

***Introduction to Psychological Science (Canadian)
2nd edition Krause Test Bank***

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Chapter 02: Reading and Evaluating Scientific Research

Chapter 02 Chapter Quiz Questions

1. **Scientists study a _____ and then generalize the results of their investigation to a _____.**

- (A) sample; population
- (B) population; sample
- (C) convenience sample; random sample
- (D) random sample; convenience sample

QuestionID: 02-1-01

Page-Reference: 33

Objective: Module 2.1

Answer: (A) sample; population

2. **Which of the following is an example of demand characteristics affecting an experiment?**

- (A) An experimenter draws the wrong conclusions from a study because she did not use the correct statistical analysis.
- (B) A participant changes his response to a question because he has the feeling he knows what the experimenter wants.
- (C) An experimenter changes her behaviour because she can predict how the participant will respond.
- (D) A participant in a double-blind experiment believes she is in the control group.

QuestionID: 02-1-02

Page-Reference: 35

Objective: Module 2.1

Answer: (B) A participant changes his response to a question because he has the feeling he knows what the experimenter wants.

3. **Why it is a bad idea to draw conclusions from anecdotal evidence?**

- (A) Such conclusions usually go against common sense and conclusions against common sense are not usually valid.
- (B) Anecdotes are reliable only if they come from experts, which they rarely do.
- (C) Anecdotes are a single-blind technique, not a double-blind method.
- (D) There is no way to know if the anecdote is true or if it will generalize to other people and situations.

QuestionID: 02-1-03

Page-Reference: 39

Objective: Module 2.1

Answer: (D) There is no way to know if the anecdote is true or if it will generalize to other people and situations.

4. **What does a correlation coefficient of -0.94 indicate about the relationship between two variables?**

- (A) The variables are weakly associated, with both increasing together.
- (B) The variables are strongly associated, with both increasing together.
- (C) The variables are weakly associated, with one increasing as the other decreases.
- (D) The variables are strongly associated, with one increasing as the other decreases.

QuestionID: 02-1-04

Page-Reference: 47

Objective: Module 2.2

Answer: (D) The variables are strongly associated, with one increasing as the other decreases.

5. **Most people would agree that anxiety can lead to sleep loss. However, Dr. Jenkins believes that sleep deprivation can also cause increased anxiety. Which research method would allow him to test a cause-effect**

relationship between the two?

- (A) naturalistic observation
- (B) experimental
- (C) correlational
- (D) survey

QuestionID: 02-1-05

Page-Reference: 49–50

Objective: Module 2.2

Answer: (B) experimental

6. Which of the following statements describes the amount of cognitive and emotional risk to participants allowed in psychological research today?

- (A) Any amount of risk is acceptable.
- (B) No amount of risk is acceptable.
- (C) Low levels of risk are always acceptable, but more than minimal risk is never acceptable.
- (D) The amount of acceptable risk depends in part on the possible benefits from the study.

QuestionID: 02-1-06

Page-Reference: 54–55

Objective: Module 2.3

Answer: (D) The amount of acceptable risk depends in part on the possible benefits from the study.

7. The use of deception in psychological research is

- (A) considered necessary and completely acceptable in all research.
- (B) not considered acceptable.
- (C) generally acceptable when shown to be absolutely necessary for the research.
- (D) acceptable only in nonhuman research.

QuestionID: 02-1-07

Page-Reference: 55

Objective: Module 2.3

Answer: (C) generally acceptable when shown to be absolutely necessary for the research.

8. Under which of the following circumstances would the mean be the best measure of central tendency to use?

- (A) The data have a normal distribution.
- (B) The data are positively skewed.
- (C) The data are negatively skewed.
- (D) The mean is robust and always considered the best measure of central tendency.

QuestionID: 02-1-08

Page-Reference: 63

Objective: Module 2.4

Answer: (A) The data have a normal distribution.

9. A teacher notices that, on the last science test, some students did very well while other students performed poorly or had grades somewhere in the middle. If she wanted to measure how "spread out" the scores were, which descriptive statistic could she use?

- (A) median
- (B) mode
- (C) standard deviation
- (D) mean

QuestionID: 02-1-09
Page-Reference: 65
Objective: Module 2.4

Answer: (C) standard deviation

10. Keisha performs an experiment with two randomly assigned groups of school children. The first group is allowed 15 minutes of recess play before a math test, while the second group watches a video before the test. When she analyzes the test scores, she finds that there is a statistical difference between the groups, with the recess group scoring higher, on average, on the test. Which conclusion can be drawn from this result?

- (A) The difference between the scores for the two groups is not likely due to their differing pre-test activities and it is probably due to random chance.
- (B) The difference between the scores for the two groups is likely due to their differing pre-test activities, and did not happen by chance.
- (C) Students who are good at math prefer recess to watching a video.
- (D) Students who are good at math prefer watching a video to recess.

QuestionID: 02-1-10
Page-Reference: 67–68
Objective: Module 2.4

Answer: (B) The difference between the scores for the two groups is likely due to their differing pre-test activities, and did not happen by chance.

Chapter 02 Essay Questions

1. What are the five characteristics of good research described in the textbook? Briefly explain each one.

QuestionID: 02-2-01
Page-Reference: 31–38

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

- Research should be based on measurements that are
 - * objective: consistent across instruments and observers
 - * valid: actually measure what they claim to measure
 - * reliable: provide consistent answers when re-measured
- Good research can be generalized to situations, individuals, and events beyond the original study.
- Good research should use techniques to reduce bias from both the participants and the experimenters.
- Research should be made public, usually through the peer-review process and publication in an academic journal.
- It must be possible for other researchers to replicate the results of good research.

2. Explain why anecdotal evidence, appeals to authority, and appeals to common sense are all considered poor forms of evidence and provide an example (not covered in the textbook) of each.

Difficulty:
QuestionID: 02-2-02
Page-Reference: 39–40
Skill:
Objective:

Answer: Answer (examples will vary):

Anecdotal evidence is the experience of one person generalized into a theory, such as when a person listens to hypnosis CDs and loses 58 pounds in three months. This is anecdotal evidence and not real evidence because no hypothesis was tested in developing the theory. The weight loss could have been caused by any number of things other than the CDs.

Appeal to authority is evidence from an "expert" that is assumed to be valid and reliable simply because an expert says it is true. An expert may claim to have found a great weight-loss program but experts can be wrong and experts can have hidden agendas. It is important to see what the expert may have to gain by claiming an untested theory is true. *Appeal to common sense* is evidence that sounds like it must be true but hasn't necessarily been tested. A great example is that people long thought that the earth was stationary and the centre of the universe because this theory made sense based on their (limited) knowledge of the cosmos. The best theory is always based on the results of hypotheses tested using the scientific method.

3. Describe and compare correlational research designs and experimental research designs. Give one pro and one con for each type of design.

QuestionID: 02-2-03

Page-Reference: 47–51

Answer: *Correlational*

- Pro: Correlational research allows you to determine the relationship between two variables and investigate influencing factors that may not be possible to control or manipulate in an experimental design (for ethical or practical reasons). For example, scientists cannot assign research participants to a smoking group when they are teenagers and force them to smoke until they are in late adulthood to measure the effect of smoking on health.

- Con: Correlational research shows you that a change in one variable will likely result in a change in another variable, but this type of research does not determine *why* that change occurs (i.e., cannot determine causation). A third variable could cause both variables to change.

Experimental

- Pro: Experimental research is designed to test a hypothesis in tightly controlled conditions so that a cause-and-effect relationship can be established.

- Con: Although experimental research designs allow for strict control over the variables (and thus, the possibility of determining causation), this structure can also negatively impact the generalizability or ecological validity of the findings (this type of research may also not be as applicable to real-world scenarios).

Chapter 02 Fill-in-the-blank Questions

1. Before beginning an experiment, researchers use _____ to define exactly how variables like "intelligence" or "happiness" will be measured.

QuestionID: 02-3-01

Page-Reference: 32

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: a. operational definitions

2. _____ are a major problem in psychological research, and can cause participants to change their behaviour based on how they think they are supposed to behave.

QuestionID: 02-3-02

Page-Reference: 35–36

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: a. Demand characteristics

3. Prior to publication in scholarly journals, papers go through a _____ process, in which they are read and critiqued by experts in the specific field of study.

QuestionID: 02-3-03

Page-Reference: 38

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: a. peer review

4. Tabitha is convinced that vaccines cause autism because her friend's child was diagnosed with autism only a week after being vaccinated. Tabitha's conclusions are based on _____ and as such, cannot be considered reliable.

QuestionID: 02-3-04

Page-Reference: 39–40

Skill: Applied

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: a. anecdotal evidence

5. Case studies, naturalistic observations, surveys, and questionnaires are all types of _____ research, because they can only be used to collect observations.

QuestionID: 02-3-05

Page-Reference: 43

Skill: Conceptual

Objective: Know the key terminology related to research designs.

Answer: a. descriptive

6. _____ designs are the only research method that can provide strong evidence for cause-and-effect relationships.

QuestionID: 02-3-06

Page-Reference: 49

Skill: Factual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: a. Experimental

7. To study the effect of subliminal advertising on consumer behaviour, participants were randomly assigned to watch a movie either with or without subliminal advertising. The group of participants that saw the movie without the ads is called the _____.

QuestionID: 02-3-07

Page-Reference: 50

Skill: Applied

Objective: Know the key terminology related to research designs.

Answer: a. control group

8. Research participants must give _____, meaning that they are told about the experiment—including any potential risks—and then freely agree to participate.

QuestionID: 02-3-08

Page-Reference: 55

Skill: Conceptual

Objective: Know the key terminology of research ethics.

Answer: a. informed consent

9. A _____ distribution is characterized by its symmetrical shape with values clustered around a mean value.

QuestionID: 02-3-09

Page-Reference: 63

Skill: Conceptual

Objective: Know the key terminology of statistics.

Answer: a. normal

10. If the difference between groups in an experiment is unlikely to have occurred by random chance alone, the difference is said to be _____ .

QuestionID: 02-3-10

Page-Reference: 68

Skill: Conceptual

Objective: Know the key terminology of statistics.

Answer: a. statistically significant

Chapter 02 Multiple-Choice Questions

1. Which of the following is subjective?

- (A) the height of a tree
- (B) the speed of a reflex
- (C) the weight of a soil sample
- (D) the value of a painting

QuestionID: 02-4-01

Page-Reference: 31

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) the value of a painting

2. _____ assumes that there are facts about the world that can be observed and tested independently from the individual who describes them.

- (A) Subjectivity
- (B) Objectivity
- (C) Validity
- (D) Generalizability

QuestionID: 02-4-02

Page-Reference: 31

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) Objectivity

3. Which of the following is one of the five characteristics of quality research listed in the textbook?

- (A) using subjective measurements
- (B) protecting the public from distressing results and keeping them secret
- (C) making sure results can be replicated
- (D) avoiding generalizing results

QuestionID: 02-4-03

Page-Reference: 31

Skill: Factual

Objective: Understand the five characteristics of quality scientific research.

Answer: (C) making sure results can be replicated

4. In an effort to ensure objectivity, psychologists typically measure

- (A) behaviour.
- (B) introspection.
- (C) thoughts.
- (D) feelings.

QuestionID: 02-4-04

Page-Reference: 31

Skill: Conceptual

Objective: Understand the five characteristics of quality scientific research.

Answer: (A) behaviour.

5. A group of researchers are studying depression in a sample of patients. Each researcher independently assesses the level of depression in each patient, but find that their assessments are not the same. This suggests that

- (A) depression cannot be studied scientifically.
- (B) the researchers are not using a reliable measurement.
- (C) the results are generalizable.
- (D) the patients likely do not have depression.

QuestionID: 02-4-05

Page-Reference: 32–33

Skill: Applied

Objective: Understand the five characteristics of quality scientific research.

Answer: (B) the researchers are not using a reliable measurement.

6. In research, the object, concept, or event being measured is called a

- (A) unit of data.
- (B) population.
- (C) variable.
- (D) sample.

QuestionID: 02-4-06

Page-Reference: 31

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) variable.

7. A researcher measures participants' blood pressure while they are shown sexual, violent, or relaxing videos. The blood pressure measurement in this study is an example of

- (A) a variable.
- (B) a sample.
- (C) self-reporting.
- (D) a demand characteristic.

QuestionID: 02-4-07

Page-Reference: 31

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (A) a variable.

8. In science, operational definitions are used to

- (A) keep participants from knowing which treatment group they are in.
- (B) reduce demand characteristics.
- (C) increase ecological validity.
- (D) define terms and variables so they can be objectively measured.

QuestionID: 02-4-08

Page-Reference: 32

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) define terms and variables so they can be objectively measured.

9. Before beginning a study on the health effects of obesity, a group of researchers agree that, for the purposes of their study, anyone with a body mass index greater than 30 kg/m² will be considered obese. This is an example of a(n)

- (A) control variable.
- (B) operational definition.
- (C) convenience sample.
- (D) dependent variable.

QuestionID: 02-4-09

Page-Reference: 32

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) operational definition.

10. According to the textbook, what have researchers concluded about the "Mozart effect"?

- (A) Listening to classical music, but not other types of music, causes a lasting improvement in several types of thinking and reasoning.
- (B) Listening to all types of music causes a lasting improvement in several types of thinking and reasoning.
- (C) Listening to classical music appears to have only a small, short-term effect on spatial reasoning in adults.
- (D) Listening to classical music has no effect on any type of thinking or reasoning.

QuestionID: 02-4-10

Page-Reference: 32

Skill: Factual

Objective: Understand the five characteristics of quality scientific research.

Answer: (C) Listening to classical music appears to have only a small, short-term effect on spatial reasoning in adults.

11. _____ refers to the consistency of a measurement.

- (A) Generalizability
- (B) Validity
- (C) Reliability
- (D) Objectivity

QuestionID: 02-4-11

Page-Reference: 32

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) Reliability

12. Dr. Sparks gave Julie a new intelligence test that he personally designed, but her scores are different each time he tests her. These results suggest that Dr. Sparks' intelligence test has poor

- (A) validity.
- (B) generalizability.
- (C) reliability.
- (D) social desirability.

QuestionID: 02-4-12

Page-Reference: 32

Skill: Applied

Objective: Apply the concepts of reliability and validity to examples.

Answer: (C) reliability.

13. Dr. Hashmi is assessing patients' personalities using an "ink blot" test that she created, and is gaining confidence in the test's reliability. Which of the following is likely leading her to have increased confidence about the test's reliability?

- (A) Her patients are reporting high levels of enjoyment with daily testing.
- (B) Patients are generating approximately the same results each time they are tested
- (C) The test seems to be measuring what it is supposed to be measuring (personality).
- (D) The test appears to be objective.

QuestionID: 02-4-13

Page-Reference: 32

Skill: Applied

Objective: Apply the concepts of reliability and validity to examples.

Answer: (B) Patients are generating approximately the same results each time they are tested

14. Brittany, a hockey player who plays for the local university, has finished the last three years with 8, 32, and 14 points. Considering her performance, what type of player would Brittany be considered?

- (A) a valid player
- (B) an objective player
- (C) a reliable player
- (D) not a reliable player

QuestionID: 02-4-14

Page-Reference: 32

Skill: Applied

Objective: Apply the concepts of reliability and validity to examples.

Answer: (D) not a reliable player

15. _____ is the extent to which a measure assesses what it claims to measure.

- (A) Generalizability
- (B) Reliability
- (C) Validity
- (D) Objectivity

QuestionID: 02-4-15

Page-Reference: 32

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) Validity

16. **Jasmine took a self-administered online intelligence test three times yesterday and obtained scores of 124, 128, and 125. This made her feel great because the score she received from the psychologist last month at school was only a 95. What characteristic might the online test be lacking?**

- (A) reliability
- (B) validity
- (C) both reliability and validity
- (D) nothing, the test appears to be both reliable and valid

QuestionID: 02-4-16

Page-Reference: 32

Skill: Applied

Objective: Apply the concepts of reliability and validity to examples.

Answer: (B) validity

17. **The degree to which one set of results can be applied to other situations, individuals, or events is called**

- (A) objectivity.
- (B) reliability.
- (C) validity.
- (D) generalizability.

QuestionID: 02-4-17

Page-Reference: 33

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) generalizability.

18. **To increase the generalizability of their results, researchers try to study a _____ sample of participants.**

- (A) small
- (B) large
- (C) single-person
- (D) convenience

QuestionID: 02-4-18

Page-Reference: 33–34

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) large

19. **Which of the following is TRUE?**

- (A) Researchers typically study whole populations because it the most efficient method for gathering data.
- (B) Researchers typically study samples because it is often too difficult to study whole populations.
- (C) Researchers typically aim to include both samples and populations in their research.
- (D) Researchers typically avoid studying both populations and samples to avoid researcher bias.

QuestionID: 02-4-19

Page-Reference: 33–34

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) Researchers typically study samples because it is often too difficult to study whole populations.

20. The most important factor to ensure that results from one study will generalize in other settings, is to use

- (A) a convenience sample.
- (B) small sample sizes.
- (C) random assignment.
- (D) a random sample.

QuestionID: 02-4-20

Page-Reference: 33–34

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) a random sample.

21. Researchers at Universities often use Psychology students as their participants because they are readily available and eager to volunteer. This form of a sample is referred to as a(n) _____ sample.

- (A) random
- (B) confound
- (C) ecological
- (D) convenience

QuestionID: 02-4-21

Page-Reference: 33–34

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) convenience

22. Ecological validity refers to

- (A) whether the results of a laboratory study can be applied to the real world.
- (B) the impact of a scientific study on the environment.
- (C) the degree to which animal research can be applied to humans.
- (D) the degree to which naturalistic research techniques are used.

QuestionID: 02-4-22

Page-Reference: 34

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (A) whether the results of a laboratory study can be applied to the real world.

23. Ursula works in an office. One day, her boss tells her that upper-management will be in the office to observe employee productivity. Because she knows she is being observed, Ursula works harder than she normally does, a phenomenon known as

- (A) the placebo effect.
- (B) the Heisenberg principle.
- (C) ecological validity.
- (D) the Hawthorne effect.

QuestionID: 02-4-23

Page-Reference: 34

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (D) the Hawthorne effect.

24. The term **demand characteristics** refers to

- (A) a set of personality traits that most good scientists share.
- (B) unintended cues that suggest how study participants should behave.
- (C) statements that describe the specific measures that are used to record observations.
- (D) the specific set of instructions for an experiment.

QuestionID: 02-4-24

Page-Reference: 35–36

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (B) unintended cues that suggest how study participants should behave.

25. **Bandar is participating in a survey on undergraduate drug use. When the interviewer asks Bandar whether he has used illegal drugs in the last 6 months, he lies and says "no" because he knows drug use is frowned upon by many people. Bandar's response is an example of**

- (A) socially desirable responding.
- (B) the Hawthorne effect.
- (C) experimenter bias.
- (D) over-generalization.

QuestionID: 02-4-25

Page-Reference: 34

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (A) socially desirable responding.

26. **Priya, a university student, wants to know how many of the students living in her residence have tried cannabis, so she decides to interview everyone in her building. Despite rumours to the contrary, the results suggest that fewer than five percent of her classmates have tried the drug. What is the most likely explanation for her findings?**

- (A) The student responses were influenced by social desirability.
- (B) Priya's question was unclear.
- (C) Priya miscalculated the results.
- (D) Interviews often lead to exaggerated results.

QuestionID: 02-4-26

Page-Reference: 34

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (A) The student responses were influenced by social desirability.

27. **Eila is participating in a psychological experiment for one of the graduate students at her university. She is fairly certain that she knows the true intent of the study and is trying to answer the questions accordingly. Eila is adjusting her responses based on**

- (A) the Hawthorne effect.
- (B) social desirability bias.
- (C) observer bias.
- (D) demand characteristics.

QuestionID: 02-4-27

Page-Reference: 35–36

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (D) demand characteristics.

28. The risk of bias in a research study is that biases can lead us

- (A) to become anxious or depressed about our knowledge of the world.
- (B) to draw incorrect conclusions and then become convinced that they are accurate.
- (C) to doubt our intuition and gut feelings in important real-life circumstances.
- (D) to underestimate our general levels of cognitive abilities and skills.

QuestionID: 02-4-28

Page-Reference: 34–37

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (B) to draw incorrect conclusions and then become convinced that they are accurate.

29. One difficulty in conducting medical research is that participants often assume that the treatment will be effective in alleviating their symptoms, hence they report that their symptoms are alleviated. Therefore, a researcher must design an experiment that accounts for the possible influence of

- (A) random selection.
- (B) medical confounds.
- (C) the Rosenthal effect.
- (D) the placebo effect.

QuestionID: 02-4-29

Page-Reference: 37

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (D) the placebo effect.

30. When people report feeling better after taking medication even though it hasn't had time to exert any physical effects, they are experiencing

- (A) the experimenter bias effect.
- (B) low reliability.
- (C) the placebo effect.
- (D) confirmation bias.

QuestionID: 02-4-30

Page-Reference: 37

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (C) the placebo effect.

31. Dr. Wilkins randomly assigns subjects to one of two groups. He is interested in the effects of caffeine on anxiety levels. He gives subjects in the first group an extra two cups of coffee a day for six months. The second group receives an extra two cups of decaffeinated coffee a day for the same time period. Importantly, subjects do not know whether they are being given regular or decaffeinated coffee. By providing one group with decaffeinated coffee, Dr. Wilkins is trying to account for which potential element of the experiment?

- (A) the Hawthorne effect
- (B) generalizability
- (C) the placebo effect
- (D) variability

QuestionID: 02-4-31

Page-Reference: 37

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (C) the placebo effect

32. Elle, a university student, had a great time at a party last night. She danced, sang karaoke, and played the Rock Band video game—all behaviours that she had never exhibited in public before. She had been drinking the "punch" all night long, which she was told contained a lot of alcohol. Elle was quite surprised to find out the next morning that the punch did NOT contain any alcohol. What may explain Elle's behaviour at the party?

- (A) the Hawthorne effect
- (B) confirmation bias
- (C) the nocebo effect
- (D) the placebo effect

QuestionID: 02-4-32

Page-Reference: 37

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (D) the placebo effect

33. What is the best way to reduce the social desirability bias in research?

- (A) use random sampling
- (B) provide anonymity and confidentiality
- (C) use random assignment
- (D) submit the research to peer review

QuestionID: 02-4-33

Page-Reference: 36–37

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (B) provide anonymity and confidentiality

34. In a single-blind study, who is "blind" to the treatment?

- (A) the peer reviewers
- (B) the participants
- (C) the experimenters
- (D) both the experimenters and participants

QuestionID: 02-4-34

Page-Reference: 37

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) the participants

35. An experiment is said to be _____ when neither researchers nor participants are aware of who is in the experimental or control group.

- (A) single-blind
- (B) generalizable
- (C) peer-reviewed
- (D) double-blind

QuestionID: 02-4-35

Page-Reference: 37

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) double-blind

36. Dr. Leblanc is conducting a clinical drug trial. She wants to reduce bias as much as possible, so she has her assistant label the different drug doses as A, B, or C. Neither Dr. Leblanc or her patients know which dose of the drug the patients are receiving. This experimental design is known as a _____ study.

- (A) single-blind
- (B) placebo
- (C) peer-reviewed
- (D) double-blind

QuestionID: 02-4-36

Page-Reference: 37

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) double-blind

37. The process by which experts in a field carefully critique the work of their colleagues prior to publication, is known as

- (A) ecological validation.
- (B) social desirability.
- (C) peer review.
- (D) replication

QuestionID: 02-4-37

Page-Reference: 38

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) peer review.

38. The peer review process is designed to

- (A) limit alternative therapies from being made available to the general public.
- (B) identify potential flaws in a research study's methods, findings, and conclusions.
- (C) eliminate the placebo effect.
- (D) translate scientific journal articles into easy-to-understand articles for social media.

QuestionID: 02-4-38

Page-Reference: 38

Skill: Conceptual

Objective: Understand the five characteristics of quality scientific research.

Answer: (B) identify potential flaws in a research study's methods, findings, and conclusions.

39. Without the process of replication as part of the scientific process, what would happen?

- (A) Incorrect results would often go uncorrected.
- (B) Demand characteristics would have a larger effect on data.
- (C) The Hawthorne effect would increase.
- (D) Samples would be less representative of the populations they came from.

QuestionID: 02-4-39

Page-Reference: 38

Skill: Conceptual

Objective: Understand the five characteristics of quality scientific research.

Answer: (A) Incorrect results would often go uncorrected.

40. The main purpose of replicating research is to

- (A) keep the scientific community up-to-date on current findings.
- (B) renew drug and technology patents based on the research.
- (C) ensure that the findings are correct and not statistical flukes.
- (D) increase a researcher's number of publications.

QuestionID: 02-4-40

Page-Reference: 38

Skill: Conceptual

Objective: Understand the five characteristics of quality scientific research.

Answer: (C) ensure that the findings are correct and not statistical flukes.

41. Chen believes that red cars are more likely to be stolen than non-red cars because one week after she bought a red car, it was stolen. This is an example of which type of evidence?

- (A) anecdotal
- (B) falsified
- (C) common-sense
- (D) authoritative

QuestionID: 02-4-41

Page-Reference: 39

Skill: Applied

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (A) anecdotal

42. Support for a claim that is based on a story about an individual or event is called _____ evidence.

- (A) anecdotal
- (B) narrative
- (C) objective
- (D) socially desirable

QuestionID: 02-4-42

Page-Reference: 39

Skill: Factual

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (A) anecdotal

43. In general, which of the following is TRUE about anecdotal evidence?

- (A) It is reliable as long as it comes from an expert.
- (B) It is an efficient method for gathering complex data.
- (C) It is the basis for most scientific conclusions.
- (D) It is poor and unreliable evidence.

QuestionID: 02-4-43

Page-Reference: 39

Skill: Conceptual

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (D) It is poor and unreliable evidence.

44. Appeals to authority are generally considered a(n) _____ form of evidence because

- (A) reliable; expertise is equivalent to evidence
- (B) reliable; experts would not present erroneous information
- (C) unreliable; experts are unable to assess the quality of their research
- (D) unreliable; expertise is not equivalent to evidence

QuestionID: 02-4-44

Page-Reference: 40

Skill: Conceptual

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information

Answer: (D) unreliable; expertise is not equivalent to evidence

45. Claims based on common sense

- (A) are high in ecological validity.
- (B) should be considered false, unless stated by a scientist.
- (C) may be true, but require scientific evidence for support.
- (D) should be considered true, but only if the majority of the public supports the claim.

QuestionID: 02-4-45

Page-Reference: 40

Skill: Conceptual

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (C) may be true, but require scientific evidence for support.

46. Kia and her friend are discussing why so many child actors become troubled adults. Kia says, "Everyone knows that if a child is spoiled, they will not develop the coping skills needed in adulthood." From a scientific point of view, what is wrong with Kia's statement?

- (A) It is based on anecdotal evidence.
- (B) It is an appeal to authority.
- (C) It is an appeal to common sense.
- (D) Nothing; it is a well-supported conclusion.

QuestionID: 02-4-46

Page-Reference: 40

Skill: Applied

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (C) It is an appeal to common sense.

47. When designing a study, researchers must take into account all of the following factors EXCEPT

- (A) how to best organize the stimuli to test the hypothesis.
- (B) how to analyze the data to prove the hypothesis.
- (C) how they will gather the data.
- (D) how they will analyze and interpret the results.

QuestionID: 02-4-47

Page-Reference: 42–43

Skill: Conceptual

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) how to analyze the data to prove the hypothesis.

48. _____ research does not attempt to explain how or why something happened, but instead it is an opportunity to present observations about the characteristics of the subject.

- (A) Descriptive
- (B) Quasi-experimental
- (C) Experimental
- (D) Correlational

QuestionID: 02-4-48

Page-Reference: 43

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) Descriptive

49. Which of the following is NOT a descriptive research method?

- (A) case study
- (B) naturalistic observation
- (C) experiment
- (D) survey

QuestionID: 02-4-49

Page-Reference: 43–46

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (C) experiment

50. A(n) _____ involves describing a single individual's behaviour in great detail, rather than testing a specific hypothesis.

- (A) case study
- (B) correlational study
- (C) experiment
- (D) naturalistic observation study

QuestionID: 02-4-50

Page-Reference: 43

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) case study

51. Fudah, a graduate student in psychology, just heard about a five-year-old child who has already learned calculus. She is thinking about conducting an in-depth study of the child for her thesis. What research method is Fudah considering?

- (A) naturalistic observation
- (B) experimental
- (C) correlational
- (D) case study

QuestionID: 02-4-51

Page-Reference: 43

Skill: Applied

Objective: Apply terms and concepts of experimental methods to research examples.

Answer: (D) case study

52. Why is it difficult to make generalizations based on the results of case study research?

- (A) Case studies are typically conducted over a very short period of time, making generalizations about long-term effects difficult.
- (B) Case studies are conducted in strict laboratory environments, which reduces ecological validity.
- (C) Since a case study involves only one or a few subjects, their actions may be atypical and not representative of a larger group of people or population.
- (D) The statistics involved in case study research do not allow one to draw larger conclusions about a population.

QuestionID: 02-4-52

Page-Reference: 43–45

Skill: Conceptual

Objective: Analyze the pros and cons of descriptive, correlational, and experimental research designs.

Answer: (C) Since a case study involves only one or a few subjects, their actions may be atypical and not representative of a larger group of people or population.

53. Which of the following statements is TRUE about naturalistic observation?

- (A) It recreates natural conditions in the laboratory as closely as possible to make an experiment more ecologically valid.
- (B) It involves observing behaviour of organisms in their natural environment.
- (C) It focuses on environmental research.
- (D) It involves observing behaviour in the lab without the use of technological instruments.

QuestionID: 02-4-53

Page-Reference: 45–46

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (B) It involves observing behaviour of organisms in their natural environment.

54. Measuring or recording behaviour in a real-world setting is known as

- (A) a case study.
- (B) a correlational study.
- (C) naturalistic observation.
- (D) a self-report.

QuestionID: 02-4-54

Page-Reference: 45–46

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (C) naturalistic observation.

55. Dr. Deska was interested in social hierarchies in teenagers, so he went to the local high school and observed students' interactions during break periods. Dr. Deska is using _____ to gather his data.

- (A) a case study
- (B) naturalistic observation
- (C) an experimental design
- (D) a peer review process

QuestionID: 02-4-55

Page-Reference: 45–46

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) naturalistic observation

56. A researcher is interested in determining how frequently bullying behaviour occurs in real-life settings. This researcher would best be advised to use a(n) _____ design.

- (A) case study
- (B) correlational
- (C) experimental
- (D) naturalistic observation

QuestionID: 02-4-56

Page-Reference: 45–46

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (D) naturalistic observation

57. _____ is a method where researchers typically use interviews, phone surveys, and questionnaires to directly collect responses from the people being studied.

- (A) Naturalistic observation
- (B) Random sampling
- (C) Self-reporting
- (D) Blind sampling

QuestionID: 02-4-57

Page-Reference: 46

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) Self-reporting

58. Dr. Potter, a psychology professor, is curious about his students' attitudes toward marginalized populations. What research method is he most likely to use to gather information about this topic?

- (A) naturalistic observation
- (B) survey
- (C) experiment
- (D) correlational study

QuestionID: 02-4-58

Page-Reference: 46

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) survey

59. If you are interested in examining the relationship between a student's grade and the number of classes they missed, you would likely use a(n) _____ to study this relationship.

- (A) case study design
- (B) correlational design
- (C) experimental design
- (D) naturalistic observation design

QuestionID: 02-4-59

Page-Reference: 47

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) correlational design

60. **Two variables are said to be correlated when scores on one variable**

- (A) do not increase or decrease with the scores on the second variable.
- (B) increase or decrease with the scores on the second variable.
- (C) directly cause the scores on the second variable.
- (D) differ from the scores on the second variable.

QuestionID: 02-4-60

Page-Reference: 47

Skill: Factual

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (B) increase or decrease with the scores on the second variable.

61. **"As one variable increases, the other decreases." This statement describes a _____ correlation.**

- (A) positive
- (B) weak
- (C) strong
- (D) negative

QuestionID: 02-4-61

Page-Reference: 47

Skill: Factual

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (D) negative

62. **As the average daily temperature in Edmonton, Alberta, *decreases* the number of persons who are observed drinking iced coffee *decreases*. This is an example of a(n) _____ correlation.**

- (A) unrelated
- (B) negative
- (C) positive
- (D) strong

QuestionID: 02-4-62

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (C) positive

63. **Often, the amount of time a student spends studying is _____ correlated with the student's grades.**

- (A) negatively
- (B) not
- (C) positively
- (D) inversely

QuestionID: 02-4-63

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (C) positively

64. There is a negative correlation between wearing one's seat belt and the severity of injuries received during an accident. Which statement correctly illustrates this correlation?

- (A) The more often you wear your seat belt, the more serious the injury you are likely to receive in an accident.
- (B) The more you wear your seat belt, the less likely you are to suffer serious injuries in an accident.
- (C) Wearing your seatbelt prevents you from being injured in an accident.
- (D) Failing to wear your seat belt increases the likelihood that you will sustain serious injuries in an accident.

QuestionID: 02-4-64

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (B) The more you wear your seat belt, the less likely you are to suffer serious injuries in an accident.

65. A graph that can be used to illustrate the pattern of the relationship between scores from two variables is called a

- (A) bar graph.
- (B) line graph.
- (C) pie chart.
- (D) scatterplot.

QuestionID: 02-4-65

Page-Reference: 49

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (D) scatterplot.

66. Dr. Schott's scatterplot reveals no real patterns or clusters. In fact, the data points appear completely random on the graph. This pattern of results is most likely from which type of correlation?

- (A) positive
- (B) zero
- (C) negative
- (D) skewed

QuestionID: 02-4-66

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (B) zero

67. Dr. Oickle is trying to determine which type of correlation is represented on her scatterplot. She notes that nearly all the data are clustered along a diagonal line running from top left to bottom-right. What would be the correct interpretation of the data?

- (A) There appears to be a positive correlation.
- (B) There appears to be no correlation.
- (C) There appears to be a negative correlation.
- (D) We need more information to draw a conclusion.

QuestionID: 02-4-67

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (C) There appears to be a negative correlation.

68. Mr. Gauthier, a sixth-grade science teacher, has tried to predict his students' end-of-the-year grades by looking at their grades from the previous year. Unfortunately, there does not seem to be any systematic relationship between these two variables. Which of the following coefficients best fits this scenario?

- (A) $+0.1$
- (B) $-.92$
- (C) $-.36$
- (D) $+.89$

QuestionID: 02-4-68

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (A) $+0.1$

69. Which correlation coefficient is most likely to describe the relationship between brushing one's teeth and the number of cavities one gets?

- (A) $-.62$
- (B) $+.83$
- (C) $-.08$
- (D) $+.45$

QuestionID: 02-4-69

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (A) $-.62$

70. A correlation coefficient will always range between

- (A) 0 and $+1$.
- (B) -10 and $+10$.
- (C) 0% and 100%.
- (D) -1.0 and $+1.0$.

QuestionID: 02-4-70

Page-Reference: 47

Skill: Factual

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (D) -1.0 and $+1.0$.

71. Which of the following correlations represents the weakest degree of relation between two variables?

- (A) Daily calcium intake and bone mass density = $+0.11$
- (B) Degree of exposure to lead and IQ scores in children = $-.12$
- (C) Hours of exposure to media violence and aggressive behaviour = $+0.31$
- (D) Number of cigarettes smoked per day and incidence of lung cancer = $+0.39$

QuestionID: 02-4-71

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (A) Daily calcium intake and bone mass density = $+0.11$

72. Which of the following correlation coefficients represents the strongest degree of relation between two variables?

- (A) $+ .19$
- (B) $-.25$
- (C) $+ .43$
- (D) $-.47$

QuestionID: 02-4-72

Page-Reference: 47

Skill: Conceptual

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (D) $-.47$

73. Correlational research designs are NOT appropriate for purposes of

- (A) determining causation.
- (B) describing relationships.
- (C) predicting possible outcomes.
- (D) understanding the association between two variables.

QuestionID: 02-4-73

Page-Reference: 47

Skill: Factual

Objective: Analyze the pros and cons of descriptive, correlational, and experimental research designs

Answer: (A) determining causation.

74. The perception of a statistical association between two variables where none exists is known as

- (A) confirmation bias
- (B) an illusory correlation
- (C) a negative correlation
- (D) a third variable problem

QuestionID: 02-4-74

Page-Reference: 48

Skill: Conceptual

Objective: Know the key terminology related to research designs.

Answer: (B) an illusory correlation

75. When asked if there are more ice cream cones sold in November or July, Mary answers "July" immediately. Then, she is surprised to find out that there is little to no difference between the two months in terms of ice-cream-cone sales. Mary's error exemplifies

- (A) an imaginary correlation.
- (B) a negative correlation.
- (C) a positive correlation.
- (D) an illusory correlation.

QuestionID: 02-4-75

Page-Reference: 48

Skill: Applied

Objective: Know the key terminology related to research designs.

Answer: (D) an illusory correlation.

76. Dr. Janusz conducts a correlational study and finds a strong negative relationship between behavioural issues in children and the amount of time the parents spend with the child. Dr. Janusz immediately holds a press conference warning parents that spending less time with their children will cause behavioural issues. Was this the appropriate conclusion for Dr. Janusz to draw?

- (A) Yes, researchers can conclude causation as long as it is a strong correlation.
- (B) Yes, Dr. Janusz's results were strong and are in agreement with common sense.
- (C) No, a third variable might be impacting both variables (e.g., poverty).
- (D) No, Dr. Janusz is reporting on an illusory correlation.

QuestionID: 02-4-76

Page-Reference: 47–48

Skill: Applied

Objective: Analyze the pros and cons of descriptive, correlational, and experimental research designs

Answer: (C) No, a third variable might be impacting both variables (e.g., poverty).

77. _____ are the only form of research that allow one to make inferences about causation.

- (A) Descriptive designs
- (B) Correlational designs
- (C) Experimental designs
- (D) Naturalistic observations

QuestionID: 02-4-77

Page-Reference: 49

Skill: Factual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (C) Experimental designs

78. What is the main difference between an experiment and a correlational study?

- (A) A correlational study involves the manipulation of variables, while an experiment does not.
- (B) An experiment uses random sampling, while a correlational study uses random assignment.
- (C) A correlational study looks at the relationship between independent and dependent variables, while an experiment looks at the relationship between confounding variables.
- (D) An experiment involves the manipulation of variables, while a correlational study does not.

QuestionID: 02-4-78

Page-Reference: 49

Skill: Factual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (D) An experiment involves the manipulation of variables, while a correlational study does not.

79. One key aspect of an experiment that is missing in other research designs is

- (A) the ability to test predictions.
- (B) the use of variables.
- (C) the use of operational definitions.
- (D) random assignment.

QuestionID: 02-4-79

Page-Reference: 49

Skill: Factual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (D) random assignment.

80. **A research design characterized by the random assignment of participants to conditions is called a(n)**

- (A) quasi-experimental design.
- (B) random sample.
- (C) experimental design.
- (D) correlational design.

QuestionID: 02-4-80

Page-Reference: 49

Skill: Conceptual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (C) experimental design.

81. **Professor Golder is studying hyperactivity in preschool-age children. She is concerned that differences in child rearing, diet, and home environment may affect her results. To minimize these potential pre-existing variables, she should be sure to do which of the following?**

- (A) Use random assignment when forming her groups.
- (B) Include more than one independent variable.
- (C) Only measure a single dependent variable.
- (D) Only select children from homes with a high socioeconomic status (SES).

QuestionID: 02-4-81

Page-Reference: 49

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (A) Use random assignment when forming her groups.

82. **Why is it important to make sure that different participant groups are roughly equivalent in terms of personal characteristics (e.g., age, gender) before any independent variable is introduced?**

- (A) It is important to treat all research participants equally so that they feel that they are not being manipulated.
- (B) Research ethics forbid any experiment to take place when the participant groups are fundamentally different from each other.
- (C) It is important so that no major differences between the groups inadvertently bias the results of the experiment.
- (D) Research ethics required all participants in a sample to have the same personal characteristics.

QuestionID: 02-4-82

Page-Reference: 49-50

Skill: Conceptual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (C) It is important so that no major differences between the groups inadvertently bias the results of the experiment.

83. **The _____ variable is what the experimenter manipulates (or varies).**

- (A) confounding
- (B) dependent
- (C) experimental
- (D) independent

QuestionID: 02-4-83

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (D) independent

84. The variable that an experimenter measures is called the

- (A) control variable.
- (B) confounding variable.
- (C) dependent variable.
- (D) independent variable.

QuestionID: 02-4-84

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (C) dependent variable.

85. An administrator believes that the placement of motivational posters on the walls in classrooms of academic buildings will lead to better grades at his school. To test his theory, he randomly assigns certain classrooms within the university's Faculty of Science to have the posters while others do not. None of the remaining four faculties will have any posters placed in their classrooms. What is the independent variable in this study?

- (A) the five different faculties
- (B) the presence or absence of classroom posters
- (C) the classrooms
- (D) student grades

QuestionID: 02-4-85

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) the presence or absence of classroom posters

86. A medical doctor believes that the presence of aromatherapy candles will reduce the anxiety of first-time mothers-to-be during labour and will increase their reported satisfaction with their care at his hospital. He randomly assigns mothers to give birth in a room either with or without aromatherapy candles. What is the independent variable in this example?

- (A) anxiety levels during labour
- (B) labour duration
- (C) room environment (presence or absence of candles)
- (D) reported satisfaction with hospital care

QuestionID: 02-4-86

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (C) room environment (presence or absence of candles)

87. Professor McCormick decides to test her hypothesis that eating chocolate prior to exams increases students' test scores. She randomly assigns students to two groups at the beginning of the semester. One group receives a bar of chocolate before each test, while the other group receives another type of candy. She compares their scores at the end of the year and finds that the students who ate the chocolate scored an average of ten points higher on their exams. What is the dependent variable in this experiment?

- (A) students' test scores
- (B) chocolate bars
- (C) the students themselves
- (D) the exams themselves

QuestionID: 02-4-87

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (A) students' test scores

88. Professor McCormick decides to test her hypothesis that eating chocolate prior to exams increases students' test scores. She randomly assigns students to two groups at the beginning of the semester. One group receives a bar of chocolate before each test, while the other group receives another type of candy. She compares their scores at the end of the year, and finds that the students who ate the chocolate scored an average of ten points higher on their exams. What is a fair conclusion that can be drawn from this experiment?

- (A) Eating chocolate causes students' test scores to increase.
- (B) Eating chocolate is negatively correlated with students' test scores.
- (C) Eating chocolate likely increases students' level of happiness.
- (D) Eating chocolate increases general intelligence.

QuestionID: 02-4-88

Page-Reference: 50

Skill: Applied

Objective: Apply terms and concepts of experimental methods to research examples.

Answer: (A) Eating chocolate causes students' test scores to increase.

89. A(n) _____ variable is one that is outside of the experimenter's control.

- (A) confounding
- (B) dependent
- (C) independent
- (D) random

QuestionID: 02-4-89

Page-Reference: 49–50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) confounding

90. In an experiment, the _____ group receives no manipulation.

- (A) control
- (B) dependent
- (C) independent
- (D) experimental

QuestionID: 02-4-90

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) control

91. A researcher wants to see whether she can make the typical administrative assistant job more motivating at Acme, Inc. To experimentally investigate this possibility, she randomly assigns administrative assistants to one of the following conditions: (I) doing the job as it has always been done, (II) having a computer performance monitoring device installed, (III) receiving feedback about their performance on a weekly basis, or (IV) being given a say in how one's workload is structured and done. Which of the preceding conditions is an example of a control group?

- (A) being given a say in how one's workload is structured and done
- (B) doing the job as it has always been done
- (C) having a computer performance monitoring device installed
- (D) receiving feedback on a weekly basis

QuestionID: 02-4-91

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) doing the job as it has always been done

92. Ryan, a professional bass fisherman, is trying to determine which lure is most effective: the scented silicone worm he normally uses or the new minnow-style lure he bought yesterday. Based on this scenario, what would constitute the control?

- (A) the new minnow lure
- (B) the scented silicone worm
- (C) both the minnow lure and the silicone worm
- (D) there is no control in this example

QuestionID: 02-4-92

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) the scented silicone worm

93. Dr. Johansen randomly assigned subjects to three different groups during her last experiment. She then proceeded to give all the participants in the experiment a new study technique designed to enhance their learning for the upcoming test. What critical error did she make during her experiment?

- (A) She failed to identify the independent variable.
- (B) She failed to identify the dependent variable.
- (C) She failed to include an experimental group.
- (D) She failed to include a control group.

QuestionID: 02-4-93

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (D) She failed to include a control group.

94. The group that receives the manipulation of an independent variable is called the

- (A) control group.
- (B) dependent group.
- (C) experimental group.
- (D) independent group.

QuestionID: 02-4-94

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (C) experimental group.

95. Quasi-experimental designs are similar to experimental designs, except in quasi-experimental designs

- (A) random assignment is not possible.
- (B) there is more than one independent variable.
- (C) there is more than one dependent variable.
- (D) there is no dependent variable.

QuestionID: 02-4-95

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) random assignment is not possible.

96. If researchers wanted to study the effect of various factors on reaction time, which factor would require the researchers to use a quasi-experimental design instead of an experimental design?

- (A) alcohol
- (B) sleep deprivation
- (C) gender
- (D) caffeine

QuestionID: 02-4-96

Page-Reference: 50

Skill: Conceptual

Objective: Know the key terminology related to research designs.

Answer: (C) gender

97. The MKUltra project is often cited as an example of

- (A) unethical research on animals.
- (B) unethical research on humans.
- (C) necessary deception in research.
- (D) the effective use of strict ethical guidelines in research.

QuestionID: 02-4-97

Page-Reference: 53

Skill: Factual

Objective: Apply the ethical principles of scientific research to examples.

Answer: (B) unethical research on humans.

98. What is the purpose of a research ethics board?

- (A) to help protect research participants from unnecessary risk
- (B) to slow the research process by placing hurdles in the way of researchers
- (C) to help protect universities and institutions from lawsuits
- (D) to raise funds for ongoing research

Difficulty:

QuestionID: 02-4-98

Page-Reference: 54

Skill: Factual

Objective: Know the key terminology of research ethics.

Answer: (A) to help protect research participants from unnecessary risk

99. Kendra serves on a committee whose job is to review proposed psychology studies. The committee refuses to approve one study because it feels the possible benefit from the research is too little given the potential risk to the participants. Kendra's committee is most accurately called

- (A) an ethics commission.
- (B) the psychological harm board.
- (C) the academic safety advisory committee.
- (D) the research ethics board.

QuestionID: 02-4-99

Page-Reference: 54

Skill: Applied

Objective: Know the key terminology of research ethics.

Answer: (D) the research ethics board.

100. According to the textbook, which of the following is true about studies that potentially increase mortality salience in participants?

- (A) Studies that increase mortality salience increase the incidence of suicide in their participants.
- (B) Studies that increase mortality salience are considered unethical.
- (C) Stress from mortality salience is typically short term and can be considered an acceptable risk.
- (D) Studies that increase mortality salience are always acceptable.

QuestionID: 02-4-100

Page-Reference: 54

Skill: Factual

Objective: Know the key terminology of research ethics.

Answer: (C) Stress from mortality salience is typically short term and can be considered an acceptable risk.

101. What is informed consent?

- (A) Volunteers agree to participate in a study after the purpose, tasks, and risks of the study are explained to them.
- (B) Research ethics boards (REBs) must be informed about the purpose, tasks, and risks of a study before they approve it.
- (C) Researchers agree to be legally responsible for the physical and psychological safety of their participants.
- (D) Participants must be informed of the results of the study they participated in and give their consent before the research is published.

QuestionID: 02-4-101

Page-Reference: 55

Skill: Conceptual

Objective: Know the key terminology of research ethics.

Answer: (A) Volunteers agree to participate in a study after the purpose, tasks, and risks of the study are explained to them.

102. Which of these is an essential component of ethical human research?

- (A) Research participants must give informed consent.
- (B) Research participants must personally benefit from the research.
- (C) Research participants must be compensated (paid) for their participation.
- (D) By providing informed consent, participants must complete the experiment in its entirety.

QuestionID: 02-4-102

Page-Reference: 55

Skill: Conceptual

Objective: Know the key terminology of research ethics.

Answer: (A) Research participants must give informed consent.

103. What effect does the planned use of deception have on the approval of a study by a Research Ethics Board

(REB)?

- (A) Studies with deception can be approved, but only if the deception is necessary and the risk to participants is minimal.
- (B) The use of deception has no effect on the whether the study will be approved by the REB.
- (C) Studies that involve deception go through a more rigorous approval process.
- (D) Studies with deception are considered unethical and are rarely approved.

QuestionID: 02-4-103

Page-Reference: 55–56

Skill: Factual

Objective: Analyze the role of using deception in psychological research.

Answer: (A) Studies with deception can be approved, but only if the deception is necessary and the risk to participants is minimal.

104. Professor Wagner has just completed an experiment. He is now explaining to his subjects the purpose behind the experiment and giving them a general description of the results. Professor Wagner is engaging in what aspect of a research study?

- (A) debriefing
- (B) informed consent
- (C) ethical review
- (D) deception

QuestionID: 02-4-104

Page-Reference: 56

Skill: Applied

Objective: Know the key terminology of research ethics.

Answer: (A) debriefing

105. Participants in modern psychology experiments are given the right to

- (A) select which treatment group they are in.
- (B) withdraw from a study or withhold responses to questions they feel uncomfortable answering.
- (C) review the results of the study before they are published.
- (D) write a formal response to the published paper.

QuestionID: 02-4-105

Page-Reference: 56

Skill: Factual

Objective: Apply the ethical principles of scientific research to examples.

Answer: (B) withdraw from a study or withhold responses to questions they feel uncomfortable answering.

106. Confidentiality requires researchers to do which of the following?

- (A) Provide complete anonymity when collecting data.
- (B) Erase all confidential data as soon as the results of the study are published.
- (C) Use a double-blind procedure.
- (D) Remove any specific information that can be connected with a participant when sharing data.

QuestionID: 02-4-106

Page-Reference: 56

Skill: Conceptual

Objective: Apply the ethical principles of scientific research to examples.

Answer: (D) Remove any specific information that can be connected with a participant when sharing data.

107. **Dr. Novella wants to know the effects of removing portions of one's hippocampi (an area of the brain) on long-term memory, in the hopes of one day finding a cure for patients with Alzheimer's disease. The subjects for his study are most likely to be**

- (A) humans.
- (B) nonhuman animals.
- (C) robots.
- (D) insects.

QuestionID: 02-4-107

Page-Reference: 56–58

Skill: Applied

Objective: Understand why animals are often used in scientific research.

Answer: (B) nonhuman animals.

108. **According to the textbook, which of the following is true of the use of animal research in psychology?**

- (A) Animal research is important for several reasons and requires attention to many of the same ethical issues that apply to human research.
- (B) Animal research is generally regarded as cruel and unnecessary.
- (C) Animal research does not help the advancement of our understanding of human behaviour.
- (D) Animal research is useful because risk and discomfort to nonhuman subjects do not need to go through ethical review.

QuestionID: 02-4-108

Page-Reference: 56–59

Skill: Conceptual

Objective: Understand why animals are often used in scientific research.

Answer: (A) Animal research is important for several reasons and requires attention to many of the same ethical issues that apply to human research.

109. **Which of the following is an advantage of using nonhuman subjects in psychological research?**

- (A) Research on nonhumans does not have to be reviewed by ethics committees.
- (B) Many lab animals have relatively short life spans, so several generations can be observed.
- (C) Researchers do not have to justify risk and discomfort with the potential scientific value of the research.
- (D) There are no advantages of animal research over human research.

QuestionID: 02-4-109

Page-Reference: 56–59

Skill: Conceptual

Objective: Understand why animals are often used in scientific research.

Answer: (B) Many lab animals have relatively short life spans, so several generations can be observed.

110. **In general, what should researchers do with data after the results of a study have been published?**

- (A) Destroy it immediately.
- (B) Keep it forever.
- (C) Keep it secure for around 25 to 50 years.
- (D) Keep it secure for around 3 to 5 years.

QuestionID: 02-4-110

Page-Reference: 59

Skill: Factual

Objective: Understand the importance of reporting and storing data.

Answer: (D) Keep it secure for around 3 to 5 years.

111. _____ are a set of techniques used to organize, summarize, and interpret data.

- (A) Central tendencies
- (B) Inferential statistics
- (C) Distributions
- (D) Descriptive statistics

QuestionID: 02-4-111

Page-Reference: 63

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (D) Descriptive statistics

112. To organize and summarize a large set of data, researchers use a set of mathematical techniques called

- (A) distribution statistics.
- (B) inferential statistics.
- (C) descriptive statistics.
- (D) variability tests.

QuestionID: 02-4-112

Page-Reference: 63

Skill: Conceptual

Objective: Know the key terminology of statistics.

Answer: (C) descriptive statistics.

113. Which of the following is the correct description of *frequency*?

- (A) the number of observations that fall within a certain category or range of scores
- (B) a measure of how spread out values are within a distribution
- (C) a measure of the central point of a distribution
- (D) the distance between the highest and lowest value in a distribution

QuestionID: 02-4-113

Page-Reference: 63

Skill: Conceptual

Objective: Know the key terminology of statistics.

Answer: (A) the number of observations that fall within a certain category or range of scores

114. What does the height of the bars on a histogram indicate?

- (A) mean
- (B) range
- (C) frequency
- (D) score or value

QuestionID: 02-4-114

Page-Reference: 63

Skill: Factual

Objective: Apply your knowledge to interpret the most frequently used types of graphs.

Answer: (C) frequency

115. The scores on most standardized tests have a _____ distribution.

- (A) normal
- (B) positively skewed

- (C) negatively skewed
- (D) bimodal

QuestionID: 02-4-115

Page-Reference: 63

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (A) normal

116. A teacher is disappointed to find that most of her students' test scores are clustered together at the low end of the grading scale, with only a few students having high grades. If she were to graph the distribution, what shape would you expect it to have?

- (A) normal
- (B) positively skewed
- (C) negatively skewed
- (D) central

QuestionID: 02-4-116

Page-Reference: 63

Skill: Applied

Objective: Apply your knowledge to interpret the most frequently used types of graphs.

Answer: (B) positively skewed

117. A frequency distribution with a cluster of scores on the far right and a long tail to its left is a _____ distribution.

- (A) negatively skewed
- (B) positively skewed
- (C) normal
- (D) biased

QuestionID: 02-4-117

Page-Reference: 63

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (A) negatively skewed

118. Which of the following is a measure of central tendency?

- (A) mode
- (B) variability
- (C) range
- (D) standard deviation

QuestionID: 02-4-118

Page-Reference: 63–65

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (A) mode

119. A university president asks the head of the data analytics department if more students come from cities or rural locales. What measure of central tendency is she asking about?

- (A) mean
- (B) median

- (C) mode
- (D) range

QuestionID: 02-4-119

Page-Reference: 63–64

Skill: Applied

Objective: Know the key terminology of statistics.

Answer: (C) mode

120. **If a set of data has a perfectly normal distribution, which measure of central tendency should be used?**

- (A) mean
- (B) median
- (C) mode
- (D) It doesn't matter; they will be the same.

QuestionID: 02-4-120

Page-Reference: 63–65

Skill: Factual

Objective: Analyze the choice of central tendency statistics based on the shape of the distribution.

Answer: (D) It doesn't matter; they will be the same.

121. **If a set of data has a skewed distribution, which measure of central tendency should be used?**

- (A) mean
- (B) median
- (C) mode
- (D) standard deviation

QuestionID: 02-4-121

Page-Reference: 63–65

Skill: Factual

Objective: Analyze the choice of central tendency statistics based on the shape of the distribution.

Answer: (B) median

122. **If all the scores in a distribution are clustered closely together, the distribution has**

- (A) low variability.
- (B) high variability.
- (C) a positive skew.
- (D) a negative skew.

QuestionID: 02-4-122

Page-Reference: 65

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (A) low variability.

123. **Conceptually, the standard deviation for a distribution can be thought of as**

- (A) the centre of the distribution.
- (B) the average frequency for each category.
- (C) the average distance from the mean.
- (D) the distance between the highest and lowest values.

QuestionID: 02-4-123

Page-Reference: 65–66

Skill: Conceptual

Objective: Know the key terminology of statistics.

Answer: (C) the average distance from the mean.

124. **Standard deviation is a measure of**

- (A) central tendency.
- (B) variability.
- (C) statistical significance.
- (D) correlation.

QuestionID: 02-4-124

Page-Reference: 65–66

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (B) variability.

125. **Ada's professor tells her class that the average score on the last test was 72 points. Ada wants to know if most students actually scored near 72, or if the grades were more spread out, with many students doing much better or worse than a 72. What statistic could Ada ask her professor to calculate to help answer her question?**

- (A) standard deviation
- (B) median
- (C) mode
- (D) correlation coefficient

QuestionID: 02-4-125

Page-Reference: 65–66

Skill: Applied

Objective: Know the key terminology of statistics.

Answer: (A) standard deviation

126. **The term *statistically significant* implies that the results are**

- (A) important.
- (B) reliable.
- (C) valid.
- (D) not likely due to chance.

QuestionID: 02-4-126

Page-Reference: 68

Skill: Conceptual

Objective: Understand how and why psychologists use significance tests.

Answer: (D) not likely due to chance.

127. **Dr. Kwan hypothesizes that allowing factory employees to listen to music while working will improve productivity. After conducting his experiment, Dr. Kwan finds that the group of participants that was allowed to listen to music was more productive than the group that did not, but this difference was not statistically significant. What should Dr. Kwan conclude about the difference between the two groups?**

- (A) His results support his hypothesis.
- (B) He is likely to find the same effect if he replicated the study.
- (C) It is possible that the difference was due to random chance.
- (D) Music improves productivity in factory settings.

QuestionID: 02-4-127

Page-Reference: 68–69

Skill: Applied

Objective: Analyze the conclusions that psychologists can make based on significance tests.

Answer: (C) It is possible that the difference was due to random chance.

128. Researchers use _____ to determine whether the difference between groups is statistically significant.

- (A) correlation coefficients
- (B) descriptive statistics
- (C) hypothesis testing
- (D) vector analysis

QuestionID: 02-4-128

Page-Reference: 68

Skill: Conceptual

Objective: Understand how and why psychologists use significance tests.

Answer: (C) hypothesis testing

129. The _____ assumes that any differences between groups is due to chance.

- (A) null hypothesis
- (B) p -value
- (C) experimental hypothesis
- (D) central tendency

QuestionID: 02-4-129

Page-Reference: 68

Skill: Factual

Objective: Understand how and why psychologists use significance tests.

Answer: (A) null hypothesis

130. A(n) _____ represents the probability that the results from an experiment are due to chance.

- (A) hypothesis test
- (B) standard deviation
- (C) p -value
- (D) normal distribution

QuestionID: 02-4-130

Page-Reference: 68

Skill: Conceptual

Objective: Understand how and why psychologists use significance tests.

Answer: (C) p -value

131. Dr. Googoo compares the results of experimental and control groups, then calculates the p -value for his results as $p = 0.63$. What is the appropriate conclusion for him to make?

- (A) There is likely no difference between his two groups.
- (B) There is a statistically significant difference between the two groups.
- (C) Dr. Googoo can reject the null hypothesis.
- (D) The two groups are strongly correlated.

QuestionID: 02-4-131

Page-Reference: 68

Skill: Applied

Objective: Understand how and why psychologists use significance tests.

Answer: (A) There is likely no difference between his two groups.

Chapter 02 Supplementary Questions

1. **A large group of people whom you want to know about is called a**

- (A) control group.
- (B) treatment group.
- (C) population.
- (D) sample.

QuestionID: 02-5-01

Page-Reference: 33

Answer: (C) population.

2. **A psychologist is studying pilot trainees. She picks a select group of trainees that she hopes is representative of all other trainees. The group of trainees being studied by this psychologist is collectively known to researchers as a**

- (A) sample.
- (B) population.
- (C) target group.
- (D) control group.

QuestionID: 02-5-02

Page-Reference: 33

Answer: (A) sample.

3. **A subset of cases selected from a larger population is a**

- (A) control group.
- (B) target group.
- (C) treatment group.
- (D) sample.

QuestionID: 02-5-03

Page-Reference: 33

Answer: (D) sample.

4. **A scientist is conducting a research study on sleep and learning. She questions her own objectivity and decides to let a third person, who is not associated with conducting the experiment, score the tests. The scientist is probably trying to eliminate**

- (A) researcher bias.
- (B) sample bias.
- (C) control bias.
- (D) treatment bias.

QuestionID: 02-5-04

Page-Reference: 34

Answer: (A) researcher bias.

5. **Expectations by the experimenter that might influence the results of an experiment or their interpretation are**

called

- (A) experimental blinds.
- (B) researcher bias.
- (C) sample bias.
- (D) treatment bias.

QuestionID: 02-5-05

Page-Reference: 34

Answer: (B) researcher bias.

6. Dr. Welsh is doing experiments using drugs. He is concerned that his subjects will respond to demand characteristics. He may want to control for this by using which of the following strategies?

- (A) stratification
- (B) two independent variables
- (C) a placebo
- (D) randomization

QuestionID: 02-5-06

Page-Reference: 35–36

Answer: (C) a placebo

7. Mr. Marshall hired June to collect data from a group of subjects. Neither June nor the subjects were aware of the independent variable that Mr. Marshall had manipulated. This is an example of

- (A) randomization.
- (B) a placebo.
- (C) double-blind control.
- (D) experimenter bias.

QuestionID: 02-5-07

Page-Reference: 37

Answer: (C) double-blind control.

8. A "fake treatment" is one way to define a

- (A) decoy.
- (B) demand characteristic.
- (C) control group.
- (D) placebo.

QuestionID: 02-5-08

Page-Reference: 37

Answer: (D) placebo.

9. Researcher bias can best be controlled by using

- (A) a placebo.
- (B) double-blind control.
- (C) randomization.
- (D) subjects who do not know the purpose of the study.

QuestionID: 02-5-09

Page-Reference: 37

Answer: (B) double-blind control.

10. A research method in which the real-life behaviour of a pre-selected person or a group is studied in depth for some time through the use of observation, interviews, and writings (such as letters) is the _____ method of research.

- (A) survey
- (B) psychometric
- (C) case study
- (D) naturalistic observation

QuestionID: 02-5-10

Page-Reference: 43–44

Answer: (C) case study

11. Observing behaviour as it happens in real-life, natural settings without imposing laboratory controls is known as the

- (A) naturalistic observation method.
- (B) experimental method.
- (C) correlational method.
- (D) psychometric approach.

QuestionID: 02-5-11

Page-Reference: 45

Answer: (A) naturalistic observation method.

12. Naturalistic observation is

- (A) recreating natural conditions in the laboratory as closely as possible to make an experiment more valid.
- (B) studying behaviour in its natural context.
- (C) basically the same process as objective introspection.
- (D) observing behaviour in the lab without taking formal notes or using technological equipment to measure the experiment findings.

QuestionID: 02-5-12

Page-Reference: 45–46

Answer: (B) studying behaviour in its natural context.

13. Collecting objective data without interference in the subject's normal environment is associated with

- (A) survey research.
- (B) applied research.
- (C) laboratory research.
- (D) naturalistic observation.

QuestionID: 02-5-13

Page-Reference: 45–46

Answer: (D) naturalistic observation.

14. As part of an assignment, Bill's class was asked to complete an anonymous questionnaire on prejudice. Which research method was Bill's professor using?

- (A) field experiment
- (B) survey
- (C) naturalistic observation
- (D) laboratory experiment

QuestionID: 02-5-14

Page-Reference: 46

Answer: (B) survey

15. Positive correlation shows

- (A) the extent to which two independent variables change together.
- (B) that as one independent variable increases, another decreases.
- (C) that as one variable changes, another changes in the same direction.
- (D) that as one variable changes, another changes in the opposite direction.

QuestionID: 02-5-15

Page-Reference: 47

Answer: (C) that as one variable changes, another changes in the same direction.

16. Sasha read about a study in the newspaper that reported a relationship between schizophrenia and crime. What type of research design was most likely used in this study?

- (A) naturalistic observation
- (B) case study design
- (C) correlational design
- (D) experimental design

QuestionID: 02-5-16

Page-Reference: 47

Answer: (C) correlational design

17. A researcher wished to study the relationship between high school grades and post-secondary grades. Of the following research methods, which would be the most appropriate?

- (A) case study
- (B) correlation
- (C) experiment
- (D) survey

QuestionID: 02-5-17

Page-Reference: 47

Answer: (B) correlation

18. A correlation of .00 means

- (A) you made a mistake in calculation.
- (B) you did not find out anything about the relationship between the two variables.
- (C) the two variables are unrelated.
- (D) everyone who scored low on one variable scored high on the other variable, and vice versa.

QuestionID: 02-5-18

Page-Reference: 47

Answer: (C) the two variables are unrelated.

19. A correlation tells us

- (A) whether a cause–effect relationship exists.
- (B) whether two variables are related
- (C) whether or not a test is efficient.
- (D) if people are responding to demand characteristics.

QuestionID: 02-5-19

Page-Reference: 47

Answer: (B) whether two variables are related

20. A psychologist uses the correlational method to

- (A) explain the effects of one variable on another.
- (B) compare two groups of subjects.
- (C) determine what causes a variable to change.
- (D) identify relationships between variables.

QuestionID: 02-5-20

Page-Reference: 47

Answer: (D) identify relationships between variables.

21. Which term best describes the correlation between the full moon and violent crime?

- (A) positive
- (B) negative
- (C) zero
- (D) illusory

QuestionID: 02-5-21

Page-Reference: 48

Answer: (D) illusory

22. In psychological studies, random assignment is used to ensure that

- (A) there will be an independent and a dependent variable.
- (B) each person has an equal chance of being assigned to each group.
- (C) the control group does not know the purpose of the study.
- (D) the experimenter won't know who is in each group.

QuestionID: 02-5-22

Page-Reference: 49

Answer: (B) each person has an equal chance of being assigned to each group.

23. Which of the following is a strength of experiments?

- (A) They cannot be repeated by anyone other than the experimenter.
- (B) They allow for the establishment of cause–effect relationships.
- (C) They are not subject to demand characteristics since the subjects do not know they are being observed.
- (D) They allow us to draw definitive conclusions about behaviour in the natural environment based on subjects' behaviour in the laboratory.

QuestionID: 02-5-23

Page-Reference: 49

Answer: (B) They allow for the establishment of cause–effect relationships.

24. If explanation of the causes of thoughts, feelings, and behaviour is a psychologist's goal, then the _____ method of research should be used.

- (A) correlational
- (B) experimental
- (C) survey

(D) naturalistic observation

QuestionID: 02-5-24

Page-Reference: 49–50

Answer: (B) experimental

25. The process of establishing causal relationships is associated most with

- (A) naturalistic observation.
- (B) experiments.
- (C) correlation.
- (D) surveys.

QuestionID: 02-5-25

Page-Reference: 49–50

Answer: (B) experiments.

26. Cause-and-effect conclusions can be drawn from the results of an experiment because

- (A) it is almost always performed in a laboratory setting.
- (B) statistical analysis can be applied to data from an experiment.
- (C) the independent variable is manipulated while other possible causes of change in the dependent variable are held constant.
- (D) several groups of subjects, not just one sample, are typically investigated in a laboratory experiment.

QuestionID: 02-5-26

Page-Reference: 49–50

Answer: (C) the independent variable is manipulated while other possible causes of change in the dependent variable are held constant.

27. In a test of the effects of sleep deprivation on problem-solving skills, research participants are allowed to sleep either four or eight hours on each of three consecutive nights. This research is an example of

- (A) naturalistic observation.
- (B) survey research.
- (C) a case study.
- (D) an experiment.

QuestionID: 02-5-27

Page-Reference: 49–50

Answer: (D) an experiment.

28. To determine if sugar-rich diets affect hyperactivity in kids, a researcher prepared two daily menus that children would receive for a 30-day period. A high-sugar diet was given to the boys, while the girls had a menu that seemed identical but was not a high-sugar diet. At the end of 30 days, the boys and girls were evaluated to determine their levels of hyperactivity. In the study, the high-sugar diet is the

- (A) placebo.
- (B) independent variable.
- (C) dependent variable.
- (D) control group.

QuestionID: 02-5-28

Page-Reference: 50

Answer: (B) independent variable.

29. In an experiment to test the effects of anxiety on performance, the dependent variable is the

- (A) amount of anxiety.
- (B) age of the person.
- (C) person's performance.
- (D) cause of the anxiety.

QuestionID: 02-5-29

Page-Reference: 50

Answer: (C) person's performance.

30. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The second variable, which is observed for any possible effects, is called the

- (A) dependent variable.
- (B) control variable.
- (C) independent variable.
- (D) hypothetical variable.

QuestionID: 02-5-30

Page-Reference: 50

Answer: (A) dependent variable.

31. In a controlled experiment, the group subjected to a change in the independent variable is called the _____ group.

- (A) independent
- (B) experimental
- (C) dependent
- (D) control

QuestionID: 02-5-31

Page-Reference: 50

Answer: (B) experimental

32. In a controlled experiment, the group *not* subjected to a change in the independent variable, and used for comparison with the group receiving the experimental change, is the _____ group.

- (A) independent
- (B) experimental
- (C) dependent
- (D) control

QuestionID: 02-5-32

Page-Reference: 50

Answer: (D) control

33. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The manipulated variable is called the

- (A) dependent variable.
- (B) experimental variable.
- (C) independent variable.
- (D) placebo.

QuestionID: 02-5-33

Page-Reference: 50

Answer: (C) independent variable.

34. A researcher, based on her review of relevant scientific studies, believes that there is a relationship between the frequency of a baby's crying and whether it was nursed at set intervals or on a demand schedule. If this belief were tested by experimentally manipulating feeding schedules, the feeding schedule would be called the

- (A) independent variable.
- (B) dependent variable.
- (C) extraneous variable.
- (D) control factors.

QuestionID: 02-5-34

Page-Reference: 50

Answer: (A) independent variable.

35. A researcher, based on her review of relevant scientific studies, believes that there is a relationship between the frequency of a baby's crying and whether it was nursed at set intervals or on a demand schedule. If this belief were tested by experimentally manipulating feeding schedules, frequency of crying would be called the

- (A) latent factor.
- (B) dependent variable.
- (C) independent variable.
- (D) control factor.

QuestionID: 02-5-35

Page-Reference: 50

Answer: (B) dependent variable.

36. A researcher tests the hypothesis that students who study in the room where they take their tests will perform better on the tests than students who study in other rooms. She requires one group to study in the classroom where the exam is given and another group to study in the library. All students take the test in the classroom, and their test performance is compared. In this example, the location that students study is the

- (A) independent variable.
- (B) dependent variable.
- (C) manipulation.
- (D) hypothesis.

QuestionID: 02-5-36

Page-Reference: 50

Answer: (A) independent variable.

37. Professor McSpell designed an experiment to test her hypothesis that exercise will increase spelling ability. She divided children into three groups and had one group do 10 minutes of exercises, one group do 30 minutes of exercises, and the third group do no exercise. She then tested all three groups of children to see how many words they could spell correctly on a spelling test. In this experiment, the scores on the spelling test serve as the

- (A) dependent variable.
- (B) independent variable.
- (C) control group.
- (D) reliability measure.

QuestionID: 02-5-37

Page-Reference: 50

Answer: (A) dependent variable.

38. In an experiment, the "measurable aspect of the behaviour of the subject" is called the _____ variable.

- (A) dependent
- (B) focal
- (C) independent
- (D) control

QuestionID: 02-5-38

Page-Reference: 50

Answer: (A) dependent

39. The purpose of an experiment is to discover whether there is a relationship between the _____ and the _____.

- (A) independent variable; control variable
- (B) dependent variable; control variable
- (C) control group; experimental group
- (D) independent variable; dependent variable

QuestionID: 02-5-39

Page-Reference: 50

Answer: (D) independent variable; dependent variable

40. In an experiment on the effects of level of motivation on the performance of typists, the researcher randomly assigned one-third of her subjects to each of three levels of motivation (and then induced different levels of motivation in the three groups). She measured the average words typed per minute by each group, and found that performance was highest under medium motivation, average under low motivation, and worst under high motivation. What was the independent variable in this experiment?

- (A) motivation
- (B) typing speed
- (C) variation in typing speed
- (D) manipulation of typing speed

QuestionID: 02-5-40

Page-Reference: 50

Answer: (A) motivation

41. A psychologist wanted to see if people were more prone to seek the company of others when anxious than when calm. He randomly assigned half of his subjects to an anxiety group and then told them that, as part of the study, they would receive electric shocks. He did not frighten the other group of subjects. Finally, he recorded how many subjects in each group chose to be "tested" in a group setting and how many chose to be "tested" alone. What was the independent variable in this study?

- (A) tendency to desire the company of others
- (B) level of shock
- (C) level of anxiety
- (D) the anxious group

QuestionID: 02-5-41

Page-Reference: 50

Answer: (C) level of anxiety

42. In an experiment, four groups of college students used different memorizing strategies to learn the material in

one chapter of a textbook. Then each group was given the same multiple-choice test on the material. What was the dependent variable in this study?

- (A) the students' performance on the test
- (B) the four different groups
- (C) the four different memorizing strategies
- (D) manipulation of memorizing strategies

QuestionID: 02-5-42

Page-Reference: 50

Answer: (A) the students' performance on the test

43. A psychologist wanted to see if people were more prone to seek the company of others when anxious than when calm. He randomly assigned half of his subjects to an anxiety group and then told them that, as part of the study, they would receive electric shocks. He did not frighten the other group of subjects. Finally, he recorded how many subjects in each group chose to be "tested" in a group setting and how many chose to be "tested" alone. What was the dependent variable in this study?

- (A) the two groups
- (B) the level of anxiety
- (C) preference for being alone or in a group
- (D) manipulation of anxiety

QuestionID: 02-5-43

Page-Reference: 50

Answer: (C) preference for being alone or in a group

44. A psychologist wanted to see if people were more prone to seek the company of others when anxious than when calm. He randomly assigned half of his subjects to an anxiety group and then told them that, as part of the study, they would receive electric shocks. He did not frighten the other group of subjects. Finally, he recorded how many subjects in each group chose to be "tested" in a group setting and how many chose to be "tested" alone. In this study, the group that was *not* frightened would be called the _____ group.

- (A) experimental
- (B) control
- (C) placebo
- (D) test

QuestionID: 02-5-44

Page-Reference: 50

Answer: (B) control

45. The purpose of a control group in an experiment is to

- (A) serve as a check on the interpretation of results.
- (B) increase the ability to generalize the findings.
- (C) manipulate the dependent variable.
- (D) represent the general, nonlaboratory population.

QuestionID: 02-5-45

Page-Reference: 50

Answer: (A) serve as a check on the interpretation of results.

46. In an experiment concerning the effect of auditory feedback on accuracy in writing computer programs, one group hears a computer-simulated voice say each character or symbol that they type in as they are writing their programs. The second group does not receive the auditory feedback as they type their program code. This

second group is the _____ group.

- (A) experimental
- (B) control
- (C) placebo
- (D) confederate

QuestionID: 02-5-46

Page-Reference: 50

Answer: (B) control

47. Why is it essential that the experimental and control groups be treated identically in every respect but one?

- (A) so that the dependent variable can be accurately measured
- (B) so that the results will apply outside the laboratory setting
- (C) so that if the behaviour of the two groups differs, the difference can be credited to the one thing that distinguished the groups from one another
- (D) so that if the behaviour of the two groups differs, that difference can be used to establish a functional relationship between the independent and dependent variables

QuestionID: 02-5-47

Page-Reference: 50

Answer: (D) so that if the behaviour of the two groups differs, that difference can be used to establish a functional relationship between the independent and dependent variables

48. In an experiment, group A was given 3 minutes to study a word list, while group B was given 10 minutes to study the same list. Later, both groups were asked to recall words from the list. In this study, the number of words recalled was the

- (A) independent variable.
- (B) dependent variable.
- (C) placebo.
- (D) control group.

QuestionID: 02-5-48

Page-Reference: 50

Answer: (B) dependent variable.

49. To obtain objective information, researchers sometimes must deceive their subjects. Ethically, researchers using deception must always

- (A) pay participants.
- (B) maintain subject anonymity.
- (C) use double-blind control.
- (D) explain the deception to the subjects after the data are collected and obtain their informed consent to use the information obtained.

QuestionID: 02-5-49

Page-Reference: 55–56

Answer: (D) explain the deception to the subjects after the data are collected and obtain their informed consent to use the information obtained.

50. Under which circumstance is the use of deception justified by ethics review boards?

- (A) when the study could not have been conducted without deception
- (B) when the research involves a medical or therapeutic intervention
- (C) when participants might not agree to participate unless deception is used

(D) when the placebo effect is likely to occur

QuestionID: 02-5-50

Page-Reference: 55–56

Answer: (A) when the study could not have been conducted without deception

51. When plotting data, Dr. Ryeburn notes that the distribution has an elongated tail to the right. Which descriptive statistic would offer the best measure of central tendency in this case?

- (A) mean
- (B) median
- (C) standard deviation
- (D) range

QuestionID: 02-5-51

Page-Reference: 63

Answer: (B) median

Chapter 02 True-False Questions

1. Good scientific research is based on measurements that are objective, valid, and reliable.

- a True
- b False

QuestionID: 02-6-01

Page-Reference: 31

Answer: a. True

2. If someone takes an intelligence test several times and receives the same score, the test is considered to have high validity.

- a True
- b False

QuestionID: 02-6-02

Page-Reference: 32–33

Answer: b. False

3. Using random sampling increases the likelihood that the results from a sample will generalize to the population.

- a True
- b False

QuestionID: 02-6-03

Page-Reference: 33

Answer: a. True

4. In a double-blind experiment, neither the participant nor the researcher knows which treatment group the participant is in.

- a True
- b False

QuestionID: 02-6-04

Page-Reference: 37

Answer: a. True

5. Once the results of a study have been peer reviewed and published, they are considered accurate, even if other researchers cannot replicate them.

a True

b False

QuestionID: 02-6-05

Page-Reference: 38

Answer: b. False

6. Surveys and questionnaires are used to collect self-report data.

a True

b False

QuestionID: 02-6-06

Page-Reference: 46

Answer: a. True

7. A correlation coefficient of $-.80$ represents a stronger relationship than a correlation coefficient of $+.50$.

a True

b False

QuestionID: 02-6-07

Page-Reference: 47

Answer: a. True

8. If researchers find that the number of books read by fifth-grade students is positively correlated with their scores on an intelligence test, it would be correct to conclude that having children read more increases their intelligence.

a True

b False

QuestionID: 02-6-08

Page-Reference: 47–48

Answer: b. False

9. Emmerson designs an experiment to test whether drinking a protein shake after weightlifting increases muscle development. The independent variable in Emmerson's experiment is the protein shake.

a True

b False

QuestionID: 02-6-09

Page-Reference: 50

Answer: a. True

10. Asking participants to write about upsetting or traumatic experiences can put them at risk for cognitive and emotional stress. However, there might also be potential benefits of coping through expression. Research ethics

boards (REB) weigh the risks and benefits of research.

- a True
- b False

QuestionID: 02-6-10

Page-Reference: 54–55

Answer: a. True

11. Researchers are NOT allowed to deceive participants about the purpose of a study.

- a True
- b False

QuestionID: 02-6-11

Page-Reference: 55–56

Answer: b. False

12. The right to give informed consent stays with a volunteer throughout the entire study, and they should be able to withdraw at any point.

- a True
- b False

QuestionID: 02-6-12

Page-Reference: 55–56

Answer: a. True

13. Researchers must give participants total anonymity.

- a True
- b False

QuestionID: 02-6-13

Page-Reference: 56

Answer: b. False

14. For security and confidentiality reasons, once the results of a study are reported in a journal or at a conference, the data should be destroyed.

- a True
- b False

QuestionID: 02-6-14

Page-Reference: 59–60

Answer: b. False

15. A negatively skewed distribution has a long tail on the right of the cluster.

- a True
- b False

QuestionID: 02-6-15

Page-Reference: 63

Answer: b. False

16. The mean, median, and mode are all measures of central tendency.

- a True
- b False

QuestionID: 02-6-16

Page-Reference: 63–64

Answer: a. True

17. When a distribution is skewed, the median is a better measure of the "average" than the mean.

- a True
- b False

QuestionID: 02-6-17

Page-Reference: 63–65

Answer: a. True

18. If the distribution of quiz scores for a class has high variability, most of the students scored within a few points of each other.

- a True
- b False

QuestionID: 02-6-18

Page-Reference: 63–65

Answer: b. False

19. If researchers find a statistically significant result, they would be likely to find the same result if they replicated the study again.

- a True
- b False

QuestionID: 02-6-19

Page-Reference: 68

Answer: a. True

20. If researchers calculate a large standard deviation, it indicates that there is a low level of variability in the data.

- a True
- b False

QuestionID: 02-6-20

Page-Reference: 65

Answer: b. False

Module 2.1 Multiple Choice Questions

1. Which of the following is subjective?

- (A) the height of a tree
- (B) the speed of a reflex
- (C) the weight of a soil sample
- (D) the value of a painting

QuestionID: 02-4-01

Page-Reference: 31

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) the value of a painting

2. _____ assumes that there are facts about the world that can be observed and tested independently from the individual who describes them.

- (A) Subjectivity
- (B) Objectivity
- (C) Validity
- (D) Generalizability

QuestionID: 02-4-02

Page-Reference: 31

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) Objectivity

3. In research, the object, concept, or event being measured is called a

- (A) unit of data.
- (B) population.
- (C) variable.
- (D) sample.

QuestionID: 02-4-06

Page-Reference: 31

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) variable.

4. A researcher measures participants' blood pressure while they are shown sexual, violent, or relaxing videos. The blood pressure measurement in this study is an example of

- (A) a variable.
- (B) a sample.
- (C) self-reporting.
- (D) a demand characteristic.

QuestionID: 02-4-07

Page-Reference: 31

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (A) a variable.

5. In science, operational definitions are used to

- (A) keep participants from knowing which treatment group they are in.
- (B) reduce demand characteristics.
- (C) increase ecological validity.
- (D) define terms and variables so they can be objectively measured.

QuestionID: 02-4-08

Page-Reference: 32

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) define terms and variables so they can be objectively measured.

6. **Before beginning a study on the health effects of obesity, a group of researchers agree that, for the purposes of their study, anyone with a body mass index greater than 30 kg/m² will be considered obese. This is an example of a(n)**

- (A) control variable.
- (B) operational definition.
- (C) convenience sample.
- (D) dependent variable.

QuestionID: 02-4-09

Page-Reference: 32

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) operational definition.

7. _____ **refers to the consistency of a measurement.**

- (A) Generalizability
- (B) Validity
- (C) Reliability
- (D) Objectivity

QuestionID: 02-4-11

Page-Reference: 32

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) Reliability

8. _____ **is the extent to which a measure assesses what it claims to measure.**

- (A) Generalizability
- (B) Reliability
- (C) Validity
- (D) Objectivity

QuestionID: 02-4-15

Page-Reference: 32

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) Validity

9. **The degree to which one set of results can be applied to other situations, individuals, or events is called**

- (A) objectivity.
- (B) reliability.
- (C) validity.
- (D) generalizability.

QuestionID: 02-4-17

Page-Reference: 33

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) generalizability.

10. To increase the generalizability of their results, researchers try to study a _____ sample of participants.

- (A) small
- (B) large
- (C) single-person
- (D) convenience

QuestionID: 02-4-18

Page-Reference: 33–34

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) large

11. Which of the following is TRUE?

- (A) Researchers typically study whole populations because it the most efficient method for gathering data.
- (B) Researchers typically study samples because it is often too difficult to study whole populations.
- (C) Researchers typically aim to include both samples and populations in their research.
- (D) Researchers typically avoid studying both populations and samples to avoid researcher bias.

QuestionID: 02-4-19

Page-Reference: 33–34

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) Researchers typically study samples because it is often too difficult to study whole populations.

12. The most important factor to ensure that results from one study will generalize in other settings, is to use

- (A) a convenience sample.
- (B) small sample sizes.
- (C) random assignment.
- (D) a random sample.

QuestionID: 02-4-20

Page-Reference: 33–34

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) a random sample.

13. Researchers at Universities often use Psychology students as their participants because they are readily available and eager to volunteer. This form of a sample is referred to as a(n) _____ sample.

- (A) random
- (B) confound
- (C) ecological
- (D) convenience

QuestionID: 02-4-21

Page-Reference: 33–34

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) convenience

14. Ecological validity refers to

- (A) whether the results of a laboratory study can be applied to the real world.
- (B) the impact of a scientific study on the environment.
- (C) the degree to which animal research can be applied to humans.
- (D) the degree to which naturalistic research techniques are used.

QuestionID: 02-4-22

Page-Reference: 34

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (A) whether the results of a laboratory study can be applied to the real world.

15. In a single-blind study, who is "blind" to the treatment?

- (A) the peer reviewers
- (B) the participants
- (C) the experimenters
- (D) both the experimenters and participants

QuestionID: 02-4-34

Page-Reference: 37

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (B) the participants

16. An experiment is said to be _____ when neither researchers nor participants are aware of who is in the experimental or control group.

- (A) single-blind
- (B) generalizable
- (C) peer-reviewed
- (D) double-blind

QuestionID: 02-4-35

Page-Reference: 37

Skill: Factual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) double-blind

17. Dr. Leblanc is conducting a clinical drug trial. She wants to reduce bias as much as possible, so she has her assistant label the different drug doses as A, B, or C. Neither Dr. Leblanc or her patients know which dose of the drug the patients are receiving. This experimental design is known as a _____ study.

- (A) single-blind
- (B) placebo
- (C) peer-reviewed
- (D) double-blind

QuestionID: 02-4-36

Page-Reference: 37

Skill: Applied

Objective: Know the key terminology related to the principles of scientific research.

Answer: (D) double-blind

18. The process by which experts in a field carefully critique the work of their colleagues prior to publication, is

known as

- (A) ecological validation.
- (B) social desirability.
- (C) peer review.
- (D) replication

QuestionID: 02-4-37

Page-Reference: 38

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) peer review.

19. _____ is a method where researchers typically use interviews, phone surveys, and questionnaires to directly collect responses from the people being studied.

- (A) Naturalistic observation
- (B) Random sampling
- (C) Self-reporting
- (D) Blind sampling

QuestionID: 02-4-57

Page-Reference: 46

Skill: Conceptual

Objective: Know the key terminology related to the principles of scientific research.

Answer: (C) Self-reporting

20. Which of the following is one of the five characteristics of quality research listed in the textbook?

- (A) using subjective measurements
- (B) protecting the public from distressing results and keeping them secret
- (C) making sure results can be replicated
- (D) avoiding generalizing results

QuestionID: 02-4-03

Page-Reference: 31

Skill: Factual

Objective: Understand the five characteristics of quality scientific research.

Answer: (C) making sure results can be replicated

21. In an effort to ensure objectivity, psychologists typically measure

- (A) behaviour.
- (B) introspection.
- (C) thoughts.
- (D) feelings.

QuestionID: 02-4-04

Page-Reference: 31

Skill: Conceptual

Objective: Understand the five characteristics of quality scientific research.

Answer: (A) behaviour.

22. A group of researchers are studying depression in a sample of patients. Each researcher independently assesses the level of depression in each patient, but find that their assessments are not the same. This suggests that

- (A) depression cannot be studied scientifically.
- (B) the researchers are not using a reliable measurement.
- (C) the results are generalizable.
- (D) the patients likely do not have depression.

QuestionID: 02-4-05

Page-Reference: 32–33

Skill: Applied

Objective: Understand the five characteristics of quality scientific research.

Answer: (B) the researchers are not using a reliable measurement.

23. According to the textbook, what have researchers concluded about the "Mozart effect"?

- (A) Listening to classical music, but not other types of music, causes a lasting improvement in several types of thinking and reasoning.
- (B) Listening to all types of music causes a lasting improvement in several types of thinking and reasoning.
- (C) Listening to classical music appears to have only a small, short-term effect on spatial reasoning in adults.
- (D) Listening to classical music has no effect on any type of thinking or reasoning.

QuestionID: 02-4-10

Page-Reference: 32

Skill: Factual

Objective: Understand the five characteristics of quality scientific research.

Answer: (C) Listening to classical music appears to have only a small, short-term effect on spatial reasoning in adults.

24. The peer review process is designed to

- (A) limit alternative therapies from being made available to the general public.
- (B) identify potential flaws in a research study's methods, findings, and conclusions.
- (C) eliminate the placebo effect.
- (D) translate scientific journal articles into easy-to-understand articles for social media.

QuestionID: 02-4-38

Page-Reference: 38

Skill: Conceptual

Objective: Understand the five characteristics of quality scientific research.

Answer: (B) identify potential flaws in a research study's methods, findings, and conclusions.

25. Without the process of replication as part of the scientific process, what would happen?

- (A) Incorrect results would often go uncorrected.
- (B) Demand characteristics would have a larger effect on data.
- (C) The Hawthorne effect would increase.
- (D) Samples would be less representative of the populations they came from.

QuestionID: 02-4-39

Page-Reference: 38

Skill: Conceptual

Objective: Understand the five characteristics of quality scientific research.

Answer: (A) Incorrect results would often go uncorrected.

26. The main purpose of replicating research is to

- (A) keep the scientific community up-to-date on current findings.
- (B) renew drug and technology patents based on the research.
- (C) ensure that the findings are correct and not statistical flukes.

(D) increase a researcher's number of publications.

QuestionID: 02-4-40

Page-Reference: 38

Skill: Conceptual

Objective: Understand the five characteristics of quality scientific research.

Answer: (C) ensure that the findings are correct and not statistical flukes.

27. Ursula works in an office. One day, her boss tells her that upper-management will be in the office to observe employee productivity. Because she knows she is being observed, Ursula works harder than she normally does, a phenomenon known as

- (A) the placebo effect.
- (B) the Heisenberg principle.
- (C) ecological validity.
- (D) the Hawthorne effect.

QuestionID: 02-4-23

Page-Reference: 34

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (D) the Hawthorne effect.

28. The term *demand characteristics* refers to

- (A) a set of personality traits that most good scientists share.
- (B) unintended cues that suggest how study participants should behave.
- (C) statements that describe the specific measures that are used to record observations.
- (D) the specific set of instructions for an experiment.

QuestionID: 02-4-24

Page-Reference: 35–36

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (B) unintended cues that suggest how study participants should behave.

29. Bandar is participating in a survey on undergraduate drug use. When the interviewer asks Bandar whether he has used illegal drugs in the last 6 months, he lies and says "no" because he knows drug use is frowned upon by many people. Bandar's response is an example of

- (A) socially desirable responding.
- (B) the Hawthorne effect.
- (C) experimenter bias.
- (D) over-generalization.

QuestionID: 02-4-25

Page-Reference: 34

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (A) socially desirable responding.

30. Priya, a university student, wants to know how many of the students living in her residence have tried cannabis, so she decides to interview everyone in her building. Despite rumours to the contrary, the results suggest that fewer than five percent of her classmates have tried the drug. What is the most likely explanation for her findings?

- (A) The student responses were influenced by social desirability.
- (B) Priya's question was unclear.
- (C) Priya miscalculated the results.
- (D) Interviews often lead to exaggerated results.

QuestionID: 02-4-26

Page-Reference: 34

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (A) The student responses were influenced by social desirability.

31. Eila is participating in a psychological experiment for one of the graduate students at her university. She is fairly certain that she knows the true intent of the study and is trying to answer the questions accordingly. Eila is adjusting her responses based on

- (A) the Hawthorne effect.
- (B) social desirability bias.
- (C) observer bias.
- (D) demand characteristics.

QuestionID: 02-4-27

Page-Reference: 35–36

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (D) demand characteristics.

32. The risk of bias in a research study is that biases can lead us

- (A) to become anxious or depressed about our knowledge of the world.
- (B) to draw incorrect conclusions and then become convinced that they are accurate.
- (C) to doubt our intuition and gut feelings in important real-life circumstances.
- (D) to underestimate our general levels of cognitive abilities and skills.

QuestionID: 02-4-28

Page-Reference: 34–37

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (B) to draw incorrect conclusions and then become convinced that they are accurate.

33. One difficulty in conducting medical research is that participants often assume that the treatment will be effective in alleviating their symptoms, hence they report that their symptoms are alleviated. Therefore, a researcher must design an experiment that accounts for the possible influence of

- (A) random selection.
- (B) medical confounds.
- (C) the Rosenthal effect.
- (D) the placebo effect.

QuestionID: 02-4-29

Page-Reference: 37

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (D) the placebo effect.

34. When people report feeling better after taking medication even though it hasn't had time to exert any physical

effects, they are experiencing

- (A) the experimenter bias effect.
- (B) low reliability.
- (C) the placebo effect.
- (D) confirmation bias.

QuestionID: 02-4-30

Page-Reference: 37

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (C) the placebo effect.

35. Dr. Wilkins randomly assigns subjects to one of two groups. He is interested in the effects of caffeine on anxiety levels. He gives subjects in the first group an extra two cups of coffee a day for six months. The second group receives an extra two cups of decaffeinated coffee a day for the same time period. Importantly, subjects do not know whether they are being given regular or decaffeinated coffee. By providing one group with decaffeinated coffee, Dr. Wilkins is trying to account for which potential element of the experiment?

- (A) the Hawthorne effect
- (B) generalizability
- (C) the placebo effect
- (D) variability

QuestionID: 02-4-31

Page-Reference: 37

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (C) the placebo effect

36. Elle, a university student, had a great time at a party last night. She danced, sang karaoke, and played the Rock Band video game—all behaviours that she had never exhibited in public before. She had been drinking the "punch" all night long, which she was told contained a lot of alcohol. Elle was quite surprised to find out the next morning that the punch did NOT contain any alcohol. What may explain Elle's behaviour at the party?

- (A) the Hawthorne effect
- (B) confirmation bias
- (C) the nocebo effect
- (D) the placebo effect

QuestionID: 02-4-32

Page-Reference: 37

Skill: Applied

Objective: Understand how biases might influence the outcome of a study.

Answer: (D) the placebo effect

37. What is the best way to reduce the social desirability bias in research?

- (A) use random sampling
- (B) provide anonymity and confidentiality
- (C) use random assignment
- (D) submit the research to peer review

QuestionID: 02-4-33

Page-Reference: 36–37

Skill: Conceptual

Objective: Understand how biases might influence the outcome of a study.

Answer: (B) provide anonymity and confidentiality

38. Dr. Sparks gave Julie a new intelligence test that he personally designed, but her scores are different each time he tests her. These results suggest that Dr. Sparks' intelligence test has poor

- (A) validity.
- (B) generalizability.
- (C) reliability.
- (D) social desirability.

QuestionID: 02-4-12

Page-Reference: 32

Skill: Applied

Objective: Apply the concepts of reliability and validity to examples.

Answer: (C) reliability.

39. Dr. Hashmi is assessing patients' personalities using an "ink blot" test that she created, and is gaining confidence in the test's reliability. Which of the following is likely leading her to have increased confidence about the test's reliability?

- (A) Her patients are reporting high levels of enjoyment with daily testing.
- (B) Patients are generating approximately the same results each time they are tested
- (C) The test seems to be measuring what it is supposed to be measuring (personality).
- (D) The test appears to be objective.

QuestionID: 02-4-13

Page-Reference: 32

Skill: Applied

Objective: Apply the concepts of reliability and validity to examples.

Answer: (B) Patients are generating approximately the same results each time they are tested

40. Brittany, a hockey player who plays for the local university, has finished the last three years with 8, 32, and 14 points. Considering her performance, what type of player would Brittany be considered?

- (A) a valid player
- (B) an objective player
- (C) a reliable player
- (D) not a reliable player

QuestionID: 02-4-14

Page-Reference: 32

Skill: Applied

Objective: Apply the concepts of reliability and validity to examples.

Answer: (D) not a reliable player

41. Jasmine took a self-administered online intelligence test three times yesterday and obtained scores of 124, 128, and 125. This made her feel great because the score she received from the psychologist last month at school was only a 95. What characteristic might the online test be lacking?

- (A) reliability
- (B) validity
- (C) both reliability and validity
- (D) nothing, the test appears to be both reliable and valid

QuestionID: 02-4-16

Page-Reference: 32

Skill: Applied

Objective: Apply the concepts of reliability and validity to examples.

Answer: (B) validity

42. **Chen believes that red cars are more likely to be stolen than non-red cars because one week after she bought a red car, it was stolen. This is an example of which type of evidence?**

- (A) anecdotal
- (B) falsified
- (C) common-sense
- (D) authoritative

QuestionID: 02-4-41

Page-Reference: 39

Skill: Applied

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (A) anecdotal

43. **Support for a claim that is based on a story about an individual or event is called _____ evidence.**

- (A) anecdotal
- (B) narrative
- (C) objective
- (D) socially desirable

QuestionID: 02-4-42

Page-Reference: 39

Skill: Factual

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (A) anecdotal

44. **In general, which of the following is TRUE about anecdotal evidence?**

- (A) It is reliable as long as it comes from an expert.
- (B) It is an efficient method for gathering complex data.
- (C) It is the basis for most scientific conclusions.
- (D) It is poor and unreliable evidence.

QuestionID: 02-4-43

Page-Reference: 39

Skill: Conceptual

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (D) It is poor and unreliable evidence.

45. **Claims based on common sense**

- (A) are high in ecological validity.
- (B) should be considered false, unless stated by a scientist.
- (C) may be true, but require scientific evidence for support.
- (D) should be considered true, but only if the majority of the public supports the claim.

QuestionID: 02-4-45

Page-Reference: 40

Skill: Conceptual

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (C) may be true, but require scientific evidence for support.

46. Kia and her friend are discussing why so many child actors become troubled adults. Kia says, "Everyone knows that if a child is spoiled, they will not develop the coping skills needed in adulthood." From a scientific point of view, what is wrong with Kia's statement?

- (A) It is based on anecdotal evidence.
- (B) It is an appeal to authority.
- (C) It is an appeal to common sense.
- (D) Nothing; it is a well-supported conclusion.

QuestionID: 02-4-46

Page-Reference: 40

Skill: Applied

Objective: Analyze whether anecdotes, authority figures, and common sense are reliably truthful sources of information.

Answer: (B) It is an appeal to common sense.

Module 2.2 Multiple Choice Questions

1. _____ research does not attempt to explain how or why something happened, but instead it is an opportunity to present observations about the characteristics of the subject.

- (A) Descriptive
- (B) Quasi-experimental
- (C) Experimental
- (D) Correlational

QuestionID: 02-4-48

Page-Reference: 43

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) Descriptive

2. Which of the following is NOT a descriptive research method?

- (A) case study
- (B) naturalistic observation
- (C) experiment
- (D) survey

QuestionID: 02-4-49

Page-Reference: 43–46

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (C) experiment

3. A(n) _____ involves describing a single individual's behaviour in great detail, rather than testing a specific hypothesis.

- (A) case study
- (B) correlational study
- (C) experiment
- (D) naturalistic observation study

QuestionID: 02-4-50

Page-Reference: 43

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) case study

4. Which of the following statements is TRUE about naturalistic observation?

- (A) It recreates natural conditions in the laboratory as closely as possible to make an experiment more ecologically valid.
- (B) It involves observing behaviour of organisms in their natural environment.
- (C) It focuses on environmental research.
- (D) It involves observing behaviour in the lab without the use of technological instruments.

QuestionID: 02-4-53

Page-Reference: 45–46

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (B) It involves observing behaviour of organisms in their natural environment.

5. Measuring or recording behaviour in a real-world setting is known as

- (A) a case study.
- (B) a correlational study.
- (C) naturalistic observation.
- (D) a self-report.

QuestionID: 02-4-54

Page-Reference: 45–46

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (C) naturalistic observation.

6. A graph that can be used to illustrate the pattern of the relationship between scores from two variables is called a

- (A) bar graph.
- (B) line graph.
- (C) pie chart.
- (D) scatterplot.

QuestionID: 02-4-65

Page-Reference: 49

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (D) scatterplot.

7. The perception of a statistical association between two variables where none exists is known as

- (A) confirmation bias
- (B) an illusory correlation
- (C) a negative correlation
- (D) a third variable problem

QuestionID: 02-4-74

Page-Reference: 48

Skill: Conceptual

Objective: Know the key terminology related to research designs.

Answer: (B) an illusory correlation

8. When asked if there are more ice cream cones sold in November or July, Mary answers "July" immediately. Then, she is surprised to find out that there is little to no difference between the two months in terms of ice-cream-cone sales. Mary's error exemplifies

- (A) an imaginary correlation.
- (B) a negative correlation.
- (C) a positive correlation.
- (D) an illusory correlation.

QuestionID: 02-4-75

Page-Reference: 48

Skill: Applied

Objective: Know the key terminology related to research designs.

Answer: (D) an illusory correlation.

9. The _____ variable is what the experimenter manipulates (or varies).

- (A) confounding
- (B) dependent
- (C) experimental
- (D) independent

QuestionID: 02-4-83

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (D) independent

10. The variable that an experimenter measures is called the

- (A) control variable.
- (B) confounding variable.
- (C) dependent variable.
- (D) independent variable.

QuestionID: 02-4-84

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (C) dependent variable.

11. A(n) _____ variable is one that is outside of the experimenter's control.

- (A) confounding
- (B) dependent
- (C) independent
- (D) random

QuestionID: 02-4-89

Page-Reference: 49–50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) confounding

12. In an experiment, the _____ group receives no manipulation.

- (A) control
- (B) dependent
- (C) independent
- (D) experimental

QuestionID: 02-4-90

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) control

13. The group that receives the manipulation of an independent variable is called the

- (A) control group.
- (B) dependent group.
- (C) experimental group.
- (D) independent group.

QuestionID: 02-4-94

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (C) experimental group.

14. Quasi-experimental designs are similar to experimental designs, except in quasi-experimental designs

- (A) random assignment is not possible.
- (B) there is more than one independent variable.
- (C) there is more than one dependent variable.
- (D) there is no dependent variable.

QuestionID: 02-4-95

Page-Reference: 50

Skill: Factual

Objective: Know the key terminology related to research designs.

Answer: (A) random assignment is not possible.

15. If researchers wanted to study the effect of various factors on reaction time, which factor would require the researchers to use a quasi-experimental design instead of an experimental design?

- (A) alcohol
- (B) sleep deprivation
- (C) gender
- (D) caffeine

QuestionID: 02-4-96

Page-Reference: 50

Skill: Conceptual

Objective: Know the key terminology related to research designs.

Answer: (C) gender

16. Two variables are said to be correlated when scores on one variable

- (A) do not increase or decrease with the scores on the second variable.

- (B) increase or decrease with the scores on the second variable.
- (C) directly cause the scores on the second variable.
- (D) differ from the scores on the second variable.

QuestionID: 02-4-60

Page-Reference: 47

Skill: Factual

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (B) increase or decrease with the scores on the second variable.

17. "As one variable increases, the other decreases." This statement describes a _____ correlation.

- (A) positive
- (B) weak
- (C) strong
- (D) negative

QuestionID: 02-4-61

Page-Reference: 47

Skill: Factual

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (D) negative

18. As the average daily temperature in Edmonton, Alberta, *decreases* the number of persons who are observed drinking iced coffee *decreases*. This is an example of a(n) _____ correlation.

- (A) unrelated
- (B) negative
- (C) positive
- (D) strong

QuestionID: 02-4-62

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

C) positive

19. Often, the amount of time a student spends studying is _____ correlated with the student's grades.

- (A) negatively
- (B) not
- (C) positively
- (D) inversely

QuestionID: 02-4-63

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (C) positively

20. There is a negative correlation between wearing one's seat belt and the severity of injuries received during an accident. Which statement correctly illustrates this correlation?

- (A) The more often you wear your seat belt, the more serious the injury you are likely to receive in an accident.
- (B) The more you wear your seat belt, the less likely you are to suffer serious injuries in an accident.
- (C) Wearing your seatbelt prevents you from being injured in an accident.

(D) Failing to wear your seat belt increases the likelihood that you will sustain serious injuries in an accident.

QuestionID: 02-4-64

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (A) The more you wear your seat belt, the less likely you are to suffer serious injuries in an accident.

21. Dr. Schott's scatterplot reveals no real patterns or clusters. In fact, the data points appear completely random on the graph. This pattern of results is most likely from which type of correlation?

- (A) positive
- (B) zero
- (C) negative
- (D) skewed

QuestionID: 02-4-66

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (B) zero

22. Dr. Oickle is trying to determine which type of correlation is represented on her scatterplot. She notes that nearly all the data are clustered along a diagonal line running from top left to bottom-right. What would be the correct interpretation of the data?

- (A) There appears to be a positive correlation.
- (B) There appears to be no correlation.
- (C) There appears to be a negative correlation.
- (D) We need more information to draw a conclusion.

QuestionID: 02-4-67

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (C) There appears to be a negative correlation.

23. Mr. Gauthier, a sixth-grade science teacher, has tried to predict his students' end-of-the-year grades by looking at their grades from the previous year. Unfortunately, there does not seem to be any systematic relationship between these two variables. Which of the following coefficients best fits this scenario?

- (A) $+.01$
- (B) $-.92$
- (C) $-.36$
- (D) $+.89$

QuestionID: 02-4-68

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (A) $+.01$

24. Which correlation coefficient is most likely to describe the relationship between brushing one's teeth and the number of cavities one gets?

- (A) $-.62$

- (B) +.83
- (C) −.08
- (D) +.45

QuestionID: 02-4-69

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (A) −.62

25. **A correlation coefficient will always range between**

- (A) 0 and +1.
- (B) −10 and +10.
- (C) 0% and 100%.
- (D) −1.0 and +1.0.

QuestionID: 02-4-70

Page-Reference: 47

Skill: Factual

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (D) −1.0 and +1.0.

26. **Which of the following correlations represents the weakest degree of relation between two variables?**

- (A) Daily calcium intake and bone mass density = +.11
- (B) Degree of exposure to lead and IQ scores in children = −.12
- (C) Hours of exposure to media violence and aggressive behaviour = +.31
- (D) Number of cigarettes smoked per day and incidence of lung cancer = +.39

QuestionID: 02-4-71

Page-Reference: 47

Skill: Applied

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (A) Daily calcium intake and bone mass density = +.11

27. **Which of the following correlation coefficients represents the strongest degree of relation between two variables?**

- (A) +.19
- (B) −.25
- (C) +.43
- (D) −.47

QuestionID: 02-4-72

Page-Reference: 47

Skill: Conceptual

Objective: Understand what it means when variables are positively or negatively correlated.

Answer: (D) −.47

28. _____ **are the only form of research that allow one to make inferences about causation.**

- (A) Descriptive designs
- (B) Correlational designs
- (C) Experimental designs
- (D) Naturalistic observations

QuestionID: 02-4-77

Page-Reference: 49

Skill: Factual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (C) Experimental designs

29. What is the main difference between an experiment and a correlational study?

- (A) A correlational study involves the manipulation of variables, while an experiment does not.
- (B) An experiment uses random sampling, while a correlational study uses random assignment.
- (C) A correlational study looks at the relationship between independent and dependent variables, while an experiment looks at the relationship between confounding variables.
- (D) An experiment involves the manipulation of variables, while a correlational study does not.

QuestionID: 02-4-78

Page-Reference: 49

Skill: Factual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (D) An experiment involves the manipulation of variables, while a correlational study does not.

30. One key aspect of an experiment that is missing in other research designs is

- (A) the ability to test predictions.
- (B) the use of variables.
- (C) the use of operational definitions.
- (D) random assignment.

QuestionID: 02-4-79

Page-Reference: 49

Skill: Factual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (D) random assignment.

31. A research design characterized by the random assignment of participants to conditions is called a(n)

- (A) quasi-experimental design.
- (B) random sample.
- (C) experimental design.
- (D) correlational design.

QuestionID: 02-4-80

Page-Reference: 49

Skill: Conceptual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (C) experimental design.

32. Why is it important to make sure that different participant groups are roughly equivalent in terms of personal characteristics (e.g., age, gender) before any independent variable is introduced?

- (A) It is important to treat all research participants equally so that they feel that they are not being manipulated.
- (B) Research ethics forbid any experiment to take place when the participant groups are fundamentally different from each other.
- (C) It is important so that no major differences between the groups inadvertently bias the results of the experiment.
- (D) Research ethics required all participants in a sample to have the same personal characteristics.

QuestionID: 02-4-82

Page-Reference: 49-50

Skill: Conceptual

Objective: Understand how experiments help demonstrate cause-and-effect relationships.

Answer: (C) It is important so that no major differences between the groups inadvertently bias the results of the experiment.

33. When designing a study, researchers must take into account all of the following factors EXCEPT

- (A) how to best organize the stimuli to test the hypothesis.
- (B) how to analyze the data to prove the hypothesis.
- (C) how they will gather the data.
- (D) how they will analyze and interpret the results.

QuestionID: 02-4-47

Page-Reference: 42–43

Skill: Conceptual

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) how to analyze the data to prove the hypothesis.

34. Dr. Deska was interested in social hierarchies in teenagers, so he went to the local high school and observed students' interactions during break periods. Dr. Deska is using _____ to gather his data.

- (A) a case study
- (B) naturalistic observation
- (C) an experimental design
- (D) a peer review process

QuestionID: 02-4-55

Page-Reference: 45–46

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) naturalistic observation

35. A researcher is interested in determining how frequently bullying behaviour occurs in real-life settings. This researcher would best be advised to use a(n) _____ design.

- (A) case study
- (B) correlational
- (C) experimental
- (D) naturalistic observation

QuestionID: 02-4-56

Page-Reference: 45–46

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (D) naturalistic observation

36. Dr. Potter, a psychology professor, is curious about his students' attitudes toward marginalized populations. What research method is he most likely to use to gather information about this topic?

- (A) naturalistic observation
- (B) survey
- (C) experiment
- (D) correlational study

QuestionID: 02-4-58

Page-Reference: 46

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) survey

37. If you are interested in examining the relationship between a student's grade and the number of classes they missed, you would likely use a(n) _____ to study this relationship.

- (A) case study design
- (B) correlational design
- (C) experimental design
- (D) naturalistic observation design

QuestionID: 02-4-59

Page-Reference: 47

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) correlational design

38. Professor Golder is studying hyperactivity in preschool-age children. She is concerned that differences in child rearing, diet, and home environment may affect her results. To minimize these potential pre-existing variables, she should be sure to do which of the following?

- (A) Use random assignment when forming her groups.
- (B) Include more than one independent variable.
- (C) Only measure a single dependent variable.
- (D) Only select children from homes with a high socioeconomic status (SES).

QuestionID: 02-4-81

Page-Reference: 49

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (A) Use random assignment when forming her groups.

39. An administrator believes that the placement of motivational posters on the walls in classrooms of academic buildings will lead to better grades at his school. To test his theory, he randomly assigns certain classrooms within the university's Faculty of Science to have the posters while others do not. None of the remaining four faculties will have any posters placed in their classrooms. What is the independent variable in this study?

- (A) the five different faculties
- (B) the presence or absence of classroom posters
- (C) the classrooms
- (D) student grades

QuestionID: 02-4-85

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) the presence or absence of classroom posters

40. A medical doctor believes that the presence of aromatherapy candles will reduce the anxiety of first-time mothers-to-be during labour and will increase their reported satisfaction with their care at his hospital. He randomly assigns mothers to give birth in a room either with or without aromatherapy candles. What is the independent variable in this example?

- (A) anxiety levels during labour
- (B) labour duration
- (C) room environment (presence or absence of candles)
- (D) reported satisfaction with hospital care

QuestionID: 02-4-86

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (C) room environment (presence or absence of candles)

41. Professor McCormick decides to test her hypothesis that eating chocolate prior to exams increases students' test scores. She randomly assigns students to two groups at the beginning of the semester. One group receives a bar of chocolate before each test, while the other group receives another type of candy. She compares their scores at the end of the year and finds that the students who ate the chocolate scored an average of ten points higher on their exams. What is the dependent variable in this experiment?

- (A) students' test scores
- (B) chocolate bars
- (C) the students themselves
- (D) the exams themselves

QuestionID: 02-4-87

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (A) students' test scores

42. A researcher wants to see whether she can make the typical administrative assistant job more motivating at Acme, Inc. To experimentally investigate this possibility, she randomly assigns administrative assistants to one of the following conditions: (I) doing the job as it has always been done, (II) having a computer performance monitoring device installed, (III) receiving feedback about their performance on a weekly basis, or (IV) being given a say in how one's workload is structured and done. Which of the preceding conditions is an example of a control group?

- (A) being given a say in how one's workload is structured and done
- (B) doing the job as it has always been done
- (C) having a computer performance monitoring device installed
- (D) receiving feedback on a weekly basis

QuestionID: 02-4-91

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) doing the job as it has always been done

43. Ryan, a professional bass fisherman, is trying to determine which lure is most effective: the scented silicone worm he normally uses or the new minnow-style lure he bought yesterday. Based on this scenario, what would constitute the control?

- (A) the new minnow lure
- (B) the scented silicone worm
- (C) both the minnow lure and the silicone worm
- (D) there is no control in this example

QuestionID: 02-4-92

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (B) the scented silicone worm

44. Dr. Johansen randomly assigned subjects to three different groups during her last experiment. She then proceeded to give all the participants in the experiment a new study technique designed to enhance their learning for the upcoming test. What critical error did she make during her experiment?

- (A) She failed to identify the independent variable.
- (B) She failed to identify the dependent variable.
- (C) She failed to include an experimental group.
- (D) She failed to include a control group.

QuestionID: 02-4-93

Page-Reference: 50

Skill: Applied

Objective: Apply the terms and concepts of experimental methods to research examples.

Answer: (D) She failed to include a control group.

45. Why is it difficult to make generalizations based on the results of case study research?

- (A) Case studies are typically conducted over a very short period of time, making generalizations about long-term effects difficult.
- (B) Case studies are conducted in strict laboratory environments, which reduces ecological validity.
- (C) Since a case study involves only one or a few subjects, their actions may be atypical and not representative of a larger group of people or population.
- (D) The statistics involved in case study research do not allow one to draw larger conclusions about a population.

QuestionID: 02-4-52

Page-Reference: 43–45

Skill: Conceptual

Objective: Analyze the pros and cons of descriptive, correlational, and experimental research designs.

Answer: (C) Since a case study involves only one or a few subjects, their actions may be atypical and not representative of a larger group of people or population.

Module 2.3 Multiple Choice Questions

1. What is the purpose of a research ethics board?

- (A) to help protect research participants from unnecessary risk
- (B) to slow the research process by placing hurdles in the way of researchers
- (C) to help protect universities and institutions from lawsuits
- (D) to raise funds for ongoing research

Difficulty:

QuestionID: 02-4-98

Page-Reference: 54

Skill: Factual

Objective: Know the key terminology of research ethics.

Answer: (A) to help protect research participants from unnecessary risk

2. Kendra serves on a committee whose job is to review proposed psychology studies. The committee refuses to approve one study because it feels the possible benefit from the research is too little given the potential risk to the participants. Kendra's committee is most accurately called

- (A) an ethics commission.
- (B) the psychological harm board.
- (C) the academic safety advisory committee.
- (D) the research ethics board.

QuestionID: 02-4-99

Page-Reference: 54

Skill: Applied

Objective: Know the key terminology of research ethics.

Answer: (D) the research ethics board.

3. According to the textbook, which of the following is true about studies that potentially increase mortality salience in participants?

- (A) Studies that increase mortality salience increase the incidence of suicide in their participants.
- (B) Studies that increase mortality salience are considered unethical.
- (C) Stress from mortality salience is typically short term and can be considered an acceptable risk.
- (D) Studies that increase mortality salience are always acceptable.

QuestionID: 02-4-100

Page-Reference: 54

Skill: Factual

Objective: Know the key terminology of research ethics.

Answer: (C) Stress from mortality salience is typically short term and can be considered an acceptable risk.

4. What is informed consent?

- (A) Volunteers agree to participate in a study after the purpose, tasks, and risks of the study are explained to them.
- (B) Research ethics boards (REBs) must be informed about the purpose, tasks, and risks of a study before they approve it.
- (C) Researchers agree to be legally responsible for the physical and psychological safety of their participants.
- (D) Participants must be informed of the results of the study they participated in and give their consent before the research is published.

QuestionID: 02-4-101

Page-Reference: 55

Skill: Conceptual

Objective: Know the key terminology of research ethics.

Answer: (A) Volunteers agree to participate in a study after the purpose, tasks, and risks of the study are explained to them.

5. Which of these is an essential component of ethical human research?

- (A) Research participants must give informed consent.
- (B) Research participants must personally benefit from the research.
- (C) Research participants must be compensated (paid) for their participation.
- (D) By providing informed consent, participants must complete the experiment in its entirety.

QuestionID: 02-4-102

Page-Reference: 55

Skill: Conceptual

Objective: Know the key terminology of research ethics.

Answer: (A) Research participants must give informed consent.

6. Professor Wagner has just completed an experiment. He is now explaining to his subjects the purpose behind

the experiment and giving them a general description of the results. Professor Wagner is engaging in what aspect of a research study?

- (A) debriefing
- (B) informed consent
- (C) ethical review
- (D) deception

QuestionID: 02-4-104

Page-Reference: 56

Skill: Applied

Objective: Know the key terminology of research ethics.

Answer: (A) debriefing

7. In general, what should researchers do with data after the results of a study have been published?

- (A) Destroy it immediately.
- (B) Keep it forever.
- (C) Keep it secure for around 25 to 50 years.
- (D) Keep it secure for around 3 to 5 years.

QuestionID: 02-4-110

Page-Reference: 59

Skill: Factual

Objective: Understand the importance of reporting and storing data.

Answer: (D) Keep it secure for around 3 to 5 years.

8. Dr. Novella wants to know the effects of removing portions of one's hippocampi (an area of the brain) on long-term memory, in the hopes of one day finding a cure for patients with Alzheimer's disease. The subjects for his study are most likely to be

- (A) humans.
- (B) nonhuman animals.
- (C) robots.
- (D) insects.

QuestionID: 02-4-107

Page-Reference: 56–58

Skill: Applied

Objective: Understand why animals are often used in scientific research.

Answer: (B) nonhuman animals.

9. According to the textbook, which of the following is true of the use of animal research in psychology?

- (A) Animal research is important for several reasons and requires attention to many of the same ethical issues that apply to human research.
- (B) Animal research is generally regarded as cruel and unnecessary.
- (C) Animal research does not help the advancement of our understanding of human behaviour.
- (D) Animal research is useful because risk and discomfort to nonhuman subjects do not need to go through ethical review.

QuestionID: 02-4-108

Page-Reference: 56–59

Skill: Conceptual

Objective: Understand why animals are often used in scientific research.

Answer: (A) Animal research is important for several reasons and requires attention to many of the same ethical issues

that apply to human research.

10. Which of the following is an advantage of using nonhuman subjects in psychological research?

- (A) Research on nonhumans does not have to be reviewed by ethics committees.
- (B) Many lab animals have relatively short life spans, so several generations can be observed.
- (C) Researchers do not have to justify risk and discomfort with the potential scientific value of the research.
- (D) There are no advantages of animal research over human research.

QuestionID: 02-4-109

Page-Reference: 56–59

Skill: Conceptual

Objective: Understand why animals are often used in scientific research.

Answer: (B) Many lab animals have relatively short life spans, so several generations can be observed.

11. The MKUltra project is often cited as an example of

- (A) unethical research on animals.
- (B) unethical research on humans.
- (C) necessary deception in research.
- (D) the effective use of strict ethical guidelines in research.

QuestionID: 02-4-97

Page-Reference: 53

Skill: Factual

Objective: Apply the ethical principles of scientific research to examples.

Answer: (B) unethical research on humans.

12. Participants in modern psychology experiments are given the right to

- (A) select which treatment group they are in.
- (B) withdraw from a study or withhold responses to questions they feel uncomfortable answering.
- (C) review the results of the study before they are published.
- (D) write a formal response to the published paper.

QuestionID: 02-4-105

Page-Reference: 56

Skill: Factual

Objective: Apply the ethical principles of scientific research to examples.

Answer: (B) withdraw from a study or withhold responses to questions they feel uncomfortable answering.

13. Confidentiality requires researchers to do which of the following?

- (A) Provide complete anonymity when collecting data.
- (B) Erase all confidential data as soon as the results of the study are published.
- (C) Use a double-blind procedure.
- (D) Remove any specific information that can be connected with a participant when sharing data.

QuestionID: 02-4-106

Page-Reference: 56

Skill: Conceptual

Objective: Apply the ethical principles of scientific research to examples.

Answer: (D) Remove any specific information that can be connected with a participant when sharing data.

14. What effect does the planned use of deception have on the approval of a study by a Research Ethics Board (REB)?

- (A) Studies with deception can be approved, but only if the deception is necessary and the risk to participants is minimal.
- (B) The use of deception has no effect on whether the study will be approved by the REB.
- (C) Studies that involve deception go through a more rigorous approval process.
- (D) Studies with deception are considered unethical and are rarely approved.

QuestionID: 02-4-103

Page-Reference: 55–56

Skill: Factual

Objective: Analyze the role of using deception in psychological research.

Answer: (A) Studies with deception can be approved, but only if the deception is necessary and the risk to participants is minimal.

Module 2.4 Multiple Choice Questions

1. _____ are a set of techniques used to organize, summarize, and interpret data.

- (A) Central tendencies
- (B) Inferential statistics
- (C) Distributions
- (D) Descriptive statistics

QuestionID: 02-4-111

Page-Reference: 63

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (D) Descriptive statistics

2. To organize and summarize a large set of data, researchers use a set of mathematical techniques called

- (A) distribution statistics.
- (B) inferential statistics.
- (C) descriptive statistics.
- (D) variability tests.

QuestionID: 02-4-112

Page-Reference: 63

Skill: Conceptual

Objective: Know the key terminology of statistics.

Answer: (C) descriptive statistics.

3. Which of the following is the correct description of *frequency*?

- (A) the number of observations that fall within a certain category or range of scores
- (B) a measure of how spread out values are within a distribution
- (C) a measure of the central point of a distribution
- (D) the distance between the highest and lowest value in a distribution

QuestionID: 02-4-113

Page-Reference: 63

Skill: Conceptual

Objective: Know the key terminology of statistics.

Answer: (A) the number of observations that fall within a certain category or range of scores

4. The scores on most standardized tests have a _____ distribution.

- (A) normal
- (B) positively skewed
- (C) negatively skewed
- (D) bimodal

QuestionID: 02-4-115

Page-Reference: 63

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (A) normal

5. A frequency distribution with a cluster of scores on the far right and a long tail to its left is a _____ distribution.

- (A) negatively skewed
- (B) positively skewed
- (C) normal
- (D) biased

QuestionID: 02-4-117

Page-Reference: 63

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (A) negatively skewed

6. Which of the following is a measure of central tendency?

- (A) mode
- (B) variability
- (C) range
- (D) standard deviation

QuestionID: 02-4-118

Page-Reference: 63–65

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (A) mode

7. A university president asks the head of the data analytics department if more students come from cities or rural locales. What measure of central tendency is she asking about?

- (A) mean
- (B) median
- (C) mode
- (D) range

QuestionID: 02-4-119

Page-Reference: 63–64

Skill: Applied

Objective: Know the key terminology of statistics.

Answer: (C) mode

8. If all the scores in a distribution are clustered closely together, the distribution has

- (A) low variability.
- (B) high variability.

- (C) a positive skew.
- (D) a negative skew.

QuestionID: 02-4-122

Page-Reference: 65

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (A) low variability.

9. **Conceptually, the standard deviation for a distribution can be thought of as**

- (A) the centre of the distribution.
- (B) the average frequency for each category.
- (C) the average distance from the mean.
- (D) the distance between the highest and lowest values.

QuestionID: 02-4-123

Page-Reference: 65–66

Skill: Conceptual

Objective: Know the key terminology of statistics.

Answer: (C) the average distance from the mean.

10. **Standard deviation is a measure of**

- (A) central tendency.
- (B) variability.
- (C) statistical significance.
- (D) correlation.

QuestionID: 02-4-124

Page-Reference: 65–66

Skill: Factual

Objective: Know the key terminology of statistics.

Answer: (B) variability.

11. **Ada's professor tells her class that the average score on the last test was 72 points. Ada wants to know if most students actually scored near 72, or if the grades were more spread out, with many students doing much better or worse than a 72. What statistic could Ada ask her professor to calculate to help answer her question?**

- (A) standard deviation
- (B) median
- (C) mode
- (D) correlation coefficient

QuestionID: 02-4-125

Page-Reference: 65–66

Skill: Applied

Objective: Know the key terminology of statistics.

Answer: (A) standard deviation

12. **The term *statistically significant* implies that the results are**

- (A) important.
- (B) reliable.
- (C) valid.
- (D) not likely due to chance.

QuestionID: 02-4-126

Page-Reference: 68

Skill: Conceptual

Objective: Understand how and why psychologists use significance tests.

Answer: (D) not likely due to chance.

13. Researchers use _____ to determine whether the difference between groups is statistically significant.

- (A) correlation coefficients
- (B) descriptive statistics
- (C) hypothesis testing
- (D) vector analysis

QuestionID: 02-4-128

Page-Reference: 68

Skill: Conceptual

Objective: Understand how and why psychologists use significance tests.

Answer: (C) hypothesis testing

14. The _____ assumes that any differences between groups is due to chance.

- (A) null hypothesis
- (B) p -value
- (C) experimental hypothesis
- (D) central tendency

QuestionID: 02-4-129

Page-Reference: 68

Skill: Factual

Objective: Understand how and why psychologists use significance tests.

Answer: (A) null hypothesis

15. A(n) _____ represents the probability that the results from an experiment are due to chance.

- (A) hypothesis test
- (B) standard deviation
- (C) p -value
- (D) normal distribution

QuestionID: 02-4-130

Page-Reference: 68

Skill: Conceptual

Objective: Understand how and why psychologists use significance tests.

Answer: (C) p -value

16. Dr. Googoo compares the results of experimental and control groups, then calculates the p -value for his results as $p = 0.63$. What is the appropriate conclusion for him to make?

- (A) There is likely no difference between his two groups.
- (B) There is a statistically significant difference between the two groups.
- (C) Dr. Googoo can reject the null hypothesis.
- (D) The two groups are strongly correlated.

QuestionID: 02-4-131

Page-Reference: 68

Skill: Applied

Objective: Understand how and why psychologists use significance tests.

Answer: (A) There is likely no difference between his two groups.

17. What does the height of the bars on a histogram indicate?

- (A) mean
- (B) range
- (C) frequency
- (D) score or value

QuestionID: 02-4-114

Page-Reference: 63

Skill: Factual

Objective: Apply your knowledge to interpret the most frequently used types of graphs.

Answer: (C) frequency

18. A teacher is disappointed to find that most of her students' test scores are clustered together at the low end of the grading scale, with only a few students having high grades. If she were to graph the distribution, what shape would you expect it to have?

- (A) normal
- (B) positively skewed
- (C) negatively skewed
- (D) central

QuestionID: 02-4-116

Page-Reference: 63

Skill: Applied

Objective: Apply your knowledge to interpret the most frequently used types of graphs.

Answer: (B) positively skewed

19. If a set of data has a perfectly normal distribution, which measure of central tendency should be used?

- (A) mean
- (B) median
- (C) mode
- (D) It doesn't matter; they will be the same.

QuestionID: 02-4-120

Page-Reference: 63–65

Skill: Factual

Objective: Analyze the choice of central tendency statistics based on the shape of the distribution.

Answer: (D) It doesn't matter; they will be the same.

20. If a set of data has a skewed distribution, which measure of central tendency should be used?

- (A) mean
- (B) median
- (C) mode
- (D) standard deviation

QuestionID: 02-4-121

Page-Reference: 63–65

Skill: Factual

Objective: Analyze the choice of central tendency statistics based on the shape of the distribution.

Answer: (B) median