychological study
  - d. Undergoing a brain scan

ANS: A      DIF: Medium REF: 1.1 Research Producers, Research Consumers: Why the Producer Role Is Important OBJ: Learning Objective 1.1 MSC: Understanding

2. Which of the following is an example of being a *consumer* of research?
  - a. Administering a questionnaire of PTSD symptoms
  - b. Consenting to participate in a research study
  - c. Attending a psychological conference
  - d. Measuring dopamine levels in patients with schizophrenia

ANS: C      DIF: Medium REF: 1.1 Research Producers, Research Consumers: Why the Consumer Role Is Important OBJ: Learning Objective 1.1 MSC: Applying

3. Students who are interested in being consumers of, but not producers of, research might choose which of the following professions?

- a. A clinical psychologist
- b. An intervention program evaluator
- c. A political pollster
- d. An advertising executive

ANS: D                    DIF: Medium REF: 1.1 Research Producers, Research Consumers: Why the Consumer Role Is Important OBJ: Learning Objective 1.1                    MSC: Analyzing

4. Dr. Smitherman insists that all his research assistants know how to be producers of research. All of the following relate to this requirement EXCEPT:
- a. He wants to make sure they understand how to write in APA style.
  - b. He wants to make sure they understand why anonymity is important.
  - c. He wants to make sure they understand how to interpret study results and graphs.
  - d. He wants to make sure they have previously been participants in research studies.

ANS: D                    DIF: Medium REF: 1.1 Research Producers, Research Consumers: Why the Consumer Role Is Important OBJ: Learning Objective 1.1                    MSC: Understanding

5. Elliott is double majoring in English and psychology. He plans on being a high school English teacher and is only majoring in psychology because he finds the classes interesting. Which of the following is an important reason for him to be a good consumer of research?
- a. His psychology advisor may ask for his help in copy-editing a research article.
  - b. He will likely need to be a participant in research studies as part of his psychology major.
  - c. He will probably want to read research related to enhancing his teaching.
  - d. He will have to produce research before he can consume it.

ANS: C                    DIF: Easy REF: 1.1 Research Producers, Research Consumers: Why the Consumer Role Is Important OBJ: Learning Objective 1.1                    MSC: Applying

6. In the theory-data cycle, theories *first* lead to \_\_\_\_\_.
- a. questions
  - b. answers
  - c. data
  - d. research

ANS: A                    DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                    MSC: Understanding

7. Another word for hypothesis is a(n) \_\_\_\_\_.
- a. theory
  - b. observation

- c. prediction
- d. outcome

ANS: C                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Remembering

8. Another word for data is a(n) \_\_\_\_\_.
- a. theory
  - b. observation
  - c. prediction
  - d. outcome

ANS: B                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Remembering

9. RESEARCH STUDY 1.1: Deci and Ryan (1985, 2001) have proposed that there are three fundamental needs that are required for human growth and fulfillment: relatedness, autonomy, and competence. Susan predicts that students who have these needs met in their psychology class feel happier and more satisfied with the class. She collects data and finds that students who feel more related and competent do feel happier but that feeling more autonomous does not seem to matter. Susan thinks that maybe autonomy is only necessary when people are in situations in which they are not being evaluated.
- Deci and Ryan's general statement of how the three needs are related to growth and fulfillment is an example of which of the following?
- a. A theory
  - b. A hypothesis
  - c. Data
  - d. Research

ANS: A                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Applying

10. RESEARCH STUDY 1.1: Deci and Ryan (1985, 2001) have proposed that there are three fundamental needs that are required for human growth and fulfillment: relatedness, autonomy, and competence. Susan predicts that students who have these needs met in their psychology class feel happier and more satisfied with the class. She collects data and finds that students who feel more related and competent do feel happier but that feeling more autonomous does not seem to matter. Susan thinks that maybe autonomy is only necessary when people are in situations in which they are not being evaluated.
- Susan's prediction that students who have all three needs met will experience greater satisfaction with their psychology class is an example of which of the following?
- a. A theory

- b. A hypothesis
- c. Data
- d. Research

ANS: B                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Applying

11. RESEARCH STUDY 1.1: Deci and Ryan (1985, 2001) have proposed that there are three fundamental needs that are required for human growth and fulfillment: relatedness, autonomy, and competence. Susan predicts that students who have these needs met in their psychology class feel happier and more satisfied with the class. She collects data and finds that students who feel more related and competent do feel happier but that feeling more autonomous does not seem to matter. Susan thinks that maybe autonomy is only necessary when people are in situations in which they are not being evaluated.

After Susan collects and analyzes her data, which of the following is the next logical step?

- a. Susan writes a paper challenging Self-Determination Theory because only some of her data supported it.
- b. Susan ignores the data that did not fit the theory.
- c. Susan recalculates her data to fit the theory.
- d. Susan alters or amends the theory to fit her data.

ANS: D                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Applying

12. RESEARCH STUDY 1.1: Deci and Ryan (1985, 2001) have proposed that there are three fundamental needs that are required for human growth and fulfillment: relatedness, autonomy, and competence. Susan predicts that students who have these needs met in their psychology class feel happier and more satisfied with the class. She collects data and finds that students who feel more related and competent do feel happier but that feeling more autonomous does not seem to matter. Susan thinks that maybe autonomy is only necessary when people are in situations in which they are not being evaluated.

Susan's hypothesis was not completely supported by her data. What does this mean?

- a. Susan must have collected the data incorrectly.
- b. Susan must have analyzed the data incorrectly.
- c. The theory may need to be amended.
- d. The theory is completely wrong.

ANS: C                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Applying

13. \_\_\_\_\_ is the approach of collecting data and using it to develop, support, and/or challenge a theory.

- a. Falsifiability
- b. Theorizing
- c. Empiricism
- d. Application

ANS: C                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Remembering

14. Occam's razor states that the simplest solution is the best, all things being equal. This speaks to a theory's:
- a. parsimony.
  - b. falsifiability.
  - c. theorizing.
  - d. empiricism.

ANS: A                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Analyzing

15. Benjamin is a social psychologist who studies marriage. He believes that marital satisfaction has two components: the ability to trust one's partner and a belief that one can be a good spouse. This is known as:
- a. a theory.
  - b. a hypothesis.
  - c. data.
  - d. research.

ANS: A                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Applying

16. Benjamin is a social psychologist who studies marriage. He believes that marital satisfaction has two components: the ability to trust one's partner and a belief that one can be a good spouse. He conducts a study to test his ideas. Assuming that his data match his theory, which of the following statements should he make?
- a. "The data prove my theory."
  - b. "My theory is generalizable."
  - c. "The data provide support for my theory."
  - d. "The data complicate my theory."

ANS: C                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Applying

17. Which of the following is true of the relationship between hypotheses and theories?

- a. Hypotheses are used to determine if a theory is accurate.
- b. Theories are used to determine if a hypothesis is accurate.
- c. Multiple theories are needed to test whether a hypothesis is accurate.
- d. *Hypotheses* and *theories* are synonymous terms.

ANS: A                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Analyzing

18. Both James and Thomas have theories that explain why listening to classical music while reading is associated with increased recall of the material. James' theory is much simpler than Thomas'. Thomas created his theory a few months before James did. Which of the following is true?

- a. James' theory would be considered better because it is more parsimonious.
- b. James' theory would be considered better because it was thought of more recently.
- c. Thomas' theory would be considered better because he thought of it first.
- d. Thomas' theory would be considered better because it is more complex.

ANS: A                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Applying

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

- a. A social psychologist who is interested in the components of self-concept
- b. An educational psychologist who looks for a way to increase math skills in 8-year-olds
- c. A personality psychologist who studies the difference between introverts and extroverts
- d. A cognitive psychologist who looks at the difference in problem-solving abilities of men and women

ANS: B                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3                      MSC: Applying

20. Which of the following is an example of translational research?

- a. An industrial-organizational psychologist who is interested in the components of job satisfaction
- b. A clinical psychologist who examines the effectiveness of art therapy in decreasing symptoms of ADHD
- c. A sports psychologist who uses information on how we emotionally process victory to design an intervention for improving mental stamina during athletic performance
- d. A cognitive psychologist who examines people's ability to distinguish between colors based on light exposure

ANS: C                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3                      MSC: Applying

21. Which of the following is an example of basic research?
- a. An industrial-organizational psychologist who is interested in the components of job commitment
  - b. A clinical psychologist who examines the effectiveness of drama therapy in helping children who have been abused
  - c. An educational psychologist who examines how mindset (“intelligence is innate” or “intelligence can be achieved”) affects academic performance
  - d. An experimental psychologist who examines people’s ability to perceive a “sweet” taste

ANS: D                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3 MSC: Applying

22. Research that is done specifically to solve a practical problem, like increasing memory ability or decreasing symptoms of depression, is known as:
- a. basic research.
  - b. applied research.
  - c. empirical research.
  - d. translational research.

ANS: B                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3 MSC: Remembering

23. Research that is done specifically to add to our general understanding of psychology, like distinguishing the components of extraversion or predicting the time it takes a person to determine whether an object is a face or another object, is known as:
- a. basic research.
  - b. applied research.
  - c. empirical research.
  - d. translational research.

ANS: A                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3 MSC: Remembering

24. Which of the following is true of the difference between basic and applied research?
- a. Basic and applied research have different goals.
  - b. Applied research is more important than basic research.
  - c. Basic research is more difficult to conduct than applied research.
  - d. Applied research is done by consumers of research.

ANS: A                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3 MSC: Analyzing

25. Vinai learns that people with schizophrenia have a problem labeling their emotions. Using this information, he designs a research study to examine whether teaching patients with schizophrenia to label the emotions of people they see in movie clips helps them to better label their own emotions. Vinai hopes that the findings of this research could then be used to create an intervention to treat schizophrenia. Vinai's study is an example of:
- basic research.
  - applied research.
  - empirical research.
  - translational research.

ANS: D                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3                      MSC: Applying

26. According to the text, the bridge between basic and applied research is known as:
- empirical research.
  - practical research.
  - translational research.
  - compound research.

ANS: C                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3                      MSC: Remembering

27. Scientific journals and magazines are similar in which of the following ways?
- Both are written for the general public.
  - Both tend to be written by scientists.
  - Both tend to publish peer-reviewed articles.
  - Both are trying to inform their readers.

ANS: D                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process | 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism                      OBJ: Learning Objective 1.4                      MSC: Analyzing

28. Which of the following is the reason that scientific journals use peer review?
- It is cost effective.
  - It is more efficient/faster.
  - It encourages collaboration among researchers.
  - It ensures that the studies published are of the highest quality.

ANS: D                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process OBJ: Learning Objective 1.4                      MSC: Remembering



29. Nadia submits her article to a scientific journal for publication. Who makes the final decision on whether her article is published in that scientific journal?
- The editor of the journal
  - Nadia, the author of the article
  - A panel of experts
  - The publisher of the journal

ANS: A                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process OBJ: Learning Objective 1.4                      MSC: Applying

30. Which aspect of the peer-review cycle allows for the greatest amount of honesty in reviews?
- The number of peer reviewers
  - The anonymity of the peer reviewers
  - The possibility of rejection
  - The frequency of publication

ANS: B                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process OBJ: Learning Objective 1.4                      MSC: Remembering

31. Dr. Gonzalez is a peer reviewer for a manuscript submitted to a journal. He is likely to provide comments on which of the following?
- How well the general public will understand the study
  - How well the research was conducted
  - The prestige/reputation of the author
  - Previous studies from the same research group

ANS: B                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process OBJ: Learning Objective 1.4                      MSC: Applying

32. Dr. Stewart is an editor of a psychology journal. She wants to ensure that reviewers give honest reviews of the papers they are asked to read. Which of the following could she do to increase the likelihood of honest feedback?
- Increase the number of peer reviewers
  - Use reviewers from fields other than psychology
  - Make sure the peer reviewers are anonymous
  - Give reviewers a longer amount of time to read papers

ANS: C                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process OBJ: Learning Objective 1.4                      MSC: Applying

33. Articles that could be considered journalism:

- a. are typically written by scientists.
- b. are typically written for scientists.
- c. are hard to access.
- d. do not require specialized education to read.

ANS: D                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism                      OBJ: Learning Objective 1.6                      MSC: Remembering

34. The quality of journalists' coverage of a science story will be determined by two factors:
- a. the importance and accuracy of the story.
  - b. the length and source of the story.
  - c. the education and experience of the journalist.
  - d. the education and experience of the scientist.

ANS: A                      DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism                      OBJ: Learning Objective 1.6                      MSC: Remembering

35. Salma conducts a study and finds that her data do not completely support her theory. Which of the following statements should she avoid saying?
- a. "My data are inconsistent with my theory."
  - b. "My data disprove my theory."
  - c. "My theory needs amending."
  - d. "I may need to collect more data."

ANS: B                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2                      MSC: Analyzing

36. Translational research is best thought of as \_\_\_\_\_ basic research and applied research.
- a. superior to both
  - b. inferior to both
  - c. a bridge between
  - d. another word for

ANS: C                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3                      MSC: Understanding

37. Which of the following is a reason psychological scientists publish their research in scientific journals?
- a. To get money from the journals where their work appears
  - b. To share their findings with the general public
  - c. To have their results reviewed by other psychologists
  - d. To gain attention by journalists

ANS: C                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process OBJ: Learning Objective 1.4                      MSC: Understanding

38. Which of the following is a reason that a journalist may misrepresent a psychology study in a magazine?
- The peer-review process for journalists sometimes makes them miss important facts.
  - Journalists may count on their readers to check the original scientific journal.
  - Journalists may not personally have the scientific background to understand the study.
  - Journalists are unethical.

ANS: C                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism                      OBJ: Learning Objective 1.6                      MSC: Understanding

39. Your friend Gaby loves reading articles about psychology studies in her monthly women's magazine. Which of the following would you tell her?
- "Stop reading those articles because they are never accurate."
  - "Peer-reviewed journals are much easier to read than magazines."
  - "Be careful about reading those articles because they may not present findings accurately."
  - "Reading those magazines is just as good as reading the peer-reviewed journals."

ANS: C                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism                      OBJ: Learning Objective 1.6                      MSC: Applying

40. RESEARCH STUDY 1.2: Dr. White reads about a new theory that states that depression is caused by increased levels of estrogen in the womb. To test this theory, she conducted a study comparing the level of estrogen in amniotic fluid in individuals who were later diagnosed with depression with the level of those who did not develop depression. Dr. White found no differences between the groups in estrogen levels in the amniotic fluid.

Based on these results, Dr. White should conclude that:

- she has disproved the previous theory.
- her study was probably flawed in some way.
- previous studies that support the theory are probably flawed.
- there may be factors influencing the results that haven't yet been examined that contributed to the results of studies on this topic.

ANS: D                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Dig Deeper OBJ: Learning Objective 1.5                      MSC: Analyzing

41. RESEARCH STUDY 1.2: Dr. White reads about a new theory that states that depression is caused by increased levels of estrogen in the womb. To test this theory, she conducted a study comparing the level of estrogen in amniotic fluid in individuals who were later diagnosed with depression with the level

of those who did not develop depression. Dr. White found no differences between the groups in estrogen levels in the amniotic fluid.

What should Dr. White do next?

- a. Evaluate the ways in which her study differed from previous studies that supported this theory
- b. Work with a journalist to write a magazine article claiming they have disproved the previous theory
- c. Develop a new theory of what causes depression
- d. Start altering treatments for depression based on her findings

ANS: A                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Dig Deeper  
OBJ: Learning Objective 1.5                      MSC: Analyzing

42. RESEARCH STUDY 1.2: Dr. White reads about a new theory that states that depression is caused by increased levels of estrogen in the womb. To test this theory, she conducted a study comparing the level of estrogen in amniotic fluid in individuals who were later diagnosed with depression with the level of those who did not develop depression. Dr. White found no differences between the groups in estrogen levels in the amniotic fluid.

Another depression researcher reads Dr. White's findings. This new researcher is LEAST likely to:

- a. conduct a similar study with improved research design.
- b. design a new study to ask a slightly different research question.
- c. reject the theory of what causes depression.
- d. conduct the same study in a different sample of depressed patients.

ANS: C                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Dig Deeper  
OBJ: Learning Objective 1.5                      MSC: Analyzing

43. RESEARCH STUDY 1.2: Dr. White reads about a new theory that states that depression is caused by increased levels of estrogen in the womb. To test this theory, she conducted a study comparing the level of estrogen in amniotic fluid in individuals who were later diagnosed with depression with the level of those who did not develop depression. Dr. White found no differences between the groups in estrogen levels in the amniotic fluid.

In this study, "depressed individuals will have higher estrogen levels" was the \_\_\_\_\_.

- a. theory
- b. research question
- c. hypothesis
- d. data

ANS: C                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Dig Deeper  
OBJ: Learning Objective 1.2                      MSC: Applying

44. RESEARCH STUDY 1.2: Dr. White reads about a new theory that states that depression is caused by

increased levels of estrogen in the womb. To test this theory, she conducted a study comparing the level of estrogen in amniotic fluid in individuals who were later diagnosed with depression with the level of those who did not develop depression. Dr. White found no differences between the groups in estrogen levels in the amniotic fluid.

In this study, estrogen levels in participants were the \_\_\_\_\_.

- a. theory
- b. research question
- c. hypothesis
- d. data

ANS: D                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Dig Deeper OBJ: Learning Objective 1.2                      MSC: Applying

45. RESEARCH STUDY 1.2: Dr. White reads about a new theory that states that depression is caused by increased levels of estrogen in the womb. To test this theory, she conducted a study comparing the level of estrogen in amniotic fluid in individuals who were later diagnosed with depression with the level of those who did not develop depression. Dr. White found no differences between the groups in estrogen levels in the amniotic fluid.

Dr. White publishes her findings in a scientific journal. Who is most likely to read her article?

- a. Depressed patients
- b. Clinical researchers
- c. Journalists
- d. Social workers

ANS: B                      DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism OBJ: Learning Objective 1.6                      MSC: Applying

46. Which of the following is a benefit of the peer-review process?
- a. Reviewers' names are made public so they can defend their critiques of an article.
  - b. The journal editor provides input on study design to ensure rigorous scientific methods.
  - c. Reviewers' names are kept anonymous so they can be open in their critiques of an article.
  - d. Non-significant results are not considered for publication to ensure interesting research.

ANS: C                      DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process                      OBJ: Learning Objective 1.6                      MSC: Understanding

47. How can you ensure that a popular media article accurately reflects the original research of a scientific study?
- a. Find and read the original scientific article

- b. Determine whether the results fit within the theories you learned in your psychology classes
- c. Check that the popular media article includes the statistical significance of the results
- d. Research the credentials of the author of the popular media article

ANS: A                      DIF: Medium   REF: 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism   OBJ: Learning Objective 1.6   MSC: Understanding

48. Which of the following is a reason why it is important to be a knowledgeable consumer of research?
- a. It is important to know how to write in APA style.
  - b. It is important to understand how to design an effective study.
  - c. It is important to know why researchers protect the anonymity of participants.
  - d. It is important to understand whether the information you read is accurate.

ANS: D                      DIF: Medium   REF: 1.1 Research Producers, Research Consumers: Why the Consumer Role Is Important   OBJ: Learning Objective 1.1   MSC: Understanding

49. Which of the following is a reason why it is important to be an effective producer of research?
- a. It is important to be able to synthesize previous research findings.
  - b. It is important to know how to interpret the results and graphs of your study.
  - c. It is important to understand whether the information you read is accurate.
  - d. It is important to know how to write in APA style.

ANS: B                      DIF: Medium   REF: 1.1 Research Producers, Research Consumers: Why the Producer Role Is Important   OBJ: Learning Objective 1.1   MSC: Understanding

50. A research consumer \_\_\_\_\_ scientific results.
- a. analyzes
  - b. produces
  - c. reads
  - d. graphs

ANS: C                      DIF: Easy                      REF: 1.1 Research Producers, Research Consumers   OBJ: Learning Objective 1.1   MSC: Remembering

## SHORT ANSWER

1. Name three types of research data or information that people are exposed to every day, even if they are not psychologists.

ANS:

Several answers are acceptable, including political polling data, websites (e.g., WebMD), advice columns in newspapers and magazines.

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2. Provide two reasons why it is beneficial to be a good consumer of research, even if you are not a psychologist.

ANS:

Several answers are acceptable, including using findings from research to help one's profession, to help one's everyday life (e.g., techniques to improve relationships, improve study skills), to save money and time (e.g., by not spending time and money on things that are not effective).

DIF: Easy REF: 1.1 Research Producers, Research Consumers: Why the Consumer Role Is Important OBJ: Learning Objective 1.1 MSC: Understanding

3. Although not all psychology majors become producers of research, name two benefits of learning how to become a producer of research.

ANS:

The benefits of learning how to become a producer of research can include learning to write in APA style, gaining skills necessary to work in a professor's research lab, gaining skills necessary to complete a class assignment, and becoming a more informed consumer.

DIF: Easy REF: 1.1 Research Producers, Research Consumers: Why the Producer Role Is Important OBJ: Learning Objective 1.1 MSC: Understanding

4. Paul wakes up on Tuesday morning and none of the lights or the appliances in his apartment are working. What theory might explain why this is happening? What could Paul do to test this theory? How is this an example of the theory-data cycle in science?

ANS:

Answers may vary, but in each response, students should propose a theory for why the lights/appliances do not work. Possible theories could be that Paul did not pay his electric bill, there was an electrical storm, or a fuse to his apartment was blown. Students should then propose a way for Paul to test the theory. For example, if students theorize that the lights/appliances are off because he did not pay the bill, they should state that he should pay his bill and see if the lights come back on. Students should then explain how Paul has a theory, then collects data, and then uses the data to evaluate the theory.

DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2 MSC: Applying

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

ANS:

A hypothesis is a prediction about what a researcher says should happen. Answers may vary, but students may say that a hypothesis is an if-then statement, such that if something happens, then they predict something else will then happen. In each response, students should say that a theory is a statement that explains why various variables/concepts are related. Some students may say that hypotheses are used to test theories.

DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2 MSC: Understanding

6. What are the three components of a good theory?

ANS: A good theory is falsifiable, supported by data, and parsimonious.

DIF: Easy

REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.2 MSC: Understanding

7. Explain why we do not say that a single study *proves* a theory or that a single study *disproves* a theory.

ANS:

A single study does not prove a theory because although a study today may find support for a theory, a study done tomorrow may not find support for that theory. A single study cannot disprove a theory because the single study may have been poorly conducted. Further, students may also mention that a disconfirming study may mean that the theory may need to be amended or altered rather than completely dismissed.

DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Test Theories: The Theory-Data Cycle OBJ: Learning Objective 1.5 MSC: Understanding

8. Explain why the relationship between applied and basic research can best be thought of as interrelated.

ANS:

These two types of research are best thought of as interrelated because they both inform each other. Specifically, basic research can be used later to conduct applied research and inform basic research. Students may also mention translational research in their responses.



DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3 MSC: Understanding

9. The Harlow study described in the text is an example of basic research. It found that attachment to a caregiver is important in the early months of life. How might a researcher use this study as inspiration for an applied research study?

ANS:

Answers may vary, but in each response, students should provide an example applying the concept of attachment in early life to an applied domain. For example, a student could include studying foster children who may not be with their caregivers in early life and their later attachment. Another example could involve examining different techniques used in hospitals to teach parents-to-be how to form close attachments with their children.

DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3 MSC: Applying

10. Imagine that you are a clinical researcher who studies depression. Provide an example of basic research *and* applied research that you might conduct.

ANS:

Answers may vary, but in each response, students should provide an example of a basic study—frequency of depressive symptoms, type of depressive symptoms, how people who have depression function in daily life, and so on. Students should also provide an example of an applied study—a treatment designed to decrease depressive symptoms, a method to increase the social interactions of depressive patients, and so on.

DIF: Difficult REF: 1.2 How Scientists Approach Their Work: Scientists Tackle Applied and Basic Problems OBJ: Learning Objective 1.3 MSC: Applying

11. Name three ways that articles published in scientific journals are different from journalistic articles.

ANS:

Answers may vary, but in each response, students should mention any three of the following: peer-reviewed articles are written by scientists, whereas journalism articles are not; peer-reviewed articles are written for other scientists, whereas journalism articles are not; peer-reviewed articles are harder to access/acquire, whereas journalism articles are not; peer-reviewed articles require special education to read, whereas journalism articles do not; and peer-reviewed articles are of course peer-reviewed, whereas journalism articles are not.

DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The

12. Explain how the peer-review process ensures that only quality science is published.

ANS:

Answers may vary, but in each response, students should say that peer reviewers act as gatekeepers or monitors of quality science by evaluating research that is submitted and ensuring that only good research is published. They may also state that peer reviewers comment on what is good and what is bad about the research and provide suggestions for improving the research before it is published.

DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process      OBJ:      Learning Objective 1.4      MSC: Understanding

13. Dr. Mendoza sends a paper to a journal. The editor sends the paper to four experts in the field for peer review. Name three things that the peer reviewers should comment on in evaluating Dr. Mendoza's paper.

ANS:

Peer reviewers should comment on three of the following: (a) how interesting the work is, (b) how novel the research is, (c) how well the research was done, and (d) how clear the results are.

DIF: Medium REF: 1.2 How Scientists Approach Their Work: Scientists Make It Public: The Publication Process      OBJ:      Learning Objective 1.4      MSC: Applying

14. Name the two aspects that improve the publication process from journal to journalism.

ANS:

Journalists should choose studies that are important (and not just eye-catching or sensational), and they should accurately report on/describe the research study, ensuring that they fairly describe the study.

DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism      OBJ: Learning Objective 1.6      MSC: Understanding

15. The text mentions two important questions to ask about a popular media story. What are these two questions, and why are they important to consider as you evaluate a story?

ANS:

The two important questions to ask are "Is the story important?" and "Is the story accurate?" The first question is important to consider because some popular media stories only report on stories that are sensational or eye-catching rather than those that are really adding to our understanding of science. The second question is important to ask because the journalist might have omitted details or aspects of

the study that are key to understanding the study.

DIF: Easy REF: 1.2 How Scientists Approach Their Work: Scientists Talk to the World: From Journal to Journalism OBJ: Learning Objective 1.6 MSC: Understanding

## CHAPTER 2: Sources of Information: Why Research Is Best and How to Find it

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### LEARNING OBJECTIVES

Learning Objective 2.1: Describe why experience usually has no comparison group and usually has confounds.

Learning Objective 2.2: Describe at least five ways intuition is biased.

Learning Objective 2.3: Be cautious about accepting the conclusions of authority figures (especially conclusions that are not based on research).

Learning Objective 2.4: Explain the advantages of research over intuition and experience.

Learning Objective 2.5: Find research-based information in PsycINFO and other sources.

Learning Objective 2.6: List the forms that research-based information can take: empirical journal articles, review journal articles, books, and chapters in edited books.

Learning Objective 2.7: Read empirical journal articles with a purpose.

Learning Objective 2.8: Evaluate popular sources of psychological research in trade books, wikis, and magazines.

### MULTIPLE CHOICE

1. A psychiatrist is testing a drug that treats depression. He has given the drug to all his patients, and all of them have experienced a decrease in depressive symptoms. Although this is interesting, his experience is limited because he does not have:
  - a. a reliable way to` measure depressive symptoms.
  - b. a comparison group that did not receive the drug.
  - c. a hypothesis.
  - d. psychotherapy to supplement the drug.

ANS: B                      DIF: Medium REF: 2.1 The Research vs. Your Experience: Experience Has No Comparison Group OBJ: Learning Objective 2.1      MSC: Applying

2. RESEARCH STUDY 2.1: Charlotte is studying subliminal messages and weight loss. She is curious whether people will lose more weight if they hear subliminal messages that encourage weight loss ("don't eat that food," "you want to be thin," etc.) in the music on their iPods compared to people who do not have subliminal messages in their music. She studies 40 people and finds the following results:

	Number Who Lost Weight	Number Who Did Not Lose Weight
Exposed to Subliminal Messages	(Cell A) 15 people	(Cell C) 5 people
Not Exposed to Subliminal Messages	(Cell B) 10 people	(Cell D) 10 people

To understand whether the subliminal messages have an effect, Charlotte needs to consider which of the following cells in the chart?

- Only Cell A
- Only Cell B
- Only Cell C
- She must consider all of the cells.

ANS: D                      DIF: Easy REF: 2.1 The Research vs. Your Experience: Experience Has No Comparison Group OBJ: Learning Objective 2.1 MSC: Applying

- RESEARCH STUDY 2.1: Charlotte is studying subliminal messages and weight loss. She is curious whether people will lose more weight if they hear subliminal messages that encourage weight loss (“don’t eat that food,” “you want to be thin,” etc.) in the music on their iPods compared to people who do not have subliminal messages in their music. She studies 40 people and finds the following results:

	Number Who Lost Weight	Number Who Did Not Lose Weight
Exposed to Subliminal Messages	(Cell A) 15 people	(Cell C) 5 people
Not Exposed to Subliminal Messages	(Cell B) 10 people	(Cell D) 10 people

A change to which of the following cells will result in a different interpretation of the results of subliminal messages?

- A change in any cell will result in a different interpretation.
- A change in Cell B only will result in a different interpretation.
- A change in Cell C only will result in a different interpretation.
- A change in Cell D only will result in a different interpretation.

ANS: A                      DIF: Difficult REF: 2.1 The Research vs. Your Experience: Experience Has No

Comparison Group OBJ: Learning Objective 2.1 MSC: Applying

4. Vanessa claims that she sleeps better when she falls asleep to music. She has a comparison group because she has noticed that she does not listen to music every night, only when she remembers to charge her iPod. She typically remembers to charge her iPod on nights when she is able to finish studying earlier. What problem do you see in Vanessa's reasoning about sleeping better to music?
- Vanessa may be sleeping better because she is less distracted by studying/going to bed sooner.
  - Vanessa's belief that she sleeps better with music is not falsifiable.
  - Vanessa is biased because she sleeps in the same bed every night.
  - There is no problem with Vanessa's reasoning.

ANS: A DIF: Difficult REF: 2.1 The Research vs. Your Experience: Experience Is Confounded OBJ: Learning Objective 2.1 | Learning Objective 2.4 MSC: Applying

5. Research studies are superior to personal experience because:
- they include at least one comparison group.
  - they avoid constants.
  - they use confederates.
  - an authority is involved.

ANS: A DIF: Medium REF: 2.1 The Research vs. Your Experience: Research Is Better Than Experience OBJ: Learning Objective 2.1 MSC: Analyzing

6. What does it mean that behavioral research is probabilistic?
- Conclusions drawn from behavioral research are probably true.
  - Behavioral research involves probability sampling.
  - Inferences drawn from behavioral research are not expected to explain all cases.
  - Behavioral research requires the calculation of probability estimates.

ANS: C DIF: Medium REF: 2.1 The Research vs. Your Experience: Research Is Better Than Experience OBJ: Learning Objective 2.4 MSC: Analyzing

7. Angela reads about a study in which cell phone use is associated with migraine headaches. She says, "Well, that study is not valid because I use a cell phone more than anyone I know and I never get migraines." Based on her comment, Angela may be forgetting which of the following?
- Science is based on empiricism.
  - The study has been replicated.
  - The study did not properly define cell phone use.
  - Science is probabilistic.

ANS: D DIF: Medium REF: 2.1 The Research vs. Your Experience: Research Is Better

Than Experience OBJ: Learning Objective 2.1 MSC: Applying

8. Two biases of intuition discussed in the text are:
- being swayed by a good story and being persuaded by what comes easily to mind.
  - the present/present bias and the confederate bias.
  - probabilistic thinking and nonintuitive thinking.
  - overconfidence bias and oversimplification bias.

ANS: A DIF: Easy REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased OBJ: Learning Objective 2.2 MSC: Remembering

9. James is asked about the best way to study for an exam. He responds that the best way to study is by making flash cards. He easily thinks of all the times he used flash cards and he made As. However, he fails to take into consideration all the times he made As and did not use flash cards and the times he used flash cards and did not do well. His faulty thinking is an example of:
- cherry-picking evidence.
  - availability heuristic.
  - present/present bias.
  - asking biased questions.

ANS: C DIF: Medium REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased OBJ: Learning Objective 2.2 MSC: Applying

10. Edward believes that there are a lot of differences between men and women on a variety of different dimensions. He believes this because when he thinks about books that have been written on men and women, he can quickly recall only books that say men and women are different (e.g., *Men Are from Mars, Women Are from Venus*) and cannot recall any that say men and women are the same. His reliance on what comes to mind is an example of which of the following?
- The availability heuristic
  - Cherry-picking of evidence
  - Confirmation bias
  - Overconfidence

ANS: A DIF: Medium REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased OBJ: Learning Objective 2.2 MSC: Applying

11. Which of the following is a problem presented by the availability heuristic?
- We do not examine all of the evidence, only what we can quickly think of.
  - We rely on the opinions of others rather than on our own opinions.
  - It keeps us from examining our own experience.
  - We will never be right in our conclusions.

ANS: A                      DIF: Medium REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased  
OBJ: Learning Objective 2.2                      MSC: Remembering

12. Asking questions to get the answers we want is known as:

- a. availability heuristic.
- b. cherry-picking of evidence.
- c. confirmation bias.
- d. overconfidence.

ANS: C                      DIF: Easy REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased: Focusing on the Evidence We Like Best                      OBJ: Learning Objective 2.2  
MSC: Remembering

13. Sasha believes that she is a nice person. To confirm this, she asks all her friends whether she is a nice person; they all agree that she is. Sasha concludes that she is a nice person and says she has evidence of it. However, she does not ask any of her enemies whether they think she is a nice person. This is an example of which of the following?

- a. Confirmation bias
- b. Availability heuristic
- c. Fourth cell reasoning
- d. Overconfidence

ANS: A                      DIF: Medium REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased: Focusing on the Evidence We Like Best                      OBJ: Learning Objective 2.2  
MSC: Applying

14. Sasha believes that she is a nice person. To confirm this, she asks all her friends whether she is a nice person; they all agree that she is. Sasha concludes that she is a nice person and says she has evidence of it. Sasha would likely draw a different conclusion if she did which of the following?

- a. Asked her enemies if she was a nice person
- b. Counted up all the times she was nice in the past
- c. Asked all her friends the same question again in another six months
- d. Considered all the times she was nice to her enemies

ANS: A                      DIF: Medium REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased: Focusing on the Evidence We Like Best                      OBJ: Learning Objective 2.2  
MSC: Applying

15. In which of the following scenarios should you be skeptical of an authority?

- a. When they present all the evidence on a topic
- b. When they have a scientific degree



- c. When they based their opinions on their intuition
- d. When they have conducted scientific research on the topic

ANS: C                      DIF: Medium                      REF: 2.3 Trusting Authorities on the Subject OBJ:  
Learning Objective 2.3                      MSC: Understanding

16. You and your friends go to see a speaker on campus. The speaker, Dr. Darian, is an “expert” on getting into graduate school. Which of the following should make you less skeptical about his advice?
- a. His recommendations are based on techniques that have worked for his students.
  - b. His recommendations are based on the techniques that helped him get into graduate school.
  - c. His recommendations are based on research he conducted for his dissertation.
  - d. His recommendations are similar to what you knew before you came to the talk.

ANS: C                      DIF: Difficult                      REF: 2.3 Trusting Authorities on the Subject OBJ:  
Learning Objective 2.3                      MSC: Applying

17. If you are interested in reading an overview of peer-reviewed scientific research within a specific area, which of the following reading sources would you choose?
- a. Edited books
  - b. Popular magazines
  - c. Scientific journals
  - d. An expert’s dissertation

ANS: A                      DIF: Medium REF: 2.4 Finding and Reading the Research: Consulting Scientific  
Sources OBJ: Learning Objective 2.6                      MSC: Understanding

18. Which of the following is true of the distinction between scientific journals and popular magazines?
- a. Scientific journals are published quarterly; popular magazines are published monthly.
  - b. Scientific journals are published on specific topics; popular magazines are not published on specific topics like psychology.
  - c. Scientific journal articles are peer-reviewed; popular magazine articles are not.
  - d. Scientific journal article findings explain all cases all of the time; popular magazine articles only explain certain cases.

ANS: C                      DIF: Medium REF: 2.4 Finding and Reading the Research: Consulting Scientific  
Sources OBJ: Learning Objective 2.6 | Learning Objective 2.8 MSC: Analyzing

19. Diego is interested in examining the relationship between a person’s attachment style and his or her relationship satisfaction. He finds 65 studies that have examined this topic. He combines the results of all these studies and calculates an effect size. His research is most accurately described as:
- a. a meta-analysis.

- b. a review journal article.
- c. a chapter in an edited book.
- d. a PsycWiki.

ANS: A                      DIF: Medium REF: 2.4 Finding and Reading the Research: Consulting Scientific Sources OBJ: Learning Objective 2.6                      MSC: Applying

20. Ellie is looking for a summary of research on the effect size of childhood abuse on adult depression. Which of the following scientific sources would be an ideal source?

- a. A meta-analysis
- b. A review journal article
- c. A trade book
- d. A chapter in an edited book

ANS: A                      DIF: Difficult REF: 2.4 Finding and Reading the Research: Consulting Scientific Sources OBJ: Learning Objective 2.6                      MSC: Applying

21. Compared with doing a generic Internet search, why is PsycINFO a superior way to find scientific sources?

- a. It is free.
- b. It searches only sources in psychology and related fields.
- c. It can be done on any computer.
- d. It searches research scientists' websites.

ANS: B                      DIF: Medium REF: 2.4 Finding and Reading the Research: Finding Scientific Sources OBJ: Learning Objective 2.5                      MSC: Remembering

22. Which of the following is the first section of an empirical journal article?

- a. Abstract
- b. Introduction
- c. Results
- d. References

ANS: A                      DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research: Components of an Empirical Journal Article                      OBJ: Learning Objective 2.7                      MSC: Remembering

23. Matthew is reading an empirical journal article and wants to know whether the authors used the Big Five Inventory (BFI-44) or the NEO-PI to measure extraversion. In which section would he find this information?

- a. Introduction

- b. Method
- c. Results
- d. Discussion

ANS: B                      DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research:  
Components of an Empirical Journal Article      OBJ: Learning Objective 2.7 MSC:  
Applying

24. Lana is writing her first empirical journal article. Although she thinks she knows why she found the results she did, she also wants to mention some alternative explanations for her findings. In which section will she mention these alternative explanations?

- a. Method
- b. Results
- c. Discussion
- d. References

ANS: C                      DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research:  
Components of an Empirical Journal Article      OBJ: Learning Objective 2.7 MSC:  
Applying

25. Which of the following is the correct ordering of the sections of an empirical journal article?

- a. Introduction, Results, Discussion, Method, References
- b. Introduction, Discussion, Method, Results, Abstract
- c. Abstract, References, Introduction, Results, Discussion
- d. Abstract, Method, Results, Discussion, References

ANS: D                      DIF: Difficult REF: 2.4 Finding and Reading the Research: Reading the Research:  
Components of an Empirical Journal Article      OBJ: Learning Objective 2.7 MSC:  
Remembering

26. Javier wants his lab partner to tell him if he thinks the article he found for their project is appropriate. Rather than have him read the article, which two parts of the paper could Javier have his lab partner read to get a summary of the article?

- a. The abstract and the first paragraph of the introduction
- b. The abstract and the first paragraph of the discussion
- c. The abstract and the method section
- d. The last paragraph of the introduction and the results section

ANS: B                      DIF: Difficult REF: 2.4 Finding and Reading the Research: Reading the Research:  
Components of an Empirical Journal Article      OBJ: Learning Objective 2.7 MSC:  
Applying

27. Which of the following is NOT a section or subsection commonly found in an empirical journal article?
- a. Abstract
  - b. Outcomes
  - c. Participants
  - d. Procedure

ANS: B                      DIF: Difficult REF: 2.4 Finding and Reading the Research: Reading the Research:  
Components of an Empirical Journal Article      OBJ: Learning Objective 2.7      MSC: Remembering

28. When reading an empirical journal article "*with a purpose*," which two questions should you ask yourself as you read?
- a. "What is the argument?" and "What is the evidence to support the argument?"
  - b. "What were the methods?" and "What are the results?"
  - c. "What is the hypothesis?" and "What are the explanations?"
  - d. "What research exists on this topic?" and "What research needs to be conducted to answer the question?"

ANS: A                      DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research  
OBJ: Learning Objective 2.7                      MSC: Remembering

29. When reading an empirical journal article "*with a purpose*," which section should you read first?
- a. Abstract
  - b. Introduction
  - c. Method
  - d. Discussion

ANS: A                      DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research:  
Reading with a Purpose: Empirical Journal Articles                      OBJ: Learning Objective 2.7  
MSC: Remembering

30. When reading an empirical journal article "*with a purpose*," why should you read the abstract first?
- a. Because it is the shortest section
  - b. Because it provides an overview of the article
  - c. Because it is written by the journal's editor
  - d. Because it appears in PsycINFO

ANS: B                      DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research:  
Reading with a Purpose: Empirical Journal Articles                      OBJ: Learning Objective 2.7  
MSC: Remembering

31. Looking for which of the following in a trade book will give you a hint as to its scientific rigor?
- The cost of the book
  - The number of pages
  - The number of references
  - The number of authors

ANS: C                      DIF: Medium REF: 2.4 Finding and Reading the Research: Finding Research in Less Scholarly Places OBJ: Learning Objective 2.8                      MSC: Remembering

32. Which of the following is a benefit of using a wiki to review psychological research?
- The wiki's coverage of a topic is usually comprehensive.
  - The wiki page includes a comprehensive list of references.
  - The wiki page has been peer-reviewed.
  - The wiki page can be corrected quickly.

ANS: D                      DIF: Medium REF: 2.4 Finding and Reading the Research: Finding Research in Less Scholarly Places: Wikis as a Research Source                      OBJ: Learning Objective 2.8  
MSC: Understanding

33. Which of the following is the last section of an empirical journal article?
- Method
  - Results
  - Discussion
  - Introduction

ANS: C                      DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research: Components of an Empirical Journal Article                      OBJ: Learning Objective 2.7                      MSC: Remembering

34. What is the problem with being swayed by a good story?
- A good story is never the true explanation for a scientific finding.
  - Scientific findings never have commonsense explanations.
  - A good story may not be supported by data.
  - Good stories are not falsifiable.

ANS: C                      DIF: Difficult REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased: Being Swayed by a Good Story OBJ: Learning Objective 2.2                      MSC: Analyzing

35. After reading the chapter, Cyril says to himself, "*I am sure other people might engage in faulty thinking, but I never would.*" What is Cyril experiencing?
- Bias blind spot

- b. Confirmation bias
- c. Faulty intuition
- d. Motivated thinking

ANS: A                      DIF: Medium REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased: Biased About Being Biased      OBJ: Learning Objective 2.2      MSC: Applying

36. Which of the following sources is most likely to contain only information that has been rigorously peer-reviewed?
- a. Chapters in edited books
  - b. Full-length books
  - c. Review journal articles
  - d. Wikis

ANS: C                      DIF: Easy REF: 2.4 Finding and Reading the Research: Consulting Scientific Sources OBJ: Learning Objective 2.6      MSC: Remembering

37. Hannah just finished reading an empirical journal article for a class project. What information might she get out of reading the references section of her article?
- a. A list of the measures used in the study
  - b. The name of an article that researched a similar topic
  - c. An idea for a future study
  - d. An explanation of the statistical tests used

ANS: B                      DIF: Medium REF: 2.4 Finding and Reading the Research: Reading the Research OBJ: Learning Objective 2.7                      MSC: Applying

38. Which of the following is a limitation of Google Scholar compared to PsycINFO?
- a. Google Scholar does not provide PDF versions of articles.
  - b. Google Scholar is not free to use.
  - c. Google Scholar is not limited to just psychology and related fields.
  - d. Google Scholar can only be accessed from certain computers.

ANS: C                      DIF: Easy REF: 2.4 Finding and Reading the Research: Finding Scientific Sources: Google Scholar OBJ: Learning Objective 2.5      MSC: Understanding

39. Hannah just finished reading an empirical journal article for a class project. Where should she go if she wants to look for a list of the study's hypotheses or research questions?
- a. First page of the article
  - b. First page of the method section
  - c. Last paragraph of the results section

d. Last paragraph of the introduction

ANS: D                      DIF: Medium REF: 2.4 Finding and Reading the Research: Reading the Research  
OBJ: Learning Objective 2.7                      MSC: Applying

40. How would you adopt the mindset of a scientific reasoner?

- a. Using common sense to understand scientific data
- b. Remaining objective as you interpret scientific data
- c. Finding evidence that confirms your hypotheses
- d. Reminding yourself that because you know about potential biases, you cannot fall prey to them

ANS: B                      DIF: Easy REF: 2.2 The Research vs. Your Intuition: The Intuitive Thinker vs. the Scientific Reasoner  
OBJ: Learning Objective 2.4                      MSC: Remembering

41. Why is it important to adopt the mindset of a scientific reasoner?

- a. To avoid falling into the pitfalls of personal biases
- b. To identify the most intuitive explanations
- c. To be able to sway people with a good story
- d. To know what evidence people like best

ANS: A                      DIF: Easy REF: 2.2 The Research vs. Your Intuition: The Intuitive Thinker vs. the Scientific Reasoner  
OBJ: Learning Objective 2.4                      MSC: Understanding

42. Which of the following is a limitation of PsycINFO compared to Google Scholar?

- a. PsycINFO does not provide PDF versions of articles.
- b. PsycINFO is not free to use.
- c. PsycINFO is not limited to just psychology and related fields.
- d. PsycINFO does not allow you to search particular fields.

ANS: B                      DIF: Easy REF: 2.4 Finding and Reading the Research: Finding Scientific Sources: PsycINFO  
OBJ: Learning Objective 2.5                      MSC: Understanding

43. Different factors that could account for significant results are called .

- a. hypotheses
- b. biases
- c. predictions
- d. confounds

ANS: D                      DIF: Easy REF: 2.1 The Research vs. Your Experience: Experience Is Confounded  
OBJ: Learning Objective 2.1                      MSC: Remembering

44. What is the difference between advice from an authority and that from a researcher?

- a. Authorities weigh all possible opinions, while researchers rely on their own theories.
- b. Authorities interpret the results for you when providing advice, while researchers only present statistics.
- c. Authorities often base their advice on intuition, while researchers rely on facts.
- d. Authorities always provide advice based on their own research, while researchers base their advice on results from multiple studies.

ANS: C                      DIF: Medium REF: 2.3 Trusting Authorities on the Subject OBJ: Learning  
Objective 2.3              MSC: Understanding

45. Advice that is based on \_\_\_\_\_ is most likely to be correct.
- a. personal experience
  - b. research
  - c. intuition
  - d. authority's conclusions

ANS: B                      DIF: Easy REF: 2.3 Trusting Authorities on the Subject OBJ: Learning  
Objective 2.3              MSC: Understanding

46. You read research that found that first-born children tend to have higher IQs than their siblings. However, you typically earn higher grades than your older brother. Scientists might explain this discrepancy by saying that:
- a. research is probabilistic.
  - b. you have cherry-picked information to support your conclusion.
  - c. you have fallen prey to your blind spot bias.
  - d. your intuition is better than research.

ANS: A                      DIF: Difficult REF: 2.1 The Research vs. Your Experience: Research Is Probabilistic OBJ: Learning Objective 2.4              MSC: Applying

47. Tim tells you that the best way to make friends is by opening the conversation with a joke. He can easily recall all the friends he met by telling a joke and also the times he opened with chitchat and didn't befriend the person. If you were concerned that Tim was making the present/present bias, what would you ask him?
- a. How many people have you met and befriended?
  - b. Do you think the times you made friends by telling jokes might come more easily to mind?
  - c. Did you go into conversations where you opened with jokes thinking that you would make friends?
  - d. What about the times you opened with a joke and didn't become friends with the person?

ANS: D                      DIF: Difficult REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased: Biased About Being Biased              OBJ: Learning Objective 2.2              MSC: Applying



48. Tim tells you that the best way to make friends is by opening the conversation with a joke. He can easily recall all the friends he met by telling a joke and also the times he opened with chitchat and didn't befriend the person. If you were concerned that Tim was making the blind spot bias, what would you ask him?
- What about the times you opened with a joke and didn't become friends with the person?
  - Do you think the times you made friends by telling jokes might come more easily to mind?
  - Have you tested this conclusion systematically?
  - Did you go into conversations where you opened with jokes thinking that you would make friends?

ANS: C                      DIF: Difficult REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased: Failing to Think About What We Cannot See                      OBJ: Learning Objective 2.2 MSC: Applying

49. Marcella is conducting a PsycINFO search for treatments for autism spectrum disorder by searching "autism treatment." However, her search is returning too many results. If she is interested in getting more specific results, Marcella could search:
- using the "or" function for all thesaurus synonyms for autism.
  - "autism treatment" and "behavioral" and enter an age range of interest.
  - "autism spectrum disorder" or "treatment" or "symptom improvement."
  - "autis\*treatment."

ANS: B                      DIF: Medium REF: 2.4 Finding and Reading the Research: Finding Scientific Sources: PsycINFO OBJ: Learning Objective 2.5 MSC: Applying

50. How does research overcome the problem of confounds?
- Research uses intuition to detect potential confounds.
  - Research combines data across diverse individuals.
  - Research focuses on one possible explanation for the results.
  - Research systematically compares multiple conditions.

ANS: D                      DIF: Medium REF: 2.1 The Research vs. Your Experience: Research Is Better Than Experience OBJ: Learning Objective 2.4 MSC: Understanding

## SHORT ANSWER

- RESEARCH STUDY 2.1: Charlotte is studying subliminal messages and weight loss. She is curious whether people will lose more weight if they hear subliminal messages that encourage weight loss ("don't eat that food," "you want to be thin," etc.) in the music on their iPods than will people who do not have subliminal messages in their music. She studies 40 people and finds the following results:

	Number Who Lost Weight	Number Who Did Not Lose Weight
Exposed to Subliminal Messages	(Cell A) 15 people	(Cell C) 5 people
Not Exposed to Subliminal Messages	(Cell B) 10 people	(Cell D) 10 people

Although Charlotte is concerned with exposure to subliminal messages, she collects data from people not exposed to subliminal messages. What is this group called? Why must this group be included in her study?

ANS:

The group is called a comparison group. This group must be included because Charlotte needs to consider what happens when people are exposed to the subliminal messages, but to determine what effect it has, she must also examine what happens among people “normally,” that is, when they are not exposed to the “treatment.”

DIF: Medium REF: 2.1 The Research vs. Your Experience: Experience Has No Comparison Group OBJ: Learning Objective 2.4 MSC: Applying

- RESEARCH STUDY 2.1: Charlotte is studying subliminal messages and weight loss. She is curious whether people will lose more weight if they hear subliminal messages that encourage weight loss (“don’t eat that food,” “you want to be thin,” etc.) in the music on their iPods than will people who do not have subliminal messages in their music. She studies 40 people and finds the following results:

	Number Who Lost Weight	Number Who Did Not Lose Weight
Exposed to Subliminal Messages	(Cell A) 15 people	(Cell C) 5 people
Not Exposed to Subliminal Messages	(Cell B) 10 people	(Cell D) 10 people

Explain why the results of Cells B and D are important.

ANS:

The results of Cells B and D are important because they demonstrate the relative rate of improvement when no treatment is given. One cannot determine whether something is effective if one does not know what would have happened anyway, in the absence of treatment.

DIF: Difficult REF: 2.1 The Research vs. Your Experience: Experience Has No Comparison Group  
OBJ: Learning Objective 2.4 MSC: Analyzing

3. Yasmine believes that attractive people make more money because among her four friends who work at a local restaurant, the most attractive of the four makes the most in tips. A study by Judge, Hurst, and Simon (2009) found that attractive people make more money than unattractive people. Provide two reasons why Yasmine should be more convinced about the relationship between attractiveness and income by the Judge, Hurst, and Simon paper than by her personal experience.

ANS: Controlled studies have comparison groups and can avoid confounds.

DIF: Medium REF: 2.1 The Research vs. Your Experience: Research Is Better Than Experience  
OBJ: Learning Objective 2.4 MSC: Applying

4. Imagine that Dr. Jones publishes a study that claims that drinking while pregnant is dangerous for the health of the unborn baby. He finds that of the 100 women in his study who drank when pregnant, 78 had children who experienced problems with attention. Of the 100 women in his study who did not drink when pregnant, only 29 children experienced problems with attention. Your neighbor says that Dr. Jones is wrong because she drank when pregnant and her child is perfectly healthy. Explain why Dr. Jones is not wrong.

ANS: Behavioral research is probabilistic, meaning that the conclusions drawn from studies explain a large percentage of cases, but not necessarily all cases. Students may also explain that the neighbor's child being healthy (1 data point) does not refute the large number of cases (in this case, 78) of children who were affected.

DIF: Medium REF: 2.1 The Research vs. Your Experience: Research Is Better Than Experience  
OBJ: Learning Objective 2.4 MSC: Applying

5. Name four examples of biases of intuition.

ANS: Examples of biases of intuition include: being swayed by a good story, the confirmation bias, the present/present bias, the availability heuristic, and the blind spot bias.

DIF: Easy REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased  
OBJ: Learning Objective 2.2 MSC: Understanding

6. Explain how conclusions drawn from the confirmation bias are different from those using the theory-data cycle.

ANS: When people engage in the confirmation bias, they are seeking to confirm their hypotheses and are asking questions that will give them the answer they expect. By contrast, when people engage in the theory-data cycle, they ask questions that may confirm or disconfirm their hypothesis. In the latter, they are not trying to find a particular answer but rather trying to find the correct answer.

DIF: Difficult REF: 2.2 The Research vs. Your Intuition: Ways That Intuition Is Biased OBJ: Learning Objective 2.2 MSC: Analyzing

7. Name three ways that the scientific reasoner is different from the intuitive thinker.

ANS: Researchers create comparison groups, examine all the data (or all cells), test their ideas with systematic research, try to ask objective questions, change their theories/beliefs when the data do not support their original ideas, and try to accept data temporarily (keeping them from becoming overconfident).

DIF: Medium REF: 2.2 The Research vs. Your Intuition: The Intuitive Thinker vs. the Scientific Reasoner OBJ: Learning Objective 2.4 MSC: Analyzing

8. You are having lunch with your friends, Oliver, Julia, and Richard, and you are discussing the link between homework and exam grades. Oliver says, "I know that doing homework improves exam grades because I always do my homework and I have a 4.0." Julia says, "I know that doing homework improves exam grades because a blog I read on an education website says so." Richard says, "I know that doing homework improves exam grades because that makes sense. Teachers would not assign it if it did not." Provide a response to each friend for why his or her reasoning is unsound.

ANS: Answers may vary, but in each response, students should write that they would mention to Oliver that his own experience might be biased or flawed because he has no comparison group (e.g., he might have made good grades without homework, he has just never done that); to Julia that the writer on that blog, although he or she may appear to be an authority, may not be and may be basing his or her opinions on personal experience rather than on actual research; and to Richard that sometimes obvious or intuitive explanations may not be the correct ones.

DIF: Medium REF: 2.2 The Research vs. Your Intuition: The Intuitive Thinker vs. the Scientific Reasoner OBJ: Learning Objective 2.1 MSC: Applying

9. Describe three ways that scientific journals/journal articles are different from popular magazines/magazine articles.

ANS: Answers may vary, but in each response, students must mention at least three of the following: journal articles are peer-reviewed, journal articles are written for psychology researchers and students, scientific journals do not tend to have advertisements in them, scientific journals are available from libraries and online databases (rather than in regular bookstores).

DIF: Easy REF: 2.4 Finding and Reading the Research: Consulting Scientific Sources: Journal Articles: Psychology's Most Important Source OBJ: Learning Objective 2.7 | Learning Objective 2.8 MSC: Understanding

10. Describe two pros and two cons of reading about scientific research in popular magazines compared with reading about research in scientific journals.

ANS: Two of the pros could include: it is easier to read, it can provide interesting new ideas, the articles may be easier to access since one does not need a library or subscription of a journal; and two of the cons could include: the research described may not be accurately reported, the research may not be important in the field.

DIF: Medium REF: 2.4 Finding and Reading the Research: Consulting Scientific Sources OBJ: Learning Objective 2.7 | Learning Objective 2.8 MSC: Understanding

11. Karla is starting her study for her research methods and needs to begin finding some research articles. She tells you that she plans on searching for her sources on Google Scholar. Provide three reasons that you would recommend that she use PsycINFO instead to search for sources.

ANS: Answers may vary, but in each response, students must mention at least three of the following: PsycINFO allows you to search for terms in specific fields, PsycINFO specifies whether an article is peer reviewed, and PsycINFO focuses on psychology and psychology-related articles.

DIF: Medium REF: 2.4 Finding and Reading the Research: Finding Scientific Sources OBJ: Learning Objective 2.5 MSC: Applying

12. Name the six basic sections of an empirical journal article.

ANS: The six basic sections of an empirical journal article are the abstract, the introduction, the method, the results, the discussion, and the references.

DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research: Components of an Empirical Journal Article OBJ: Learning Objective 2.7 MSC: Understanding

13. When reading an empirical journal article "*with a purpose*," which two questions should you ask yourself as you read? To this end, which section should you read first in order to quickly answer these

questions?

ANS: The two questions are “What is the argument?” and “What is the evidence to support the argument?” The abstract should be read first in order to quickly answer these questions.

DIF: Easy REF: 2.4 Finding and Reading the Research: Reading the Research OBJ: Learning Objective 2.7 MSC: Understanding

14. Provide at least three reasons that explain why a wiki is a less-than-ideal source for psychological research.

ANS: Answers may vary, but in each response, students should state three of the following: A wiki’s coverage of a topic is not necessarily comprehensive, the page may not include references, the page may include incorrect information, and a topic may have pages that are not specific to psychology.

DIF: Medium REF: 2.4 Finding and Reading the Research: Finding Research in Less Scholarly Places: Wikis as a Research Source OBJ: Learning Objective 2.8 MSC: Understanding

15. Your friend Samir wants to learn how to be more persuasive. He is a marketing major and thinks that understanding more about persuasion might be helpful. Which type of scientific sources might you recommend to him and why?

ANS: Answers may vary, but in each response, students should say that they would point Samir in the direction of chapters in an edited book or perhaps a trade book. They would recommend these because they provide more general reviews of research and thus are more likely to be accessible to a nonpsychology student. They should not point him in the direction of empirical journal articles (or review journal articles), as such articles are likely to be too specific to provide Samir with a general overview.

DIF: Medium REF: 2.4 Finding and Reading the Research: Finding Research in Less Scholarly Places OBJ: Learning Objective 2.6 MSC: Applying