chapter 2

1. Psychologists primarily rely on _____ to reach their conclusions.

   a. overconfidence

   b. experience

   c. intuition

   d. scientific methods

2. All of the following are problems with relying on our personal experience to form conclusions about the world EXCEPT that

   a. we only experience one version of each situation.

   b. we are usually fully aware of our own biases.

   c. events we experience may have more than one explanation.

   d. we tend to be overconfident in our beliefs about the world.

3. Forming beliefs based on systematic, objective observations is the basis of which of the following?

   a. intuition

   b. statistical significance

   c. the scientific method

d. experiential judgment

4. The theory-data cycle in psychology consists of three steps: (a) collect observations, (b) develop a set of propositions about what people do and why, and (c) predict an outcome. Which of the following represents the correct order of these steps?

    a. b, c, a

    b. c, a, b

    c. a, c, b

    d. c, b, a

5. Why is replication a beneficial scientific practice?

    a. It allows researchers to isolate each potential cause of a given behavior.

    b. Studies should be reviewed by other experts before being published.

    c. It prevents intuition from influencing the results of any given study.

    d. A theory is stronger when multiple studies find similar results.

6. In psychology, a(n) _____ is a set of propositions explaining how and why people think, feel, and act in certain ways.

    a. hypothesis

    b. observation

    c. journal

    d. theory

7. In his study on self-esteem and social media, Chris believes that people with lower levels of self-esteem will post less frequently on social media. What does Chris's belief represent?

   a. theory

   b. results

   c. observation

   d. hypothesis

8. _____ are observations collected over the course of a study.

   a. Theories

   b. Results

   c. Data

   d. Hypotheses

9. Suppose researchers want to test the effectiveness of several different antidepressants. To do so, they give different groups of people different medications and ask them about their depressive symptoms throughout the study. In this scenario, the *depressive symptoms* are the _____ variable.

   a. mediating

   b. measured

   c. manipulated

   d. moderating

10. Suppose researchers want to test the effectiveness of several different antidepressants. To do so, they give different groups of people different medications and ask them about their depressive symptoms throughout the study. In this scenario, the *antidepressants* are the _____ variable.

    a. mediating

    b. measured

    c. manipulated

    d. moderating

11. Which of the following variables could (ethically and practically) both be measured and manipulated, depending on the research design?

    a. race/ethnicity

    b. gender identity

    c. intoxication level

    d. disease severity

12. By definition, _____ variables are only used in experiments.

    a. mediating

    b. moderating

    c. measured

    d. manipulated

13. _____ help researchers make abstract variables more concrete, often by turning them into numbers that can be easily measured.

a. Data analyses

b. Operational definitions

c. Research designs

d. Correlational methods

14. To study empathy, Summer may ask her participants to rate their empathic tendencies on a scale of 1–10, or she might look at patterns of activation in brain regions involved in empathy. In this example, the rating scale and patterns of brain activation are both

   a. operational definitions.

   b. independent variables.

   c. manipulated variables.

   d. observational definitions.

15. A poll that summarizes the approval rating of different politicians is one example of _____ research.

   a. descriptive

   b. observational

   c. correlational

   d. experimental

16. For results from a study sample to be generalizable to a broader population, the sample should be all of the following EXCEPT

a. randomly sampled from the broader population.

b. comprising a large portion of the broader population.

c. representative of the diversity of the broader population.

d. comprising people who all had an equal chance of being selected.

17. The people who participate in a single research study are referred to as the _____, which is drawn from a _____.
a. population of interest; sample

b. sample; population of interest

c. population; sample of interest

d. sample of interest; population

18. Monique is conducting a study on eating disorders in college-aged women and ultimately recruits 100 people to participate. In this example, what does Monique's group of "college-aged women with eating disorders" represent?
a. sample

b. population of interest

c. data

d. cohort

19. Selin is conducting a study on cognitive decline among the elderly and ultimately recruits 50 people to participate. In this example, what do Selin's 50 participants represent?

a. sample

b. population of interest

c. data

d. cohort

20. Which of the following is the best example of naturalistic observation?
    a. testing which kind of therapy works best for anxiety

    b. determining which study habits lead to the best grades

    c. asking students which professors they like the most

    d. inconspicuously monitoring people's behaviors during a party

21. What is unique about case studies?
    a. They collect information on one participant.

    b. They can determine cause and effect.

    c. They easily generalize to populations.

    d. They don't require informed consent.

22. When might observational research be preferable to collecting self-reports?
    a. when variables are not properly operationally defined

    b. when the sample is not representative of the population

c.   when researchers need to collect a lot of data very quickly

d.   when participants might not provide accurate data when asked

23.   _____ is a technique in which researchers record people's everyday behavior without interference.

a.   Exploratory analysis

b.   Observational learning

c.   People-watching

d.   Naturalistic observation

24.   Collecting and analyzing existing data from Twitter, Reddit, or other social media sites is an example of _____ research.

a.   case-based

b.   experimental

c.   descriptive

d.   observational

25.   When Lucy lost her memory following a car accident, doctors studied her intensively and authored a study in which she was the only subject. This kind of research is an example of a(n) _____ study.

a.   case

b.   correlational

c.   inferential

d. experimental

26. Jin is running a correlational study to test the relationship between conscientiousness and grade point average. What kind of data display should he use to illustrate his results?

a. scatterplot

b. bar graph

c. pie chart

d. line graph

27. A researcher hypothesizes that people who spend more time sleeping each night will perform better on cognitive tasks administered first thing in the morning. Based on the information provided, the predicted correlation between time slept and task performance is best described as

a. weak.

b. strong.

c. negative.

d. positive.

28. Researchers have found that people in higher social classes tend to be less generous. Based on the information provided, the predicted correlation between social class and generosity is best described as

a. negative.

b. positive.

c.   weak.

d.   strong.

29.   What does it mean when there is zero correlation between Variable X and Variable Y?

a.   The relationship between Variables X and Y is statistically significant.

b.   Variables X and Y are not systematically related to each other.

c.   Variable X has been determined to cause Variable Y.

d.   Variable Y has been determined to cause Variable X.

30.   In order to conclude that Variable X causes Variable Y, three criteria need to be met. Which of the following is NOT one of those criteria?

a.   Variables X and Y must be correlated with each other.

b.   Variable X must occur earlier in time than Variable Y.

c.   There are no other reasonable alternative explanations.

d.   Variable X must have caused Variable Y in a prior study.

31.   Researchers have found that ice cream sales are positively correlated with murder rates. But instead of ice cream consumption causing murder sprees or vice versa, it appears that hot weather independently leads to increases in both ice cream sales and murder rates. What is this an example of?

a.   correlational bias

b.   the third-variable problem

c. temporal precedence

d. the hindsight fallacy

32. What are covariance, temporal precedence, and an absence of alternative explanations all criteria for?

a. correlation

b. causation

c. replication

d. publication

33. Which of the following is true of strong correlations, relative to weak correlations?

a. They help researchers make more accurate predictions.

b. They indicate that a study has been effectively designed.

c. They are less likely to be statistically significant.

d. They have no apparent pattern when they are graphed.

34. All of the following are causal statements EXCEPT

a. caffeine consumption leads to hyperactivity.

b. self-esteem is related to having more effective social skills.

c. alcohol consumption reduces social inhibitions.

d. effective study habits improve exam performance.

35. A group of clinicians is interested in testing which kinds of therapies are most effective for people with social phobia. To do so, they have clients complete different forms of therapy and assess their symptoms over the course of the study. In this example, the kind of therapy is a(n) _____ variable and clients' symptoms of social phobia are a(n) _____ variable.

   a. dependent; additional dependent

   b. independent; additional independent

   c. dependent; independent

   d. independent; dependent

36. Random assignment is important for experimental designs because it allows researchers to assume that

   a. the sample is representative of the diversity of the broader population of interest.

   b. the results of the experiment will be statistically significant after being analyzed.

   c. members of the control and experimental groups are comparable to one another.

   d. the results of the experiment will be able to be replicated by future researchers.

37. In clinical studies, one group of people receives an inert version of treatment (e.g., a sugar pill) instead of actual medication. This group would be considered part of the _____ condition.

   a. independent

   b. dependent

c. experimental

d. placebo

38. What is the difference between correlational and experimental studies?

a. Correlational studies are easier to conduct than experimental studies.

b. Experimental studies are easier to conduct than correlational studies.

c. Experimental studies can establish causality, whereas correlational studies cannot.

d. Correlational studies can establish causality, whereas experimental studies cannot.

39. In assessing approval rates for politicians, public opinion pollsters often call arbitrary phone numbers that have been artificially generated, rather than specifically deciding which people should participate and then reaching out to those people. This is an example of random

a. subscription.

b. assortment.

c. assignment.

d. sampling.

40. What is a key difference between random sampling and random assignment?

a. Random assignment is only used in experimental studies.

b. Random assignment is only used in correlational studies.

c. Random sampling is only used in experimental studies.

d. Random sampling is only used in correlational studies.

41. Jack wants to conduct an experiment to test whether violent video games increase aggressive behavior. To do so, he plans to let children choose which kind of video game (violent or nonviolent) they'd like to play for an hour and then observe how aggressively they interact with other children afterward. Which change would you suggest Jack make to ensure his study can accurately support a causal claim?

a. Measure both aggressive and nonaggressive behaviors.

b. Do not let children choose the kind of video game they will play.

c. Give children self-report measures instead of observing them.

d. Study aggressive behavior in both adults and children.

42. _____ studies measure how different variables are related to one another, but they cannot identify cause and effect.

a. Case-control

b. Descriptive

c. Correlational

d. Experimental

43. _____ studies can measure many different variables, but do not test how they are related to one another.

a. Case-control

b. Descriptive

c. Correlational

d. Experimental

44. _____ studies can establish cause and effect, but often include fewer variables of interest than other kinds of studies.

a. Case-control

b. Descriptive

c. Correlational

d. Experimental

45. Researchers who conduct clinical trials to determine the effectiveness of different kinds of medications would be most likely to use which kind of research design?

a. case-control

b. descriptive

c. correlational

d. experimental

46. If researchers have effectively operationalized their variables, their study is likely to have high _____ validity.

a. internal

b. external

c. construct

d. face

47. All of the following are examples of reliability EXCEPT

   a. Two people known to have similar IQs get similar scores on a new test.

   b. One person receives similar personality ratings from different researchers.

   c. One person shows the same depressive symptoms from one day to the next.

   d. Two operational definitions are used to measure a single construct.

48. Construct validity is important to a research study because it tells you that

   a. researchers are actually measuring what they say they're measuring.

   b. the study's results can be generalized to a broader population of interest.

   c. plausible alternative explanations for the relationship have been ruled out.

   d. other measures of the same construct will correlate with the original measure.

49. The term reliability best describes the _____ of a(n) _____.

   a. consistency; measure or test

   b. accuracy; operational definition

   c. generalizability; study's results

   d. validity; study's hypothesis

50. If a study's results are effectively generalizable to a broader population, that study is likely to have high _____ validity.

   a. construct

   b. face

   c. internal

   d. external

51. External validity is important to a research study because it tells you that

   a. the study's results can be generalized to a broader population of interest.

   b. researchers are actually measuring what they say they're measuring.

   c. other measures of the same construct will correlate with the original measure.

   d. plausible alternative explanations for the relationship have been ruled out.

52. What does the acronym "WEIRD" refer to with regard to psychological research?

   a. five criteria that must be met to establish cause and effect

   b. the kinds of cultures that most researchers tend to use to test their theories

   c. studies that are unable to be replicated by other researchers

   d. experimental techniques that require additional ethical oversight

53. If a popular media outlet tells readers they should change their diets based on the results of a new study conducted on mice, they have overestimated the study's _____ validity.

   a. face

b. construct

c. external

d. internal

54. Studies with confounds are said to have poor _____ validity.

a. construct

b. face

c. internal

d. external

55. If a study's design effectively accounts for alternative explanations for the observed relationship between variables, that study is likely to have high _____ validity.

a. construct

b. face

c. internal

d. external

56. Internal validity is important to a research study because it tells you that

a. other measures of the same construct will correlate with the original measure.

b. researchers are actually measuring what they say they're measuring.

c. plausible alternative explanations for the relationship have been ruled out.

d.   the study's results can be generalized to a broader population of interest.

57.   All of the following would be a cause for a closer, more critical reading of a popular piece of science journalism EXCEPT

a.   the headline makes a causal claim when the study was experimental.

b.   the author is using a study's results to convince you to buy something.

c.   it includes a graph of the results that does not seem to support the headline.

d.   the author cites scientists' opinions without citing empirical research.

58.   All of the following are measures of central tendency EXCEPT

a.   mean.

b.   standard deviation.

c.   median.

d.   mode.

59.   To obtain participants' overall anxiety scores, Meredith averages their responses to each individual question in the survey. In this example, Meredith has obtained the _____ of her data.

a.   median

b.   mean

c.   mode

d.   standard deviation

60. Before analyzing his data on family income, Ali organizes all his data points from lowest to highest in order to identify the one that sits exactly in the middle of the distribution. In this example, Ali has obtained the _____ of his data.

a. median

b. mean

c. mode

d. standard deviation

61. Jess has administered a survey that asks participants to respond "agree" or "disagree" to each question. They are interested in determining which response appears most commonly for each question. To do so, Jess needs to obtain the _____ of their data.

a. standard deviation

b. mean

c. median

d. mode

62. Which statistic is most easily determined by simply looking at a frequency distribution?

a. mode

b. median

c. mean

d. standard deviation

63. Which of the following calculates how much a batch of scores varies around its mean?

    a. mode

    b. median

    c. range

    d. standard deviation

64. If data points in a scatterplot are tightly grouped and slope upward to the right, the correlation is likely _____ and _____.

    a. weak; negative

    b. weak; positive

    c. strong; negative

    d. strong; positive

65. If data points in a scatterplot are fairly spread out and slope downward to the right, the correlation is likely _____ and _____.

    a. strong; negative

    b. strong; positive

    c. weak; negative

    d. weak; positive

66. The sign of the correlation coefficient (r value) provides information about _____, while the magnitude provides information about _____.

    a. strength; direction

    b. direction; strength

    c. reliability; validity

    d. validity; reliability

67. Claudia finds a correlation of -0.80 between the number of cats someone owns and their level of extroversion. How can Claudia interpret her findings?

    a. People who own more cats are slightly more extroverted.

    b. People who own more cats are slightly less extroverted.

    c. People who own more cats are extremely more extroverted.

    d. People who own more cats are extremely less extroverted.

68. Which r value represents the strongest correlation between two variables?

    a. -0.14

    b. -0.92

    c. +0.78

    d. +0.53

69. What does it mean for results to be statistically significant?

    a. They are unlikely to occur by chance.

b. They have important social implications.

c. They are likely to be replicated.

d. They have high construct validity.

70. A(n) _____ summarizes the knowledge on an existing topic by pooling effect sizes from multiple studies.

a. meta-analysis

b. inferential study

c. experiment

d. descriptive study

71. Before Rose is allowed to start collecting data from human participants for her senior thesis, she needs to submit details about her research plan to the _____ for ethical approval.

a. American Psychological Association

b. journal where she plans to publish her work

c. Institutional Review Board

d. faculty member supervising her work

72. All of the following are principles that inform ethical research EXCEPT

a. autonomy.

b. beneficence.

c. justice.

d. significance.

73. To maintain the autonomy of their participants, what must researchers do?

    a. refrain from intimidating anyone into participating

    b. obtain informed consent before the study begins

    c. never deceive them about the purpose of the study

    d. debrief participants at the end of the study

74. Researchers describe children, people with developmental disabilities, and prisoners as vulnerable populations, which means

    a. relatively little research has been conducted with these groups.

    b. they will not experience many benefits from participating in research.

    c. researchers have an obligation to protect them from debriefing.

    d. they may not be able to give full and free informed consent.

75. According to the principle of _____, researchers should strive to minimize harm to participants and maximize potential benefits to society.

    a. autonomy

    b. beneficence

    c. justice

    d. significance

76. Which study is LEAST likely to gain ethical approval given its potential costs to participants and benefits to society?

    a. a study on suicide prevention that uses depressed children as participants

    b. a study that requires participants to receive painful electrical shocks to determine how their skin responds

    c. a study focused on genocide prevention that requires survivors to recall what happened to them

    d. a clinical trial for a new cancer treatment in which the placebo group receives no medication

77. Replacement, refinement, and reduction are ethical principles that guide research conducted with

    a. animals.

    b. children.

    c. the elderly.

    d. any human participants.

78. In his research, Jared is using a neural network that can simulate a chimpanzee's brain activity, rather than using actual live chimpanzees. In making this decision, which ethical principal has Jared met?

    a. refinement

    b. replacement

    c. reduction

    d. replication

79. In her research on animal learning, Marisol decides to spray dogs with water bottles as punishment instead of administering painful electric shocks. In making this decision, which ethical principle has Marisol met?

    a. refinement

    b. replacement

    c. reduction

    d. replication

80. What is the key difference (if any) between people who advocate for animal welfare vs. animal rights?

    a. There is none; they both believe that animals can be used in research if they are protected from pain.

    b. There is none; they both believe that animals shouldn't be used in research at all.

    c. Animal rights advocates believe that animals can be used in research if they are protected from pain, while animal welfare advocates believe they shouldn't be used at all.

    d. Animal welfare advocates believe that animals can be used in research if they are protected from pain, while animal rights advocates believe they shouldn't be used at all.

81. During a classroom debate, Kristina confidently argues that there is no harm in spanking one's children since her parents spanked her and she is now a conscientious, disciplined, and successful young adult. Based on what you've learned about the limits of our own intuition and experience, identify and explain at least two flaws in Kristina's argument.

82. Your friend excitedly tells you about a news story they read that suggests drinking five cups of coffee a day could add five years to your life expectancy. When you check out the story for yourself, you learn that the original researchers actually found that rats whose brains metabolize a caffeine-like compound more effectively also happen to live longer. Using (and explaining) the following terms in your response, explain why your friend should not take that report at face value: external validity, random assignment, manipulated variable, correlational study, causality.

83. As you have learned, variables can be operationalized in different ways. Provide three different ways you as a researcher might be able to operationalize popularity on a social media platform (of your choosing).

84. Sarah believes that people who watch sad advertisements for animal shelters will be more likely to donate money to those shelters. To test this prediction, she shows one group of people an advertisement with very sad music and whimpering dogs and another group an emotionally neutral advertisement. After leaving the testing room, participants are approached by a canvasser (who is secretly part of the research team) who asks them if they'd be willing to donate $1, $5, or $10 to their local animal shelter. For Sarah's study, identify the control group, dependent variable, experimental group, hypothesis, and independent variable.

85. Take a stand for or against using animals in psychological research, and in 4–6 sentences justify your position with respect to ethical principles used by psychological researchers.

Answer Key

chapter 2

1. Answer: D

2. Answer: B

3. Answer: C

4. Answer: A

5. Answer: D

6. Answer: D

7. Answer: D

8. Answer: C

9. Answer: B

10. Answer: C

11. Answer: C

12. Answer: D

13. Answer: B

14. Answer: A

15. Answer: A

16. Answer: B

17. Answer: B

18. Answer: B

19. Answer: A

20. Answer: D

21. Answer: A

22. Answer: D

23. Answer: D

24. Answer: D

25. Answer: A

26. Answer: A

27. Answer: D

28. Answer: A

29. Answer: B

30. Answer: D

31. Answer: B

32. Answer: B

33. Answer: A

34. Answer: B

35. Answer: D

36. Answer: C

37. Answer: D

38. Answer: C

39. Answer: D

40. Answer: A

41. Answer: B

42. Answer: C

43. Answer: B

44. Answer: D

45. Answer: D

46. Answer: C

47. Answer: D

48. Answer: A

49. Answer: A

50. Answer: D

51. Answer: A

52. Answer: B

53. Answer: C

54. Answer: C

55. Answer: C

56. Answer: C

57. Answer: A

58. Answer: B

59. Answer: B

60. Answer: A

61. Answer: D

62. Answer: A

63. Answer: D

64. Answer: D

65. Answer: C

66. Answer: B

67. Answer: D

68. Answer: B

69. Answer: A

70. Answer: A

71. Answer: C

72. Answer: D

73. Answer: C

74. Answer: D

75. Answer: B

76. Answer: B

77. Answer: A

78. Answer: B

79. Answer: A

80. Answer: D

81. Answer: Specific answers will differ by student, but may include (without limitation) any of the following: First, because she only experienced one version of her own life, there's no way Kristina could know how she might have fared in adulthood had her parents not spanked her as a child. Second, there may be a variety of alternative explanations for her current situation. In other words, other aspects of her upbringing may have promoted conscientiousness and discipline, and it's impossible to isolate the effects spanking had on her personally. Third, she may have unwarranted overconfidence in her beliefs because she is not taking into account the cases that don't align with her personal experience, in which children subjected to corporal punishment experience worse developmental outcomes.

82. Answer: First, this study lacks external validity since its results cannot be generalized from rats to humans, so it's inaccurate to use its findings to claim that humans might live longer if they drink a lot of coffee. Second, the original study cannot establish causality (like the headline suggests) since it is only a correlational study. In order to truly establish that caffeine consumption causes longer life expectancies, researchers would have had to randomly assign rats to two different groups, manipulate whether or not they actively received caffeine, and measure how long those two different groups lived.

83. Answer: Specific answers will differ by student, but may include (without limitation) any of the following: (1) How many friends/followers/subscribers people have on a certain platform; (2) how many times their posts have been viewed, liked, or shared by other people; (3) asking people to rate how popular/influential they believe their social media presence to be; (4) whether or not they are "verified" on a certain platform; (5) whether or not they advertise sponsored content on their profile.

84. Answer: Control group: The participants exposed to the emotionally neutral advertisement
Dependent variable: How much money they donated
Experimental group: The participants exposed to the sad advertisement
Hypothesis: People who watch sad advertisements for animal shelters will be more likely to
donate money
Independent variable: Which kind of advertisement the participants saw

85. Answer: Positions and justifications will differ by student, but will ideally include a thoughtful discussion of how they personally prioritize the costs to animals participating in research versus the benefits society may reap from that research. Students may mention the inability of animals to offer informed consent, the protections already afforded to animals participating in research, or the inability to perform certain research on human participants, among other topics. Responses should be evaluated based on the quality of their justification, rather than the actual stance (e.g., yes, no, only in certain circumstances, etc.) that students adopt.