

# Test Bank for Discovering the Scientist Within Research Methods in Psychology 2nd Edition by Lewandowski

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# Test Bank

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**Chapter 02: Multiple Choice**

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.

ANSWER: a

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.

ANSWER: b

3. Research studies such as those conducted by economists Levitt and Dubner (2005) investigated factors related to name selection for a child by their parents. All of the following were associated with the selection of a child's name EXCEPT:

- a. personal preference.
- b. parents' religious affiliation.
- c. parents' specific occupations.
- d. parents' socioeconomic status.

ANSWER: a

4. 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

ANSWER: d

5. Furman wants to conduct an empirical research study for his capstone psychology course. Which of the following would be appropriate for an empirical research study?

- a. Bigfoot
- b. the Loch Ness Monster
- c. vampires
- d. great white sharks

ANSWER: d

6. 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.

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- c. Empirical investigations can only test unobservable behaviors.
- d. Philosophy is inherently unscientific and thus does not necessitate investigation.

ANSWER: b

7. What is the best way for a researcher to empirically investigate a psychological phenomenon?
- a. by using nonsensical approaches in the study of unconscious thoughts
  - 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

ANSWER: d

8. Based on your understanding of the research process, which of the following is the initial step in the process?
- a. recruit participants
  - b. analyze data
  - c. conduct a literature review
  - d. draw conclusions

ANSWER: c

9. During a meeting, your research advisor says, "Remember, you don't have to reinvent the wheel. Someone has likely looked at this before." His statement is most likely referring to the importance of \_\_\_\_\_ in developing your hypothesis.
- a. using personal experience
  - b. using introspection
  - c. anecdotal evidence
  - d. conducting a literature search

ANSWER: d

10. Dr. Gregory is a psychologist interested in finding empirically verified information to guide the development of her research hypothesis. Which of the following should she use to ensure the reliability and validity of her sources?
- a. a general Internet search engine
  - b. peer-reviewed journal articles
  - c. nonfiction books
  - d. personal websites and blogs

ANSWER: b

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

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ANSWER: a

12. Siri has been jokingly referred to as the "fact checker" in her research group. This nickname would best apply to which step in the research process?

- a. recruitment of participants
- b. analyzation of data
- c. drawing conclusions
- d. engaging in peer review

ANSWER: d

13. An example of a database where psychologists can find peer-reviewed journal articles is:

- a. Google.
- b. Yahoo!.
- c. PsycINFO.
- d. LexisNexis.

ANSWER: c

14. Which of the following most accurately describes the term 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

ANSWER: a

15. The difference between a scientific theory and a hypothesis is that a hypothesis is:

- a. broader in scope and more substantiated.
- b. narrower in scope and less substantiated.
- c. similar in scope, but more substantiated.
- d. narrower in scope and more substantiated.

ANSWER: b

16. 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

ANSWER: d

17. Psychology has \_\_\_\_\_ scientific laws and \_\_\_\_\_ scientific theories.

- a. few; few

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- b. few; many
- c. many; few
- d. many; many

ANSWER: b

18. Which of the following most accurately describes the term "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

ANSWER: d

19. Contrary to a scientific theory, a scientific law:
- a. is not based on repeated experimental observations.
  - b. makes no assumptions regarding the cause of a behavior.
  - c. makes no attempt to identify psychological phenomenon.
  - d. is not based on the scientific method.

ANSWER: b

20. 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.

ANSWER: c

21. Kelli's best friends are in an argument and while trying to problem-solve the situation she asked herself, "What would I do?" This is an example of:
- a. utilizing introspection.
  - b. finding an exception to the rule.
  - c. changing the directionality.
  - d. thinking about variables in terms of degrees.

ANSWER: a

22. Tovah owns a small local bakery and wants to attract more attention from customers outside of town. She decides an eye-catching color for her new flavored doughnut would be a great marketing tool. Tovah engages in some "me" search and decides to create purple colored doughnuts since that is her favorite color. Tovah engaged which strategy in an effort to answer her question?
- a. utilizing introspection
  - b. finding the exception to the rule
  - c. changing the directionality

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- d. thinking about variables in terms of amount or degrees

ANSWER: a

23. Dr. 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, Dr. Dasha is also curious whether children with generally good temperaments tend to nurture more flexible parenting styles by their parents. In this instance, Dr. Dasha is demonstrating which strategy for generating a hypothesis?

- a. utilizing introspection
- b. finding the exception to the rule
- c. changing the directionality
- d. thinking about variables in terms of amount or degrees

ANSWER: c

24. 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 as a risk factor in the development of heart disease, he wants to examine how much exercise is optimally beneficial for longevity of life. To do so, he examines both the quantity and intensity of the exercise for each participant. Which of the following strategies is Thaddeus using to develop a good hypothesis?

- a. finding the exception to the rule
- b. thinking about variables in a matter of degree
- c. utilizing introspection
- d. changing the directionality

ANSWER: b

25. Occam's razor corresponds to which characteristic of a good hypothesis?

- a. specificity
- b. being grounded in previous research
- c. parsimony
- d. falsifiability

ANSWER: c

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

ANSWER: a

27. An endorsement of horoscopes is likely the result of:

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- a. Occam's razor.
- b. the Bailey effect.
- c. parsimony.
- d. the Barnum effect.

ANSWER: d

28. Good hypotheses must be:

- a. general.
- b. falsifiable.
- c. vague.
- d. bidirectional.

ANSWER: b

29. The text describes work by Dr. Benjamin Rush, a famous 18<sup>th</sup>-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

ANSWER: a

30. Rodina is interested in testing whether the occurrence of physical accidents is the result of an individual's repressed desires. Rodina asks each participant about recent physical accidents (e.g., falling, tripping, etc.) and their perceived reason for the accident. Rodina also conducts an interview with each participant about their fears and desires in life. Rodina made the claim that these participants' accidents were directly related to their unconscious desires. What is a major flaw in Rodina's study?

- a. Rodina's hypothesis cannot be confirmed or disproved.
- b. There is no identified criterion variable in her study.
- c. Rodina does not adequately manipulate the independent variable.
- d. Rodina does not use a longitudinal design.

ANSWER: a

31. The problem with many of Freud's postulations was that they were not:

- a. interesting.
- b. unique.
- c. culturally relevant.
- d. falsifiable.

ANSWER: d

32. How does a researcher decide which research method to use?

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- 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.

ANSWER: a

33. 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

ANSWER: c

34. 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

ANSWER: c

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

ANSWER: b

36. 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.

ANSWER: d

37. Which of the following most accurately describes the term "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



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ANSWER: b

38. Researchers generally decide on the conceptual definition \_\_\_\_\_ they develop an operational definition.

- a. before
- b. after
- c. while
- d. with no regard for how

ANSWER: a

39. 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.

ANSWER: d

40. In an experiment designed to assess whether weight loss results in 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.

ANSWER: b

41. Lucy believes that halogen light bulbs lead to better visual acuity compared to 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

ANSWER: a

42. 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

ANSWER: b

43. In an experiment, the researcher \_\_\_\_\_ the independent variable and \_\_\_\_\_ the dependent variable.

- a. measures; manipulates

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- b. manipulates; observes
- c. measures; holds constant
- d. manipulates; holds constant

ANSWER: b

44. An independent variable in an experimental design is a variable that:

- a. is manipulated by the experimenter.
- b. is measured by the experimenter.
- c. is the manipulated variable in a nonexperimental design.
- d. is the outcome variable in a nonexperimental design.

ANSWER: a

45. In an experiment, the \_\_\_\_\_ variable is measured, while the \_\_\_\_\_ is manipulated.

- a. criterion; predictor
- b. predictor; criterion
- c. independent; dependent
- d. dependent; independent

ANSWER: d

46. Dr. Antonie is designing an experiment to investigate the effectiveness of a new feeding utensil to help increase independence for those with Parkinson's disease. Dr. Antonie hopes to find that this new feeding utensil increases the ability for an individual with Parkinson's-related tremors to feed themselves without the help of others. In Dr. Antonie's study the dependent variable is the:

- a. participants' diagnosis.
- b. new economical design of the feeding utensil.
- c. participants' ability to independently feed themselves.
- d. currently available feeding utensil design.

ANSWER: c

47. 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, Caroline 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

ANSWER: c

48. 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

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- c. participants' ratings on a self-report mood scale
- d. a background measure of how happy participants are prior to participation

ANSWER: c

49. 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

ANSWER: c

50. 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.

ANSWER: b

51. Priya is examining what the trends are for car break-ins during different months of the year. She has accessed archival data from local law enforcement over the last three years and is making notes of how many car break-ins occurred in the city each month. Priya's research design is best described as a(n):

- a. experimental study.
- b. nonexperimental study.
- c. within-subjects design.
- d. cross-sectional study.

ANSWER: b

52. If Salima begins working with a colleague on a study that has neither an independent nor dependent variable identified, she is most likely conducting a(n):

- a. experiment.
- b. two-group design study.
- c. matched-pair study.
- d. correlational study.

ANSWER: d

53. 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

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ANSWER: b

54. Drs. Ricard and Jones utilized a correlational design to examine the relationship between weather and frequency of doctors' appointments for patients over the age of 65 years. Drs. Ricard and Jones speculate that the type of patients' specific ailments may be a potential cause for the relationship. Drs. Ricard and Jones's speculation is best described as the:

- a. explanatory variable.
- b. criterion variable.
- c. independent variable.
- d. dependent variable.

ANSWER: a

55. Dr. Kamp utilized a correlational design to examine the relationship between crime trends and outside temperature. After review of the data Dr. Kamp believes that personality traits of impulsivity and aggression are more triggered by higher outside temperatures and this may be a potential cause for increased criminal activity. The examined criminal activity trends are best identified as the:

- a. explanatory variable.
- b. criterion variable.
- c. independent variable.
- d. dependent variable.

ANSWER: b

56. The \_\_\_\_\_ is the potential causal variable in a nonexperimental design.

- a. independent variable
- b. dependent variable
- c. predictor variable
- d. criterion variable

ANSWER: c

57. 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.

ANSWER: b

58. Predictor variables are also known as:

- a. criterion variables.
- b. response variables.
- c. explanatory variables.
- d. dependent variables.

ANSWER: c

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59. Criterion variables are also known as:

- a. predictor variables.
- b. response variables.
- c. conceptual variables.
- d. dependent variables.

ANSWER: b

60. 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.

ANSWER: a

61. 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.

ANSWER: d

62. \_\_\_\_\_ are a critical part of both experimental and nonexperimental designs.

- a. Predictor variables
- b. Operational definitions
- c. Criterion variables
- d. Conceptual definitions

ANSWER: b

63. 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.

ANSWER: d

64. 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 should not and cannot examine it with an experimental design.

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- d. you can use either a nonexperimental or experimental design, but you need Institutional Review Board (IRB) approval.

ANSWER: c

65. Ming wants to investigate whether there is a relationship between level of narcissism and bathing suit selection. She hypothesizes that people higher in narcissism are more likely to wear a two-piece swimsuit 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

ANSWER: d

66. 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 on fetal development
- c. examining the influence of birth order on confidence
- d. assessing the effect of wall color on mood

ANSWER: d

67. In an experiment there are always different levels of the:

- a. dependent variable.
- b. criterion variable.
- c. independent variable.
- d. predictor variable.

ANSWER: c

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

ANSWER: c

69. Surveys and interviews are examples of:

- a. nonexperimental designs.
- b. between-subjects designs.
- c. within-subjects designs.
- d. experimental designs.

ANSWER: a

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70. In a between-subjects design, researchers assess their participants how many times?

- a. zero times
- b. once
- c. twice
- d. three or more

ANSWER: b

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 vegetable plant thrives in that environment. She is using which research design to answer her question?

- a. within-subjects
- b. between-subjects
- c. longitudinal
- d. nonexperimental

ANSWER: b

72. A longitudinal study uses a \_\_\_\_\_ design.

- a. quasi-experimental
- b. nonexperimental
- c. between-subjects
- d. within-subjects

ANSWER: d

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

ANSWER: b

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 those scores at their graduation
- 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

ANSWER: a

75. Between-subjects design is to within-subjects design as:

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- a. single is to multiple.
- b. difficult is to simple.
- c. subjective is to objective.
- d. independent is to dependent.

ANSWER: a

76. Lt. 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. Lt. Garrick has chosen to use which type of research design?

- a. between-subjects
- b. nonexperimental
- c. cross-sectional
- d. longitudinal

ANSWER: d

77. \_\_\_\_\_ is/are 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. Researcher notes
- c. A research protocol
- d. Debriefings

ANSWER: c

78. When is the ethical review of a study by a panel of experts, such as the IRB, conducted?

- a. before data collection
- b. after data collection
- c. during data analysis
- d. after data analysis

ANSWER: a

79. An ethical review of a study is designed to ensure the:

- a. costs outweigh benefits.
- b. benefits outweigh costs.
- c. study contains no deception.
- d. study has no cost.

ANSWER: b

80. Which of the following is an ethical obligation of psychological studies?

- a. compensation
- b. written acknowledgment in any subsequent research publications
- c. informed consent



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- d. health benefits to study participants

ANSWER: c

81. \_\_\_\_\_ 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. Publication
- b. Debriefing
- c. Informed consent
- d. Researcher notes

ANSWER: c

82. 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.

ANSWER: b

83. 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.

ANSWER: a

84. 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.

ANSWER: d

85. 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

ANSWER: d

86. The distinct pieces of information that a researcher collects from participants during a research study are

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called:

- a. constants.
- b. data.
- c. statistics.
- d. protocols.

ANSWER: b

87. Researchers make design decisions about how to conduct a study and this in turn impacts the data collected. The type of data then determines a researcher's:

- a. analytic strategy.
- b. research protocol.
- c. script.
- d. informed consent.

ANSWER: a

88. 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.

ANSWER: c

89. To create statistics, researchers need to transform information into:

- a. numbers.
- b. letters.
- c. words.
- d. scripts.

ANSWER: a

90. 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.

ANSWER: b

91. To establish probabilistic conclusions about the relationship between variables, researchers use:

- a. statistical tests.
- b. introspection.
- c. intuition.
- d. educated guesses.

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ANSWER: a

92. 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%

ANSWER: d

93. 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

ANSWER: c

94. 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.

ANSWER: c

95. Where would someone look to find the most cutting-edge empirical findings?

- a. academic journal
- b. book
- c. research conference
- d. infomercials

ANSWER: c

96. Alisha recently completed a study and decided to attend a conference to present a formal oral presentation explaining the key features of her study and its results. Alisha engaged in a:

- a. coffee meeting with fellow researchers.
- b. peer-reviewed manuscript submission.
- c. paper presentation.
- d. research poster presentation.

ANSWER: c

97. Liv just completed her research manuscript for her thesis. She still needs to develop and write the 150–200

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word summary of her entire manuscript. Liv needs to write the:

- a. title page.
- b. abstract.
- c. discussion.
- d. reference page.

ANSWER: b

98. 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.

ANSWER: a

99. 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

ANSWER: b

100. Which of the following is the most empirically sound?

- a. research poster
- b. journal article
- c. edited book
- d. website

ANSWER: b

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## **Chapter 02: Scenarios**

### **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. After submerging their nondominant hand in an ice bath, participants either said "ow," heard a recording of themselves 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 revealed that the group instructed to say "ow" were able to keep their hand in the ice bath significantly longer than 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.

ANSWER: b

2. (Scenario I) What is the dependent variable in Scenario I?

- a. intervention
- b. pain tolerance
- c. saying "ow"
- d. how long a participant kept their hand in the ice bath

ANSWER: d

3. (Scenario I) Suppose the researchers still measured the effect of all five treatments on pain tolerance, but each participant was measured under all of the treatment conditions. 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

ANSWER: a

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

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pain, regardless of whether they choose to vocalize their discomfort or not.

d. All of these conclusions are equally acceptable.

ANSWER: a

**Scenario II**

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

Galupo, M.P., Bauerband, L.A., Gonzalez, K.A., Hagen, D.B., Hether, S.D. & Krum, T.E. (2014). Transgender friendship experiences: Benefits and barriers of friendships across gender identity and sexual orientation. *Feminism and Psychology*, 24, 193–215.

The purpose of this study was to examine the attitudes and experiences transgender people have with friendships between other transgender and minority gender (LGB+) people, as well as cisgender people. An online survey asking respondents to report "benefits" and "barriers" to having friends who identify as transgender, LGB+, cisgender, and heterosexual was distributed nationwide via social networks and transgender listservs. A total of 536 transgender adults completed the survey. The responses were coded to enable the researcher to perform a content analysis. The analysis revealed that the benefits and barriers transgender people experience in friendships with other transgender and LGB+ individuals are different from the ones they experience in friendships with cisgender and heterosexual individuals. For example, respondents reported that while cisgender and heterosexual friends made them feel more normal, they also were also difficult to talk with when it came to topics related to sexuality or gender identity. Additionally, although respondents reported feeling more comfortable being themselves in their friendships with other transgender and LGB+ people, they also felt that the topic of LGBT+ often dominated the conversation. The results of this study suggest that the friendships transgender people form have unique barriers and benefits depending upon whether the friend is also transgender or LGB+, or cisgender or heterosexual.

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 Galupo et al. work
- b. the *Gender Issues* journal editorial board
- c. an anonymous group of researchers whose expertise is similar to that of Galupo et al.
- d. a group of individuals selected by Galupo et al.

ANSWER: c

6. (Scenario II) Suppose that a research paper claimed the friendships transgender people have with other transgender people are generally always beneficial, whereas the friendships they have with cisgender people are generally always detrimental. Galupo et al. (2014) read this paper and thought "Is it really always this way?" and then decided to conduct their study described in Scenario II. Of the four hypothesis-generating strategies described in your text, which did they appear to use?

- a. introspection
- b. exception to the rule
- c. matter of degree
- d. change the directionality

ANSWER: b

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7. (Scenario II) What is the research design used in Scenario II?

- a. experimental
- b. nonexperimental
- c. quasi-experimental
- d. longitudinal

ANSWER: b

8. (Scenario II) After the participants had responded to all of the survey questions, a text box appeared. It thanked the participants for their time and explained that the researchers hypothesized that the benefits and barriers they expressed would be different for the relationships they had with other transgender and LGB+ people compared to cisgender or heterosexual people. In research, this is referred to as:

- a. informed consent.
- b. summarizing.
- c. postexperimental probing.
- d. debriefing.

ANSWER: d

9. (Scenario II) The conclusion in Scenario II reads "The results of this study suggest that the friendships transgender people form have unique barriers and benefits depending upon whether the friend is also transgender or LGB+, or cisgender or heterosexual." What is the most likely explanation for why the word *suggest* is used instead of *prove*?

- a. They recognized that their methodology was flawed, and as such could not make a statement of absolute causation.
- b. Because researchers base their conclusions based on probability and avoid discussing findings in absolutes.
- c. The design of their study is qualitative, and qualitative studies are inherently imprecise.
- d. Not all of the respondents reported having friendships with cisgender or heterosexual people.

ANSWER: b

## **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 three-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, such that the more creative students were, the less likely they

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were to be admitted into college. The authors conclude that some students admitted into college are still very 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) 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.

ANSWER: a

11. (Scenario III) The type of research design in Scenario III is best described as:

- a. experimental.
- b. longitudinal.
- c. nonexperimental.
- d. within-subject.

ANSWER: c

12. (Scenario III) In this study, creativity is a/an:

- a. independent variable.
- b. dependent variable.
- c. predictor variable.
- d. criterion variable.

ANSWER: c

13. (Scenario III) 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: c



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## **Chapter 02: Essay**

1. Deepak desires to empirically test the physical existence of heaven. Explain why Deepak's research question is not appropriate for empirical research.

**ANSWER:** Appropriate and falsifiable 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 Deepak's case, it is impossible to empirically examine whether there is a heaven. Given that there is no systematic way to measure his variables, this would not be a good research question.

2. Ariele developed a research hypothesis focused on the concept of unconscious resentment among siblings. Ariele conducts a research study examining children's self-reported unconscious resentment toward their sibling(s). The results of the study find that children report minimal resentment toward their sibling(s). Identify what is potentially problematic with Ariele's research hypothesis and demonstrate your understanding of empirical investigation by discussing the influence of these potential problems.

**ANSWER:** Ariele's research question is not empirical in nature. That means that she is not able to physically observe the variable of interest in order to test her hypothesis. She hypothesizes an unconscious, hidden resentment among siblings. Without children's awareness of this resentment, it becomes very difficult to measure. Further, Ariele's hypothesis does not appear to be falsifiable. That is, if children are unaware of their resentment, then failure of an explicit measure to document those feelings could either mean that they don't exist or that (just as she hypothesized) they exist outside of children's conscious awareness. Because her results cannot disprove her hypothesis, there is no way to verify that she is correct.

3. Explain why literature searches using general search engines like Google and Yahoo! are poor foundations for scientific investigations.

**ANSWER:** 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 or peer-reviewed. 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.

4. When conducting a literature review on the impact of adoption on the existing family dynamic, Felicity discovers conflicting and confusing information. How might Felicity problem-solve this dilemma as she continues to further explore her research question?

**ANSWER:** Development of a sound research hypothesis is important as it helps to narrow the search for related information. Felicity's original research question may have too many variables to consider in a single hypothesis or she may need to reframe keyword searches for her literature review to better apply to her question. Felicity may need to be more specific in her literature searches but maintain awareness of potential confirmation bias. Felicity will need to determine which retrieved information is peer-reviewed and is appropriate for the research question she is trying to answer. Contradictory information is okay under the circumstances, but it is also important to maintain an

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understanding of the variable under investigation.

5. Examine and discuss the differences between a theory and a hypothesis.

**ANSWER:** 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.

6. List and describe two ways to generate a good research hypothesis.

**ANSWER:** 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.

7. List and describe two characteristics of a good hypothesis.

**ANSWER:** 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.

8. Demonstrate your understanding of the Barnum effect by identifying and discussing an applicable personal example.

**ANSWER:** 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.

9. Jordyn wants to understand whether owning a sports car increases one's risk for reckless driving. Should he use an experimental or nonexperimental research design to investigate his research question and why?

**ANSWER:** Because Jordyn 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.

10. 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. Marcy's hypothesis is that children spoiled by too many birthday presents will be more likely to frequently act out negatively throughout the year.

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If she designs an experimental study, what would be her independent variable and her dependent variable?

**ANSWER:** 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 fewer presents (i.e., no more than two presents); whereas, other children are assigned to receive many (i.e., 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 the frequency of each child's misbehavior. 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.

11. 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 for this particular research question?

**ANSWER:** 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.

12. Why might a researcher choose to use a nonexperimental design?

**ANSWER:** 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.

13. Kaila is interested in studying whether participation in adult beauty pageants is related to an individual's level of intelligence. How might Kaila design a nonexperimental study to investigate this relationship?

**ANSWER:** 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 participation in adult beauty pageants and an individual's level of intelligence, she can ask two groups of adult women to take a standardized IQ test. One group of women would be those who have previously 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.

14. 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?

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**ANSWER:** 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 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 enter high school. By conducting a longitudinal design, in which he follows the same participant sample for a predetermined period of time, he is able to compare each student with himself/herself at an earlier data collection time.

15. Professor McAdams is interested in examining the relationship between playing video games and engagement in aggressive behavior. Compare and contrast the differences in Professor McAdams's findings if she were to use a between-subjects research design instead of a within-subjects research design.

**ANSWER:** 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 her 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 she 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.

16. A research protocol includes both an informed consent and a debriefing. Discuss both the similarities and the differences between each of these aspects of a research protocol.

**ANSWER:** 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.

17. Why do psychologists emphasize the use of numerical or quantitative data?

**ANSWER:** 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.

18. Why do researchers not use the term "prove" when discussing their significant results?

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**ANSWER:** 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.

19. Why should individuals attend research conferences?

**ANSWER:** 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. 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.

20. How do research psychologists share their findings with others in their discipline?

**ANSWER:** 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.