

# Test Bank for Discovering the Scientist Within Research Methods in Psychology 1st Edition by Lewandowski

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## Discovering the Scientist Within



Research  
Methods in  
Psychology

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# Test Bank

1. Peer-review allows psychologists to be sure that the information shared in journal articles is:
  - A) unbiased and validated.
  - B) unbiased and invalidated.
  - C) bias and validated.
  - D) bias and invalidated.
  
2. Which of the following would a researcher most likely use to get peer-reviewed information on a psychological topic?
  - A) PsycARTICLES
  - B) books
  - C) news articles
  - D) websites
  
3. The process of peer review is aimed at:
  - A) making psychological findings more accessible to the general public.
  - B) only publishing studies that prove scientific facts.
  - C) minimizing bias among scientists' collective of knowledge.
  - D) acknowledging the most preeminent scientists for their lifetime of achievements to their respective fields.
  
4. An educated prediction that provides a testable explanation of a phenomenon is a(n):
  - A) theory.
  - B) hypothesis.
  - C) law.
  - D) observational definition.
  
5. A(n) \_\_\_\_\_ is a well-substantiated explanation of some aspect of the natural world confirmed through repeated observation and experimentation.
  - A) observational definition
  - B) hypothesis
  - C) conceptual definition
  - D) theory

6. Tomas recently joined a gym and has noticed that all of the men tend to wear similar workout apparel. This led him to think about why he wears certain clothes to exercise. Based on self-reflection he hypothesizes that there is an unspoken social norm that guides clothing selection for the gym. What strategy is Tomas using for developing a good hypothesis?
- A) change in directionality
  - B) the exception to the rule
  - C) introspection
  - D) a matter of degree
7. Each of the following demonstrate the Barnum effect, EXCEPT:
- A) horoscopes.
  - B) fortune cookies.
  - C) tarot cards.
  - D) the NEO (Neuroticism Extraversion Openness) Personality Inventory.
8. When researchers say a hypothesis is falsifiable they mean it:
- A) is not true.
  - B) has been proven to be true.
  - C) can be disproved.
  - D) can be proved.
9. Vladimir's advisor suggests that he reword his hypothesis so that it is more simple, straightforward, and concise. The advisor feedback is aimed at ensuring Vladimir's hypothesis is:
- A) specific.
  - B) grounded in previous research.
  - C) falsifiable.
  - D) parsimonious.
10. \_\_\_\_\_ defines how variables will be used in a study, whereas \_\_\_\_\_ defines a variable in theoretical terms.
- A) Conceptual definition; operational definition
  - B) Conceptual definition; experimental design
  - C) Operational definition; conceptual definition
  - D) Operational definition; experimental design

11. A factor that does not change and remains consistent throughout a study is called a:
- A) variable.
  - B) constant.
  - C) conceptual definition.
  - D) operational definition.
12. The dependent variable is the variable that:
- A) is measured by the experimenter.
  - B) is manipulated by the experimenter.
  - C) is the causal variable in a nonexperimental design.
  - D) is the outcome variable in a nonexperimental design.
13. In a study examining the impact of music on buying behavior, the independent variable is the type of:
- A) buying behavior.
  - B) consumer.
  - C) product being purchased.
  - D) music.
14. The \_\_\_\_\_ is the potential outcome variable in a nonexperimental design.
- A) predictor variable
  - B) criterion variable
  - C) independent variable
  - D) dependent variable
15. Jamal should use an interview if he is interested in obtaining:
- A) a cause-and-effect relationship.
  - B) verbal responses and explanations to structured questions.
  - C) written responses and ratings to many questions.
  - D) self-report assessments of psychological states.
16. A research protocol is:
- A) a detailed series of steps that lets the researcher know the order in which to administer the study.
  - B) an explanation of the purpose of the study and disclosure of any deception used.
  - C) an explanation of the risks and benefits of participating in the study.
  - D) a list of participants' identification numbers that includes group assignment and any notes regarding participants' experiences.

17. Which of the following is critical to ensuring that participants do not feel coerced into participating in a study?
- A) debriefing
  - B) research protocol
  - C) script
  - D) informed consent
18. Miguel is using his scientific knowledge to examine events in his own life. He hypothesizes that mouthwash that stings does a better job preventing cavities than mouthwash that does not sting. If he assigns 10 people to use the mouthwash that stings for 6 months and another 10 people to use the mouthwash that doesn't sting for 6 months, then he is conducting a:
- A) between-subjects study.
  - B) nonexperimental study.
  - C) within-subjects study.
  - D) longitudinal study.
19. If you assess a participant multiple times, you are conducting a:
- A) between-subjects design.
  - B) within-subjects design.
  - C) nonexperimental design.
  - D) survey.
20. Carmine is attending her first research conference and wants to present her work in a manner that will visually display her efforts for many attendees to see. She will most likely give a:
- A) paper presentation.
  - B) research talk.
  - C) poster presentation.
  - D) symposium.

## **Answer Key**

1. A
2. A
3. C
4. B
5. D
6. C
7. D
8. C
9. D
10. C
11. B
12. A
13. D
14. B
15. B
16. A
17. D
18. A
19. B
20. C

1. How do research psychologists share their findings with others in their discipline?
2. Professor McAdams is interested in examining the relationship between playing video games and aggressive behavior. Differentiate the types of results he would obtain if he used a between-subjects research design as compared with a within-subjects research design.
3. Clay believes the adage “An apple a day keeps the doctor away.” If he is going to experimentally examine this saying, how would he operationally define the independent and dependent variables?
4. A research protocol includes both an informed consent and a debriefing. Discuss how these two items are similar to as well as different from each other.
5. Kaila is interested in studying whether participation in beauty pageants is related to intelligence. How might she design a nonexperimental study to investigate this relationship?

## Answer Key

1. Researchers can share their findings in a number of ways, including at research conferences through research posters and paper presentations. A research poster is a visual research presentation. Posters summarize a study's methodology and findings in a concise manner that allows the researcher to informally discuss his/her work with others. A paper presentation is a more formal, oral presentation that takes place at a conference. Generally it includes a PowerPoint presentation and allows the researcher to speak to a group of people about the study's key features and results. Questions are often posed in a group format following the presentation. Researchers also publish their findings in peer-reviewed journals. This format presents work that has been evaluated by experts within the field and has been determined to make a valid contribution to the area of study. It is worth noting that many research reports do not make it to the peer-reviewed publication stage, as the level of rigor required of the study, data analysis, and write-up of conclusions is kept high. Although less frequent, research psychologists can also write books, contribute chapters to edited books, and communicate their findings in more mainstream vehicles, like magazines, newspapers, and websites.
2. A between-subjects research design uses a data collection method in which each participant is only assessed on the dependent variable once. In this type of study, Professor McAdams would compare the results across participants, where some individuals would be assigned to play video games (experimental condition) and others not (control condition). This study design would reveal whether playing video games leads to a difference in violent behavior between the two groups of participants. A within-subjects design is a data collection method in which each participant is assessed on the dependent variable more than once. In this type of study, Professor McAdams would assess his participants at the start of the study to get their degree of aggressive behavior. Then have all participants play video games. At the end of the study period he would assess participants again to ascertain their level of aggressive behavior. This study design would reveal whether playing video games leads to a change in the aggressive behavior demonstrated in participants, controlling for their own baseline (or starting level of) aggression.
3. An operational definition is an explanation of how each variable will be used in a study. It tells researchers explicitly how each variable is quantified and measured. In Clay's study, the independent variable is the presence or absence of the apple, and the dependent variable is physical health. One possible way to operationalize the independent variable would be to assign how many apples participants eat during each day of the research study. Those in the experimental condition will likely be assigned to eat an apple each day. Participants in the control condition will likely be assigned to eat no apples. Clay may operationalize his dependent variable by measuring the number of times a participant goes to the doctor during the study period. At the end of the study period, he could also have participants self-report on symptoms of physical illness as a measure of their health/wellbeing.
4. Informed consent is a part of the standard ethical procedure that takes place at the beginning of a research study. It is designed to inform the participant about what the study requires of them, as well as tell them about the risks and benefits of participation.

The informed consent ensures that participants are making the choice to take part in the study freely and without manipulation or coercion. The debriefing generally takes place at the end of a research study. It is designed to explain the purpose of the study and disclose any deception used by the researcher. This is also the time for participants to ask questions about the hypothesis or procedure. The informed consent and debriefing are similar in that they are required components of a study aimed at ensuring adherence to ethical guidelines and standards. The two differ in the specific purpose and timing of delivery.

5. A nonexperimental study (or correlation) examines naturally occurring relationships between variables. Kaila has many possibilities for designing a nonexperimental study. For instance, if Kaila hypothesizes an association between pageants and intelligence, she can ask two groups of women to take a standardized IQ test. One group of women would be those who have participated in beauty pageants. The other group of women would be those who have chosen (on their own) not to participate in beauty pageants. She would then compare the scores of these two groups using statistical analyses. A significant finding would suggest that these two variables are associated or connected in some way. This type of study would not be able to tell whether there is a causal relationship between the variables.

1. What do sociology, geology, and psychology have in common?
  - A) All three use the scientific method.
  - B) All three study how humans think, feel, and behave.
  - C) All three focus on unanswerable questions.
  - D) All three are based on subjective reasoning.
  
2. The scientific method relies on:
  - A) personal experience to inform theory.
  - B) making observations to answer questions.
  - C) anecdotal evidence to answer questions.
  - D) intuition as evidence.
  
3. Which of the following is NOT an example of empirical research?
  - A) examining IQ using a standardized test
  - B) measuring passionate love using a self-report measure
  - C) investigating gender differences in athleticism
  - D) assessing whether someone has behaved well enough to get into heaven
  
4. Which of the following could be examined using empirical research?
  - A) Bigfoot
  - B) the Loch Ness Monster
  - C) vampires
  - D) great white sharks
  
5. Why are most philosophical questions poorly suited for empirical investigation?
  - A) Philosophy is not an important discipline.
  - B) Most philosophical questions cannot be objectively measured.
  - C) Empirical investigations can only test unobservable behaviors.
  - D) Philosophy is inherently unscientific and thus does not necessitate investigation.
  
6. What is the best way for a researcher to empirically investigate a psychological phenomenon?
  - A) nonscientifically
  - B) using observable behaviors to make assumptions about underlying psychological states
  - C) by asking participants' friends and family for their opinions
  - D) by having participants complete self-report measures

7. Of the following, which comes first in the research process?
  - A) recruit participants
  - B) analyze data
  - C) conduct a literature review
  - D) draw conclusions
  
8. How does a researcher know if he/she has picked a good research question?
  - A) It interests him/her.
  - B) It is culturally relevant.
  - C) Others are also investigating the same phenomenon.
  - D) No one is investigating that topic.
  
9. During a meeting, your research advisor says, "Remember, you don't have to reinvent the wheel." His use of this axiom is most likely referring to the importance of \_\_\_\_\_ in developing your hypothesis.
  - A) personal experience
  - B) introspection
  - C) anecdotal evidence
  - D) the literature search
  
10. Savannah is a psychologist interested in finding empirically verified information to guide the development of her research hypothesis. Which of the following should she use?
  - A) an Internet search engine
  - B) peer-reviewed journal articles
  - C) nonfiction books
  - D) personal websites and blogs
  
11. In peer review, who evaluates a psychologist's work?
  - A) other psychologists who are experts within that area of study
  - B) medical doctors
  - C) the Internal Review Board (IRB)
  - D) the researcher's collaborators
  
12. One benefit of attending a research conference is that data presented at conferences are most likely from studies conducted in the past few:
  - A) months.
  - B) years.
  - C) decades.
  - D) centuries.

13. Which step in the research process is akin to a “fact-checker”?
- A) recruit participants
  - B) analyze data
  - C) draw conclusions
  - D) peer review
14. An example of a database where psychologists can find peer-reviewed journal articles is:
- A) Google.
  - B) Bing.
  - C) PsycINFO.
  - D) LexisNexis.
15. What is a hypothesis?
- A) an educated prediction that provides a testable explanation of a phenomenon
  - B) a statement based on repeated experimental observation that describes some aspect of the world
  - C) a well-substantiated explanation of some aspect of the natural world confirmed through repeated observation and experimentation
  - D) a manner for determining how a researcher will use variables in his/her study
16. As compared with a theory, a hypothesis is:
- A) broader and more substantiated.
  - B) narrower and less substantiated.
  - C) the same scope, but more substantiated.
  - D) narrower and more substantiated..
17. What is a scientific law?
- A) an educated prediction that provides a testable explanation of a phenomenon
  - B) a well-substantiated explanation of some aspect of the natural world confirmed through repeated observation and experimentation
  - C) a manner for determining how a researcher will use variables in his/her study
  - D) a statement based on repeated experimental observation that describes some aspect of the world

18. Psychology has \_\_\_\_\_ scientific laws and \_\_\_\_\_ scientific theories.
- A) few; few
  - B) few; many
  - C) many; few
  - D) many; many
19. What is a scientific theory?
- A) an educated prediction that provides a testable explanation of a phenomenon
  - B) a statement based on repeated experimental observation that describes some aspect of the world
  - C) a manner for determining how a researcher will use variables in his/her study
  - D) a well-substantiated explanation of some aspect of the natural world confirmed through repeated observation and experimentation
20. Theory is to law as:
- A) explain is to describe.
  - B) describe is to explain.
  - C) test is to explain.
  - D) describe is to test.
21. Each of the following is a strategy for generating a hypothesis, EXCEPT:
- A) introspection.
  - B) finding the exception to the rule.
  - C) thinking of things unilaterally.
  - D) thinking about variables in terms of amount or degrees.
22. Which approach for generating a hypothesis would ask, "What would I do?"
- A) introspection
  - B) find the exception to the rule
  - C) change the directionality
  - D) think about variables in terms of amount or degrees
23. Tovah owns a bakery and wants to make doughnuts in a new color to catch people's attention. She decides that purple is her best option, since it is her favorite color. In this example, Tovah is using which strategy to develop a hypothesis?
- A) introspection
  - B) find the exception to the rule
  - C) change the directionality
  - D) think about variables in terms of amount or degrees

24. Dasha is a developmental psychologist who is interested in investigating the relationship between parents and their children. A literature search revealed that more flexible parenting styles led to happier children. However, Dasha is curious whether children with good temperaments lead to more flexible parenting styles. In this instance, Dasha is demonstrating which strategy for generating a hypothesis?
- A) introspection
  - B) find the exception to the rule
  - C) change the directionality
  - D) think about variables in terms of amount or degrees
25. Occam's razor corresponds to which characteristic of a good hypothesis?
- A) specificity
  - B) being grounded in previous research
  - C) parsimony
  - D) falsifiability
26. \_\_\_\_\_ is the erroneous tendency for people to believe that general descriptions of their personality are highly accurate and tailored specifically for them.
- A) The Barnum effect
  - B) The Bailey effect
  - C) Parsimony
  - D) Occam's razor
27. Endorsement of horoscopes is likely the result of:
- A) Occam's razor.
  - B) the Bailey effect.
  - C) parsimony.
  - D) the Barnum effect.
28. Good hypotheses must be:
- A) general.
  - B) falsifiable.
  - C) vague.
  - D) bidirectional.

29. The text describes work by Dr. Benjamin Rush, a famous 18th century American physician, who hypothesized that bloodletting was the best treatment for those suffering from a high fever. Dr. Rush's technique, which was often more dangerous than the fever itself, demonstrates how \_\_\_\_\_ may be an issue for hypotheses that are not falsifiable.
- A) confirmation bias
  - B) the Barnum effect
  - C) Occam's razor
  - D) the better-than-average effect
30. The problem with many of Freud's postulations was that they were not:
- A) interesting.
  - B) unique.
  - C) culturally relevant.
  - D) falsifiable.
31. Sunny is interested in testing the hypothesis that accidents are a matter of repressed desires. To test this, she asks participants about recent accidents and their corresponding causes. Just as she suspected, her participants are unaware of the connection between their accidents and unconscious desires. She interprets her findings as support for her hypothesis that people are unaware that their own desires are causing their accidents. What is wrong with her research?
- A) Sunny's hypothesis cannot be disproved.
  - B) There is no criterion variable in her study.
  - C) Sunny does not adequately manipulate the independent variable.
  - D) Sunny does not use a longitudinal design.
32. Thaddeus is a graduate student in a health psychology program. He decides that for his dissertation project he is going to replicate one of his advisor's studies, but extend the original hypothesis. Instead of just investigating the role of exercise on risk for heart disease, he wants to examine how much exercise is optimally beneficial. To do so, he examines quantity and intensity of the exercise. Which of the following strategies is Thaddeus using to develop a good hypothesis?
- A) the exception to the rule
  - B) a matter of degree
  - C) introspection
  - D) change in directionality

33. How does a researcher decide which research method to use?
- A) They let the research question guide the choice of methodology and analysis.
  - B) They use whatever methodology everyone else is using.
  - C) They use the newest methodology and analysis techniques available.
  - D) They use the same methodology that they have always used, because researchers are only trained in one type of technique.
34. What is a variable?
- A) an exact listing of steps a researcher takes when collecting data
  - B) a factor that does not change and remains consistent
  - C) an element that the experimenter expects to change
  - D) an observation that has been replicated many times with the same result
35. What is a constant?
- A) an element that the experimenter expects to change
  - B) a factor that does not change and remains consistent
  - C) the exact steps a researcher takes when collecting data
  - D) an observation that has been replicated many times with the same result
36. A \_\_\_\_\_ is an element that the experimenter expects to change, vary, or that can have several different values, whereas a \_\_\_\_\_ is a factor that does not change and remains consistent.
- A) constant; script
  - B) variable; level
  - C) variable; constant
  - D) constant; variable
37. A conceptual definition is:
- A) the aspect of the experiment that is manipulated by the experimenter.
  - B) a definition of how variables will be used in the study.
  - C) the causal variable in a nonexperimental design.
  - D) defining a variable in theoretical terms, as it relates to the study.
38. What is an operational definition?
- A) the aspect of the experiment that is manipulated by the experimenter
  - B) a definition of how variables will be used in the study
  - C) the causal variable in a nonexperimental design
  - D) defining a variable in theoretical terms, as it relates to the study

39. Researchers generally decide on the conceptual definition \_\_\_\_\_ they develop an operational definition.
- A) before
  - B) after
  - C) while
  - D) with no regard for how
40. A definition of how variables will be used in the study is known as the:
- A) variable.
  - B) constant.
  - C) conceptual definition.
  - D) operational definition.
41. In an experiment designed to assess whether weight loss causes increased self-esteem, an acceptable operational definition for the dependent variable would be:
- A) how much weight in pounds participants lost.
  - B) participants' self-reported levels of esteem.
  - C) objective raters' evaluations of the participants' confidence.
  - D) objective raters' evaluations of the participants' weight loss.
42. Lucy believes that halogen light bulbs lead to better visual acuity than incandescent light bulbs. How would she operationally define the independent variable in her study?
- A) type of light bulb
  - B) self-report of visual acuity
  - C) behavioral measure of participants' visual acuity
  - D) participants' natural eyesight
43. If you want to design a study that focuses on *why* something occurs, then you will likely use a(n) \_\_\_\_\_ design.
- A) nonexperimental
  - B) experimental
  - C) correlational
  - D) longitudinal design
44. In an experiment, the researcher \_\_\_\_\_ the independent variable and \_\_\_\_\_ the dependent variable.
- A) measures; manipulates
  - B) manipulates; observes
  - C) measure; holds constant
  - D) manipulates; holds constant

45. An independent variable is a variable that:
- A) is manipulated by the experimenter.
  - B) is measured by the experimenter.
  - C) is the causal variable in a nonexperimental design.
  - D) is the outcome variable in a nonexperimental design.
46. In an experiment, the \_\_\_\_\_ variable is measured, while the \_\_\_\_\_ is manipulated.
- A) criterion; predictor
  - B) predictor; criterion
  - C) independent; dependent
  - D) dependent; independent
47. Cedric is designing an experiment to examine the effectiveness of a new hearing aid on auditory ability. He hopes to show that this newly designed model outperforms the currently available model. In his study, the dependent variable is the:
- A) type of hearing aid.
  - B) user's auditory ability.
  - C) new design.
  - D) currently available design.
48. Caroline's mother refuses to let her go out of the house with wet hair. In an effort to prove to her mother that wet hair does not cause illness she designs an experiment. Which of the following would be her dependent variable?
- A) wet hair
  - B) dry hair
  - C) physical health
  - D) the weather outside of the house
49. Ali is a graduate student who is designing a study to examine the impact of weather on mood. Which of the following would be an appropriate operational definition of her dependent variable?
- A) number of rainy days compared with number of sunny days across the study period
  - B) average daily temperature measured in Fahrenheit
  - C) participants' ratings on a self-report mood scale
  - D) a background measure of how happy participants are prior to participation

50. In an experiment examining the impact of sleep on academic performance, how might Yetta operationalize her independent variable?
- A) performance on a standardized IQ test
  - B) participants' most recent SAT scores
  - C) number of hours each participant sleeps the night before the study
  - D) the number of hours participants sleep on average
51. If Tawny is interested in describing *what* is happening between two variables, then she should use a(n):
- A) experiment.
  - B) correlational design.
  - C) independent samples t-test.
  - D) cause-and-effect relationship.
52. Independent and dependent variables are to experiment as:
- A) variable and constant are to nonexperimental design.
  - B) predictor and criterion variables are to nonexperimental design.
  - C) conceptual and operational definition are to correlational design.
  - D) informed consent and debriefing are to correlational design.
53. If Salima begins working with a colleague on a study that has neither an independent nor dependent variable, she is most likely conducting a(n):
- A) experiment.
  - B) two-group design study.
  - C) matched-pair study.
  - D) correlational study.
54. In a nonexperimental design the \_\_\_\_ is the potential causal variable, whereas the \_\_\_\_ is the outcome variable.
- A) predictor; constant
  - B) predictor; criterion
  - C) response; predictor
  - D) constant; predictor
55. \_\_\_\_ is to independent variable as \_\_\_\_ is to dependent variable.
- A) Criterion; predictor
  - B) Criterion; constant
  - C) Predictor; criterion
  - D) Predictor; constant

56. \_\_\_\_\_ design is to what, as \_\_\_\_\_ design is to why.
- A) Experimental; interview
  - B) Experimental; nonexperimental
  - C) Nonexperimental; interview
  - D) Nonexperimental; experiment
57. The \_\_\_\_\_ is the potential causal variable in a nonexperimental design.
- A) independent variable
  - B) dependent variable
  - C) predictor variable
  - D) criterion variable
58. The criterion variable is the:
- A) potential causal variable in a nonexperimental design.
  - B) outcome variable in a nonexperimental design.
  - C) variable that the experimenter manipulates.
  - D) variable that the experimenter measures.
59. Predictor variables are also known as:
- A) criterion variables.
  - B) response variables.
  - C) explanatory variables.
  - D) dependent variables.
60. Criterion variables are also known as:
- A) predictor variables.
  - B) response variables.
  - C) conceptual variables.
  - D) dependent variables.
61. Predictor is to explanatory as:
- A) criterion is to response.
  - B) criterion is to independent.
  - C) response is to independent.
  - D) dependent is to response.

62. Statistically significant results from a nonexperimental study inform the researcher that:
- A) the independent variable caused the dependent variable.
  - B) the predictor variable caused the criterion variable.
  - C) one variable caused a change in another variable.
  - D) two variables are associated in some way.
63. Operational definitions are a critical part of:
- A) experimental designs.
  - B) nonexperimental designs.
  - C) both experimental and nonexperimental designs.
  - D) neither experimental nor nonexperimental designs.
64. Each of the following is a reason why Dante may choose to use a nonexperimental research design, EXCEPT:
- A) it would be unethical to manipulate the independent variable in his study.
  - B) it is not possible to experimentally manipulate his independent variable.
  - C) Dante is unsure of the direction of causality between his variables.
  - D) to establish a cause-and-effect relationship between his variables.
65. If it is unethical to manipulate a variable, then
- A) you cannot examine it.
  - B) you cannot examine it with a nonexperimental design.
  - C) you cannot examine it with an experimental design.
  - D) you can use either a nonexperimental or experimental design, but you need IRB approval.
66. Ming wants to investigate whether there is a relationship between narcissism and bathing suit selection. She hypothesizes that people higher in narcissism are more likely to wear a two-piece as compared to a one-piece swimsuit. If she observes women on a beach and then administers a narcissism measure to each one, what type of study is she conducting?
- A) within-subjects
  - B) longitudinal
  - C) experimental
  - D) nonexperimental

67. For which of the following would a researcher use an experimental design?
- A) examining the impact of divorce on mental stability
  - B) investigating the effect of alcohol consumption of fetal development
  - C) examining the influence of birth order on confidence
  - D) assessing the effect of wall color on mood
68. When might a researcher use a survey?
- A) to establish cause and effect
  - B) when interested in verbal responses and explanations to structured questions
  - C) to acquire responses and ratings to many questions
  - D) when conducting an in-depth investigation of a single person
69. Surveys and interviews are examples of:
- A) nonexperimental designs.
  - B) between-subjects designs.
  - C) within-subjects designs.
  - D) experimental designs.
70. In a between-subjects design, researchers assess their participants how many times?
- A) zero times
  - B) once
  - C) twice
  - D) three or more
71. Nadya is trying to determine what vegetables will grow best in her garden. She decides to plant four different types of vegetables and then conduct a systematic observation to determine which ones thrive in that environment. She is using which research design to answer her question?
- A) within-subjects
  - B) between subjects
  - C) longitudinal
  - D) nonexperimental
72. A longitudinal study uses a(n) \_\_\_\_\_ design.
- A) experimental
  - B) nonexperimental
  - C) between-subjects
  - D) within-subjects

73. A between-subjects research design assesses participants \_\_\_\_\_ time(s), whereas a within-subjects research design assesses participants \_\_\_\_\_ time(s).  
A) one; zero  
B) one; multiple  
C) multiple; zero  
D) multiple; one
74. Angelique would like to conduct a longitudinal study to assess college students' emotional maturity. Which of the following should she do?  
A) assess students at the start of each of their four years at college and compare scores  
B) measure and compare the emotional maturity of siblings who are both in college  
C) complete a twin-study where she measures and compares the emotional maturity of identical and fraternal twins during their junior year of college  
D) compare the emotional maturity of college freshmen with that of college seniors
75. In an experiment there are always different levels of the:  
A) dependent variable.  
B) criterion variable.  
C) independent variable.  
D) predictor variable.
76. Between-subjects design is to within-subject design as:  
A) single is to multiple.  
B) difficult is to simple.  
C) subjective is to objective.  
D) independent is to dependent.
77. Garrick wants to understand how soldiers are affected by their time at war. To do this, he assesses military personnel as they complete boot camp and then again after they complete their first tour of duty. Garrick has chosen to use which type of research design?  
A) between-subjects  
B) nonexperimental  
C) cross-sectional  
D) longitudinal

78. \_\_\_\_\_ is a detailed series of steps that lets the researcher know the order in which to administer the study and provides a script of what the researcher should say and do.
- A) Informed consent
  - B) A researcher notes
  - C) A research protocol
  - D) Debriefing
79. When is the ethical review of a study by the IRB conducted?
- A) before data collection
  - B) after data collection
  - C) during data analysis
  - D) after data analysis
80. The ethical review is designed to ensure:
- A) costs outweigh benefits.
  - B) benefits outweigh costs.
  - C) the study contains no deception.
  - D) the study has no cost.
81. Which of the following is an ethical obligation of psychological studies?
- A) compensation
  - B) written acknowledgment in any subsequent research publications
  - C) informed consent
  - D) health benefits to study participants
82. \_\_\_\_\_ is a part of the standard ethical procedures at the beginning of a research study in which the participant learns about what the study expects of them, is told the risks and benefits of participating, and then freely makes the choice about whether to participate.
- A) Research protocol
  - B) Debriefing
  - C) Informed consent
  - D) Researcher notes
83. Debriefing is:
- A) a detailed series of steps that lets the researcher know the order in which to administer the study.
  - B) the explanation of the purpose of the study and disclosure of any deception used.
  - C) an explanation of the risks and benefits of participating in the study.
  - D) a list of participant numbers that includes group assignment and any notes regarding participants' experiences.

84. Informed consent is to debriefing as:
- A) beginning is to end.
  - B) finish is to start.
  - C) information is to action.
  - D) truth is to lie.
85. Each of the following is a part of the informed consent EXCEPT:
- A) potential risks.
  - B) anticipated benefits.
  - C) agreement to participate.
  - D) detail of all deception used in the study.
86. Which of the following is designed to ensure that participants take part in the study voluntarily?
- A) debriefing
  - B) research protocol
  - C) script
  - D) informed consent
87. The distinct pieces of information that a researcher collects from participants during a research study are called:
- A) constants.
  - B) data.
  - C) statistics.
  - D) protocols.
88. Researchers make design decisions about how to conduct a study and this in turn impact the data collected. The type of data then determines a researcher's:
- A) analytic strategy.
  - B) research protocol.
  - C) script.
  - D) informed consent.
89. Statistics are necessary because:
- A) accurately detecting patterns in data is easy.
  - B) qualitative research is not scientific.
  - C) they help scientists to overcome biases in human processing.
  - D) they enhance the likelihood of making errors.

90. To create statistics, researchers need to transform information into:
- A) numbers.
  - B) letters.
  - C) words.
  - D) scripts.
91. Statistical tests provide researchers with:
- A) universal truths.
  - B) probabilistic conclusions about the relationship between variables.
  - C) absolute certainty.
  - D) unreliable conclusions about the relationship between variables.
92. To establish probabilistic conclusions about the relationship between variables, researchers use:
- A) statistical tests.
  - B) introspection.
  - C) intuition.
  - D) educated guesses.
93. In order to have confidence in a finding, researchers look for \_\_\_\_ certainty that results are not due to random chance.
- A) 5%
  - B) 25%
  - C) 50%
  - D) 95%
94. Otto is examining whether paying for purchases in cash leads to less spending than paying for purchases with a credit card. His analyses reveal a statically significant difference between groups. In interpreting his results, he is likely to say that his study \_\_\_\_ that using cash for purchases leads to less spending.
- A) proves
  - B) disproves
  - C) suggests
  - D) challenges the claim
95. The final step in the research process is to:
- A) recruit participants.
  - B) analyze data.
  - C) communicate findings.
  - D) conduct an ethical review of the study.

96. Poster is to paper presentation as:
- A) oral is to written.
  - B) written is to visual.
  - C) verbal is to visual.
  - D) visual is to verbal.
97. Why might a researcher consider it easier to publish a book than a journal article?
- A) research articles are not peer-reviewed
  - B) books are not peer-reviewed
  - C) research articles are subjective
  - D) books are shorter
98. Where would someone look to find the most cutting-edge empirical findings?
- A) academic journal
  - B) book
  - C) research conference
  - D) infomercials
99. Movie-trailer is to the feature-length film as:
- A) conference presentation is to peer-reviewed publication.
  - B) peer-reviewed publication is to research poster.
  - C) research poster is to mainstream book.
  - D) academic book to paper presentation.
100. Which of the following is the most empirically sound?
- A) research poster
  - B) journal article
  - C) edited book
  - D) website

## **Answer Key**

1. A
2. B
3. D
4. D
5. B
6. D
7. C
8. A
9. D
10. B
11. A
12. A
13. D
14. C
15. A
16. B
17. D
18. B
19. D
20. A
21. C
22. A
23. A
24. C
25. C
26. A
27. D
28. B
29. A
30. D
31. A
32. B
33. A
34. C
35. B
36. C
37. D
38. B
39. A
40. D
41. B
42. A
43. B
44. B

- 45. A
- 46. D
- 47. B
- 48. C
- 49. C
- 50. C
- 51. B
- 52. B
- 53. D
- 54. B
- 55. C
- 56. D
- 57. C
- 58. B
- 59. C
- 60. B
- 61. A
- 62. D
- 63. C
- 64. D
- 65. C
- 66. D
- 67. D
- 68. C
- 69. A
- 70. B
- 71. B
- 72. D
- 73. B
- 74. A
- 75. C
- 76. A
- 77. D
- 78. C
- 79. A
- 80. B
- 81. C
- 82. C
- 83. B
- 84. A
- 85. D
- 86. D
- 87. B
- 88. A
- 89. C
- 90. A

- 91. B
- 92. B
- 93. D
- 94. C
- 95. C
- 96. D
- 97. B
- 98. C
- 99. A
- 100. B

Use the following to answer questions 1-4:

### Scenario I

Scenario I is based on fabricated data inspired by the following study:

Swee, G. & Schirmer, A. (2014). On the importance of being vocal: saying "ow" improves pain tolerance. *The Journal of Pain*, 16(4), 326–334.

### Vocalization and Pain Tolerance

Swee and Schirmer (2014) examined the effect of behavioral interventions on pain tolerance in adults. Participants submerged their nondominant hand in an ice bath on five different occasions. During each occasion they either said “ow,” heard a recording of them saying “ow,” heard a recording of someone else saying “ow,” pressed a button, or did nothing. The researchers hypothesized that what participants did while their hand was in the ice bath would increase how long they kept their hand in the ice bath. The results of the study showed that when participants said “ow” they were able to keep their hand in the ice bath significantly longer than during any of the other treatment conditions.

1. (Scenario I) In Scenario I pain tolerance is operationally defined as:
  - A) the participants' ability to withstand a painful stimulus.
  - B) how long the participants kept their hand in the ice bath.
  - C) when the participants said “ow.”
  - D) whether participants' behavior changed across trials.
  
2. (Scenario I) What is the independent variable in Scenario I?
  - A) intervention
  - B) pain tolerance
  - C) saying “ow”
  - D) how long a participant kept their hand in the ice bath
  
3. (Scenario I) Suppose the researchers still measured the effect of all five treatments on pain tolerance, but each participant was only measured under one treatment condition. In making this adjustment the research design would change from a \_\_\_\_\_ design to a \_\_\_\_\_ design.
  - A) between subjects; within subjects
  - B) within subjects; longitudinal
  - C) longitudinal; between subjects
  - D) within subjects; between subjects

4. (Scenario I) Which of the following is the best conclusion of this study?
- A) The results suggest that pain tolerance can be affected behaviorally, particularly by vocalizing one's discomfort.
  - B) These data prove that vocalizing one's discomfort to a painful stimulus will increase their pain tolerance.
  - C) The results of the study show that people who vocalize their discomfort have a greater tolerance for pain.
  - D) All of these conclusions are equally acceptable.

Use the following to answer questions 5-9:

### Scenario II

Scenario II is based on fabricated data inspired by the following study:

Tiggemann, M. & Zaccardo, M. (2015). "Exercise to be fit, not skinny": The effect of fitspiration imagery on women's body image. *Body Image*, 15, 61–67.

### Fitspiration and Body Image Study

Tiggemann and Zaccardo examined the effect of photographic images on a variety of psychological constructs. A total of 130 undergraduates were randomly assigned to one of two treatment conditions. In the "fitspiration" condition, participants were presented images designed to inspire fitness. These images included men and women wearing fitness clothing and participating in physical activity with fitness-inspiring captions. Participants in the control condition were presented images of exotic destinations with descriptive captions of the landscape. Following the presentation of the images all participants completed surveys to assess mood, body dissatisfaction, and self-esteem. In addition, each participant also reported how inspired they felt from each photo.

5. (Scenario II) Who was most likely involved in the peer-review process of this paper that resulted in its publication?
- A) the dean of research at the university where Tiggemann and Zaccardo work
  - B) the *Body Image* journal editorial board
  - C) an anonymous group of researchers whose expertise is similar to that of Tiggemann and Zaccardo
  - D) a group of individuals selected by Tiggemann and Zaccardo

6. (Scenario II) Suppose Tiggemann came up with the hypothesis for this study after she spent an afternoon perusing “fitness” on Pinterest and became depressed. Of the four hypothesis-generating strategies described in your text, which did she appear to use?
- A) introspection
  - B) exception to the rule
  - C) matter of degree
  - D) change the directionality
7. (Scenario II) In Scenario II, how many levels did the independent variable have?
- A) 1
  - B) 2
  - C) 3
  - D) 4
8. (Scenario II) At the end of the study, Tiggemann and Zaccardo explained to the participants that they had expected those who saw fitspiration photos to express more body dissatisfaction than those who saw photos of exotic landscapes. In research, this is referred to as:
- A) informed consent.
  - B) summarizing.
  - C) postexperimental probing.
  - D) debriefing.
9. (Scenario II) The authors of Scenario II concluded that “These results suggest that while the intent of fitness photos is to inspire, they actually produce a negative body image and promote self-hate.” What's the most likely explanation for why they didn't use the word *prove* instead of *suggest*?
- A) They recognized that their methodology was flawed, and as such could not make a statement of absolute causation.
  - B) They understand that statistical tests provide probabilistic conclusions about the relationships between our variables of interest and not absolute truths.
  - C) The design of their study is qualitative, and qualitative studies are inherently imprecise.
  - D) Not all of the participants in the fitspiration condition reported more body-dissatisfaction.

Use the following to answer questions 10-13:

### Scenario III

Scenario III is based on fabricated data inspired by the following study:

Pretz, J. E. & Kaufman, J. C. (2015). Do traditional admissions criteria reflect applicant creativity? *The Journal of Creative Behavior*, 49(2), 1–15.

### Creativity and College Admissions Study

Pretz and Kaufman examined the relationship between creativity and college admissions status in 610 undergraduate students. The volunteers' creativity was assessed using a 3three-item creative self-efficacy scale and the Kaufman Domains of Creativity Scale. Creativity was examined in relation to each student's high school rank and college standardized test scores. The results revealed a statistically significant negative relationship between creativity and college admissions status, and that very high levels of creativity were often associated with less favorable admission status. The authors conclude that some students admitted into college are very creative while others are not particularly creative, and that regardless of one's level of creativity, all college students have a level of intelligence greater than those not admitted to college.

10. (Scenario III) The type of research design in Scenario III is best described as:
  - A) experimental.
  - B) longitudinal.
  - C) nonexperimental.
  - D) within-subject.
  
11. (Scenario III) In this study, creativity is a/an:
  - A) independent variable.
  - B) dependent variable.
  - C) predictor variable.
  - D) criterion variable.

12. (Scenario III) Brad is very creative, and after reading the conclusion of the study described in Scenario III, he realizes it describes him perfectly. Coincidentally, Angie (who is not creative at all) also considers the conclusion to accurately describe her. According to your text, the fact that both Brad and Angie feel this way can be attributed to:
- A) the Barnum effect.
  - B) Occam's razor.
  - C) the butterfly effect.
  - D) social desirability.
13. Sarah is an undergraduate research assistant who was in charge of obtaining informed consent from the undergraduates who participated in this study. Sarah was involved in which step associated with hypothesis testing?
- A) identifying key variables
  - B) choosing a research design
  - C) conducting the study
  - D) communicating the findings

## **Answer Key**

1. B
2. A
3. D
4. A
5. C
6. A
7. B
8. B
9. B
10. C
11. C
12. A
13. C

1. Riya would like to empirically test whether there is a heaven. Explain why this would NOT be a good research question.
2. Explain why literature searches using general search engines like Google and Bing are poor foundations for scientific investigations.
3. Explain how a theory is different from a hypothesis.
4. List and describe two ways to generate a good research hypothesis.
5. When conducting a literature review, Carlita discovers conflicting information. How might she use this perplexing knowledge to further explore the phenomenon?
6. List and describe two characteristics of a good hypothesis.
7. Identify one time in your own life where you fell victim to the Barnum Effect.
8. Preston hypothesizes that although children are unaware of it, they secretly harbor feelings of jealousy toward their parents. He conducts a research study examining children's self-reported jealousy toward each of their parents. Just as he expected, results of the children's self-report measures reveal no explicit jealousy toward their parents. Identify what is wrong with Preston's research hypothesis and detail why it is unsuitable for empirical investigation.
9. Marcy is a developmental psychologist interested in examining whether the number of presents a child receives for his/her birthday is related to how much the child misbehaves. Her hypothesis is that a children spoiled by too many presents will be more likely to act out negatively. If she designs an experimental study, what would be her independent variable and her dependent variable?
10. Carico wants to understand whether owning a sports car leads to reckless driving. Should he use an experimental or nonexperimental research design to investigate his research question?
11. Why might a researcher choose to use a nonexperimental design?

12. Martin wants to understand how academic performance may change as a student transitions from middle school to high school. How would he investigate this using a within-subjects research design?
13. Why do psychologists deal mainly in numbers?
14. Why don't researchers say “prove” when discussing their significant results?
15. Why should individuals attend research conferences?

## Answer Key

1. Good research questions are empirical in nature. That means that they are able to be examined using direct or indirect observations or experiences. To take an empirical approach to testing a question, researchers must be able to make systematic observations that involve something that can be touched, tasted, heard, smelled, or seen. In Riya's case, it is impossible to empirically examine whether there is a heaven. Given that there is no systematic way to measure her variables, this would not be a good research question.
2. Web searches using general search engines have the potential to provide some important information for scientific investigations. However, they are often not a good place to start a literature search, because they present the researcher with a multitude of information, most of which is not scientifically validated. Further, these general searches often provide information for which it is difficult to disentangle scientific facts from personal opinions. General search engines are likely to return an unwieldy amount of information, but it will not be restricted to empirically sound research findings. Conversely, databases like PsycINFO and PsycARTICLES are specialized search engines to help target research on a particular topic. These databases provide abstracts and descriptive information to help scientists search a wide variety of scholarly publications in the behavioral and social sciences.
3. A hypothesis is an educated prediction that provides a testable explanation of a phenomenon. A scientific theory is a well-substantiated explanation of some aspect of the natural world confirmed through repeated observation and experimentation. Hypotheses that are supported by data can become theories.
4. There are many strategies for generating good hypotheses. Some include: introspection – self-observation or reflecting on one's own thoughts and experiences to generate ideas; finding the exception to the rule – crafting a hypothesis that looks at outcomes that contradict established outcomes; matter of degree – considering how the amount of a variable, either in quantity, intensity, strength, volume, number, force, persistence, or effort, can change the relationship between variables; and change the directionality – thinking about ideas from both directions such that one variable may cause the other or vice versa.
5. One method for generating a good research hypothesis is to consider matters of degree. This means that when thinking about a hypothesis it is often valuable to consider variables in terms of amounts rather than absolutes. Perhaps Carlita discovered that a variable can be beneficial, but at an extreme level it can be detrimental. This would mean that the matter of degree or amount of that variable influences its effect. Carlita can hypothesize the amount/intensity/degree at which that variable is optimally beneficial or at which it becomes detrimental. In this manner, her efforts to untangle the contradictory information would further the understanding of the variable under investigation.
6. Characteristics of a good hypothesis include: having a high correspondence with reality – a hypothesis should logically follow from previous results identified through a literature search; having parsimony – a hypothesis should be simple and direct rather than overly complex and unclear; being specific – not vague or broadly stated, but clear as to what exactly is being tested; and being falsifiable – it must be possible to show that

the hypothesis is incorrect.

7. Answers should specify that the Barnum effect is the tendency for people to believe that general descriptions of personality are highly accurate and tailored specifically for them. Students may have read and believed horoscopes or generalities associated with astrological signs. Horoscopes forecast a person's future, including information about a person's character and circumstances based upon the position of the planets and stars. Although there is no scientific evidence that horoscopes or personality descriptions based on astrological signs are true, people often accept and endorse them. The belief in horoscopes or astrological predictions demonstrates the power of the Barnum effect.
8. Preston's research question is not empirical in nature. That means that he is not able to observe the variable of interest in order to test his hypothesis. He hypothesizes an unconscious, hidden jealousy toward parents. Without children's awareness of this jealousy, it becomes very difficult to measure. Further, Preston's hypothesis does not appear to be falsifiable. If children are unaware of their jealousy, then failure of an explicit measure to document those feelings could either mean that they don't exist or that (just as he hypothesized) they exist outside of children's conscious awareness. Because his results cannot disprove his hypothesis, there is no way to verify that he is correct.
9. The independent variable (IV) is the one that is believed to influence the dependent (or outcome) variable. The IV is the one that the researcher manipulates or controls. In this experiment, the independent variable would be the number of presents a child receives for his/her birthday. In designing this study, Marcy can assign some children to receive few presents (for instance, she may operationally defined "few" as no more than two presents), whereas other children are assigned to receive many (for instance, more than 10) presents. The dependent variable is the outcome or effect variable. It is measured to determine the impact of the independent variable. In this study, Marcy's dependent variable is how much each child misbehaves. This may be assessed by asking parents to report on each child's behavior, or through observation of the children's conduct by objective raters.
10. Because Carico wants to investigate a causal relationship between variables, he needs to use an experimental design. Only when investigators manipulate the independent variable and establish experimental control can they make cause-and-effect statements about the relationship between two variables. If his hypothesis was merely that a relationship existed between the variables, he could use a nonexperimental research design. However, he has a directional (and causal) hypothesis, which necessitates an experimental design.
11. Nonexperimental designs are designs in which there is no control or manipulation of the independent variable. Rather, a researcher is examining a naturally occurring relationship. A scientist may choose to conduct a nonexperimental study for a number of reasons. For instance, if it would be impossible or unethical to manipulate the independent variable, then the researcher can only examine the phenomenon as it presents itself. Additionally, if the researcher is unsure of the direction of causation, he/she may choose to use a nonexperimental (or correlational) design.
12. A within-subjects design is a data collection method in which each participant is assessed on the dependent variable more than once. In this case, Martin is interested in understanding how students' academic performance changes from middle school to high

school. If he is using a within-subjects research design, then he should assess his participants' academic performance when they are in middle school. He should then assess the academic performance of these same students once they are in high school. By conducting a longitudinal design he is able to compare each student with himself/herself at an earlier time.

13. Researchers use statistics to examine their hypotheses, because statistics (numerical analyses) help minimize bias in interpretation. They also help to accurately detect patterns in the data. Furthermore, quantitative data can be analyzed using probability testing. This allows the scientific community to set a rigorous standard for drawing conclusions. For psychologists, the probability of a study's findings being the result of random chance is set at an upper limit of 5%. That means that by using quantitative (numerical) data and a set significance level, psychologists have at least 95% confidence that their findings represents actual effects.
14. Research findings are based on probabilistic conclusions about the relationship between variables of interest. In psychology, scientists hold findings to a 95% certainty that results are not due to random chance. Because the threshold for significance is not set at 100%, statistically significant findings do not represent absolute truths. Accordingly, psychologists use words like “suggest” or “support” rather than “prove.” Good scientists recognize the limitations in their research studies and avoid overstating the conclusions based on their results.
15. Attending a research conference is beneficial for a number of reasons. First, and foremost, research conferences provide access to cutting-edge research that has yet to be published in peer-reviewed journals. Often the publication process is extended, taking months (if not years) for data to be shared in written format. However, conferences allow a “sneak peak” at what researchers are currently working on and what they have recently found. Second, researchers can engage in discourse with like-minded colleagues to expand their thinking on a particular topic of interest and/or develop hypotheses for a research question they are currently considering. Third, conferences provide an important opportunity for psychologists to practice communication skills through poster and paper presentations.

1. Empirical research relies on:
  - A) systematic observation.
  - B) intuition.
  - C) anecdotal evidence.
  - D) introspection.
  
2. Which of the following is an example of empirical research?
  - A) determining whether Cupid causes people to fall in love
  - B) measuring how quickly the Sandman causes children to fall asleep
  - C) investigating whether the Easter Bunny is more likely to leave pink or blue eggs
  - D) assessing whether water consumption leads to clearer skin
  
3. PsycINFO is a:
  - A) website that publishes educational blogs.
  - B) pop culture website referencing psychological findings.
  - C) database housing peer-reviewed journal articles.
  - D) book of the standard criteria for the classification of mental disorders.
  
4. Articles that successfully complete the peer-review process are those that:
  - A) ask sound questions, use suitable methods, and then draw bias conclusions.
  - B) ask sound questions, use suitable methods, and then draw appropriate conclusions.
  - C) ask subjective questions, use suitable methods, and then draw bias conclusions.
  - D) ask subjective questions, use suitable methods, and then draw appropriate conclusions.
  
5. A(n) \_\_\_\_\_ is a statement based on repeated experimental observation that describes some aspect of the world.
  - A) observational definition
  - B) hypothesis
  - C) scientific law
  - D) conceptual definition
  
6. Which of the following is NOT a characteristic of a good hypothesis?
  - A) being specific
  - B) being grounded in previous research
  - C) being elaborate
  - D) being falsifiable

7. Ursula just finished a Facebook quiz that revealed which celebrity her personality most closely resembled. After taking the quiz she was impressed with how accurate and insightful her results were. Given the unscientific nature of most online quizzes, her feelings are probably the result of:
- A) the Barnum effect.
  - B) the Bailey effect.
  - C) Occam's razor.
  - D) scientific law.
8. The definition of a variable in theoretical terms as it relates to the study is the:
- A) script.
  - B) constant.
  - C) conceptual definition.
  - D) operational definition.
9. An element that the experimenter expects to change is known as a:
- A) variable.
  - B) constant.
  - C) conceptual definition.
  - D) operational definition.
10. In an experiment the researcher is examining:
- A) cause and effect.
  - B) naturally occurring relationships.
  - C) a person's thoughts and beliefs.
  - D) the predictor variable.
11. The researcher \_\_\_\_\_ the \_\_\_\_\_ variable.
- A) varies; dependent
  - B) varies; independent
  - C) holds constant; dependent
  - D) holds constant; independent

12. Bethany is a developmental psychologist who believes that eating dinner together as a family each night is related to increased academic performance in school. To assess this, she measures how often her participants have a family dinner and their overall grade at the end of the academic year. In Bethany's study, \_\_\_\_\_ is the independent variable, whereas \_\_\_\_\_ is the dependent variable.
- A) number of family dinners; academic performance
  - B) number of children in a family; academic performance
  - C) academic performance; number of family dinners
  - D) academic performance; number of children in a family
13. The predictor variable is the:
- A) variable that the experimenter manipulates.
  - B) variable that an experimenter measures.
  - C) outcome variable in a nonexperimental design.
  - D) potential causal variable in a nonexperimental design.
14. For which of the following would a researcher need to use a nonexperimental design?
- A) to measure the impact of studying on academic performance
  - B) to assess the impact of beta-carotene on eyesight
  - C) to examine the effect of Tylenol on headache duration
  - D) to study the consequences of losing a loved one
15. Between-subjects is to once as:
- A) within-subjects is to none.
  - B) within-subjects is to multiple.
  - C) longitudinal is to one.
  - D) longitudinal is to none.
16. May believes that wearing perfume makes women feel more attractive. In order to investigate this, she assigns 25 women to wear perfume and 25 women not to wear perfume. At the end of the study period, she has participants self-report their level of attractiveness. What type of study design is May using?
- A) within-subjects
  - B) between subjects
  - C) longitudinal
  - D) nonexperimental

17. Informed consent is:
- A) a detailed series of steps that lets the researcher know the order in which to administer the study.
  - B) the explanation of the purpose of the study and disclosure of any deception used.
  - C) an explanation of the risks and benefits of participating in the study.
  - D) a list of participants' identification numbers that includes group assignment and any notes regarding participants' experiences.
18. \_\_\_\_\_ is a part of the standard ethical procedures at the end of a research study that contains an explanation of the purpose of the study and disclosure of deception.
- A) The research protocol
  - B) Debriefing
  - C) Informed consent
  - D) Random assignment
19. A benefit of peer-reviewed journal articles is that they are \_\_\_\_\_, whereas a disadvantage is that they are \_\_\_\_\_.
- A) readily accessible to mainstream audiences; not empirically sound
  - B) readily accessible to mainstream audiences; empirically sound
  - C) empirically sound; readily accessible to mainstream audiences
  - D) empirically sound; not readily accessible to mainstream audiences
20. Esmerelda is trying to explain to her mother how research articles published in academic journals differ from books. Which of the following summarizes a primary difference between the two?
- A) Books are objective.
  - B) Books are peer-reviewed.
  - C) Research articles are subjective.
  - D) Research articles are peer-reviewed.

## **Answer Key**

1. A
2. D
3. C
4. B
5. C
6. C
7. A
8. C
9. A
10. A
11. B
12. A
13. D
14. D
15. B
16. B
17. C
18. B
19. D
20. D