

# Chapter 2 How Psychologists Do Research

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[NOTE: **Correct answer** and **item analysis** are located ABOVE question.]

## Descriptive Studies: Establishing the Facts

Answer d % correct 92 a= 4 b= 1 c= 3 d= 92  $r = .21$

1. Political polls taken before major elections are examples of \_\_\_\_\_ research.
- a. correlational
  - b. experimental
  - c. case study
  - d. survey

Answer a % correct 97 a= 97 b= 2 c= 1 d= 1  $r = .20$

2. Observing behavior as it happens in real-life natural settings without imposing laboratory controls is known as the \_\_\_\_\_.
- a. naturalistic observation method
  - b. experimental method
  - c. correlational method
  - d. psychometric approach

Answer a % correct 100 a= 100 b= 0 c= 0 d= 0  $r = .0$

3. Observing behavior as it happens in real-life natural settings without imposing laboratory controls is known as the \_\_\_\_\_.
- a. naturalistic observation method
  - b. experimental method
  - c. correlational method
  - d. psychometric approach

Answer c % correct 83 a= 5 b= 9 c= 83 d= 2  $r = .18$

4. A detailed, well-researched biography of a famous historical person is technically an example of the \_\_\_\_\_ method of research.
- a. psychometric
  - b. naturalistic observation
  - c. case study
  - d. correlational

Answer c % correct 99 a= 1 b= 0 c= 99 d= 0  $r = .0$

5. When you watch dogs play in the park or watch how your professors conduct their classes, you are engaging in a form of \_\_\_\_\_.

- a. case study research
- b. survey research
- c. naturalistic observation
- d. psychometric study

Answer c % correct 83 a= 4 b= 13 c= 83 d= 0  $r = .20$

6. Research in which a carefully selected group of people is asked a set of predetermined questions in interviews or through questionnaires is known as \_\_\_\_\_.

- a. correlational research
- b. case study research
- c. survey research
- d. experimental research

Answer c % correct 95 a= 3 b= 1 c= 95 d= 2  $r = .20$

7. A research method in which the real-life behavior of a pre-selected person or a group is studied at an in-depth level for some time through the use of observation, interviews, and writings (such as letters) is the \_\_\_\_\_ method of research.

- a. survey
- b. psychometric
- c. case study
- d. naturalistic observation

Answer b % correct 80 a= 2 b= 80 c= 10 d= 8  $r = .24$

8. A weakness of \_\_\_\_\_ is that subjects participating in the research often report, consciously and unconsciously, inaccurate information.

- a. naturalistic observation
- b. surveys
- c. field experiments
- d. laboratory experiments

Answer b % correct 98 a= 1 b= 98 c= 1 d= 1  $r = .24$

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

- a. field experiment
- b. survey
- c. naturalistic observation
- d. laboratory experiment

Answer b % correct 97 a= 3 b= 97 c= 0 d= 0  $r = .23$

10. Naturalistic observation is \_\_\_\_\_.

- a. re-creating natural conditions in the laboratory as closely as possible to make an experiment more valid
- b. studying behavior in its natural context
- c. basically the same process as objective introspection
- d. observing behavior in the lab without taking formal notes or using technological equipment to measure the experiment findings

Answer b % correct 97 a= 2 b= 97 c= 1 d= 0  $r = .27$

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

- a. field experiment
- b. survey
- c. naturalistic observation
- d. laboratory experiment

Answer d % correct 95 a= 1 b= 1 c= 2 d= 95  $r = .23$

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

- a. survey research
- b. applied research
- c. laboratory research
- d. naturalistic observation

Answer b % correct 97 a= 1 b= 97 c= 1 d= 0  $r = .26$

13. As part of an assignment, Ricks' class was asked to complete an anonymous questionnaire on female sexual harassment. Which research method was Bill's professor using?

- a. field experiment
- b. survey
- c. naturalistic observation
- d. laboratory experiment

Answer d % correct 94 a= 1 b= 2 c= 3 d= 94  $r = .25$

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

- a. survey research.
- b. applied research.
- c. laboratory research.
- d. naturalistic observation.

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## Correlational Studies: Looking for Relationships

Answer a    % correct 97    a= 97 b=0 c= 1 d= 2     $r = .09$

15. The degree of relationship between two or more variables is \_\_\_\_\_.

- a. correlation
- b. validity
- c. reliability
- d. a hypothesis

Answer a    % correct 96    a= 96 b= 1 c= 2 d= 1     $r = .29$

16. The degree of relationship between two or more variables is:

- a. correlation.
- b. validity.
- c. reliability.
- d. a hypothesis.

Answer c    % correct 88    a= 3 b= 4 c= 88 d= 4     $r = .41$

17. Anything that follows a response, making that response more likely to recur, is

- a. an antecedent
- b. an enhancement
- c. reinforcement
- d. consequence

Answer c    % correct 62    a= 18 b= 9 c= 62 d= 11     $r = .40$

18. Positive correlation shows:

- a. the extent to which two independent variables change together.
- b. that as one independent variable increases, another decreases.
- c. that as one variable changes, another changes in the same direction.
- d. that as one variable changes, another changes in the opposite direction.

Answer b    % correct 37    a= 22 b= 37 c= 10 d= 31     $r = .31$

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

- a. case study
- b. correlation
- c. experiment
- d. survey

Answer c    % correct 56    a= 2 b= 26 c= 56 d= 17     $r = .25$

20. A correlation of .00 means:

- a. you made a mistake in calculation.
- b. you did not find out anything about the relationship between the two variables.
- c. the two variables are unrelated.
- d. everyone who scored low on one variable scored high on the other variable, and vice versa.

Answer b    % correct 85    a= 11 b= 85 c= 4 d= 1     $r = .44$

21. The greatest disadvantage of correlation is:

- a. it has a limited range of values, being only -1 to +1.
- b. it does not enable cause-and-effect conclusions.
- c. its value can be negative.
- d. its value can be zero.

Answer b    % correct 87    a= 9 b= 87 c= 4 d= 0     $r = .35$

22. A correlation tells us:

- a. whether a cause-effect relationship exists.
- b. whether two variables are related
- c. whether or not a test is efficient.
- d. if people are responding to demand characteristics.

Answer d    % correct 73    a= 11 b= 14 c= 2 d= 73     $r = .42$

23. A psychologist uses the correlational method to \_\_\_\_\_.

- a. explain the effects of one variable on another
- b. compare two groups of subjects
- c. determine what causes a variable to change
- d. identify relationships between variables

Answer a    % correct 31    a= 31 b= 9 c= 16 d= 43     $r = .22$

24. The survey method of research is \_\_\_\_\_ in nature.

- a. correlational
- b. experimental
- c. field experimental
- d. both correlational and field experimental group

Answer d    % correct 92    a= 1 b= 3 c= 4 d= 92     $r = .31$

25. As children grow older, their discretionary income usually increases. The best conclusion to draw about the variables age and income are that they are:

- a. causally related
- b. uncorrelated
- c. negatively correlated
- d. positively correlated

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## Experiments: Hunting for Causes

Answer c    % correct 79    a= 3 b= 3 c= 79 d= 16     $r = .30$

26. A large group of people whom you want to know about is called a \_\_\_\_\_.

- a. control group
- b. treatment group
- c. population
- d. sample

Answer c    % correct 76    a= 18 b= 1 c= 76 d= 5     $r = .30$

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

- a. amount of anxiety
- b. age of the person
- c. person's performance
- d. cause of the anxiety

Answer a    % correct 95    a= 95 b= 2 c= 3 d= 1     $r = .25$

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

- a. experimenter bias
- b. sample bias
- c. control bias
- d. treatment bias

Answer d    % correct 86    a= 6 b= 3 c= 5 d= 86     $r = .36$

29. Psychologists use research techniques based on \_\_\_\_\_.

- a. inductive reasoning
- b. objective introspection
- c. deductive reasoning
- d. the scientific method

Answer a    % correct 78    a= 78 b= 8 c= 9 d= 4     $r = .47$

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

- a. dependent variable
- b. control variable
- c. independent variable
- d. hypothetical variable

Answer a % correct 81 a= 81 b= 8 c= 7 d= 4  $r = .46$

31. A psychologist, studying pilot trainees, picks a select group of trainees who is hopefully representative of all other trainees. The group of trainees being studied by this psychologist is collectively known to researchers as a \_\_\_\_\_.

- a. sample
- b. population
- c. target group
- d. control group

Answer b % correct 97 a= 1 b= 97 c= 1 d= 1  $r = .29$

32. Expectations by the experimenter that might influence the results of an experiment or their interpretation are called \_\_\_\_\_.

- a. experimental blinds
- b. experimenter bias
- c. sample bias
- d. treatment bias

Answer b % correct 77 a= 2 b= 77 c= 9 d= 12  $r = .34$

33. In a controlled experiment, the group subjected to a change in the independent variable is called the \_\_\_\_\_ group.

- a. independent
- b. experimental
- c. dependent
- d. control

Answer d % correct 89 a= 1 b= 9 c= 1 d= 89  $r = .28$

34. A subset of cases selected from a larger population is a \_\_\_\_\_.

- a. control group
- b. target group
- c. treatment group
- d. sample

Answer b % correct 45 a= 15 b= 45 c= 14 d= 26  $r = .52$

35. If explanation of the causes of thoughts, feelings, and behavior is a psychologist's goal, then the \_\_\_\_\_ method of research should be used.

- a. correlational
- b. experimental
- c. survey
- d. naturalistic observation

Answer d % correct 90 a= 3 b= 4 c= 4 d= 90  $r = .42$

36. In a controlled experiment, the group not subjected to a change in the independent variable, and used for comparison with the group receiving the experimental change, is the \_\_\_\_\_ group.

- a. independent
- b. experimental
- c. dependent
- d. control

Answer c % correct 80 a= 14 b= 5 c= 80 d= 1  $r = .45$

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

- a. dependent variable.
- b. experimental variable.
- c. independent variable.
- d. placebo.

Answer b % correct 44 a= 47 b= 44 c= 1 d= 8  $r = .31$

38. A group of students was asked to write an essay in support of the legalization of marijuana. They were paid \$.50. Another group of students received \$2.00 for the same task. It was subsequently found that those students who received only \$.50 developed a more positive attitude towards the legalization of marijuana.

The experiment in this study was using (the)

- a. correlational method
- b. experimental method
- c. naturalistic observation
- d. survey research

Answer c % correct 85 a= 13 b= 1 c= 85 d= 2  $r = .36$

39. A sample that does not truly represent the population in question is known as a \_\_\_\_\_ sample.

- a. random
- b. chance
- c. biased
- d. representative

Answer d % correct 95 a= 0 b= 3 c= 3 d= 95  $r = .34$

40. To obtain objective information, researchers sometimes must deceive their subjects. Ethically, research involving deception must always \_\_\_\_\_.

- a. pay participants
- b. maintain subject anonymity
- c. use double-blind control
- d. explain the deception to the subjects after the data are collected and obtain their informed consent to use the information obtained



Answer b    % correct 65    a= 8 b= 65 c= 13 d= 14     $r = .51$

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

- a. placebo
- b. independent variable
- c. dependent variable
- d. control group

Answer a    % correct 55    a= 55 b= 1 c= 5 d= 39     $r = .23$

42. Using both independent and dependent variables is associated with which of the following types of research used in psychology?

- a. experimentation
- b. naturalistic observation
- c. correlation
- d. correlation and experimentation

Answer c    % correct 65    a= 17 b= 11 c= 65 d= 6     $r = .45$

43. Manipulating an independent variable in a real-life setting is \_\_\_\_\_.

- a. an experiment
- b. an example of naturalistic observation
- c. a field experiment
- d. unethical

Answer b    % correct 79    a= 2 b= 79 c= 16 d= 4     $r = .46$

44. Experimenter bias can best be controlled using \_\_\_\_\_.

- a. a placebo
- b. double-blind control
- c. randomization
- d. subjects who do not know the purpose of the study

Answer a    % correct 76    a= 76 b= 17 c= 1 d= 6     $r = .44$

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

- a. independent variable.
- b. dependent variable.
- c. extraneous variable.
- d. control factors.

Answer b    % correct 64    a= 24 b= 64 c= 24 d= 9     $r = .43$

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

- a. latent factor.
- b. dependent variable.
- c. independent variable.
- d. control factor.

Answer d    % correct 98    a= 0 b= 0 c= 2 d= 98     $r = .33$

47. One of the main reasons for using a laboratory for psychological research is to:

- a. prevent subjects from escaping.
- b. study behavior in a natural setting.
- c. do large-scale studies.
- d. allow the researchers to control certain factors.

Answer b    % correct 33    a= 45 b= 33 c= 14 d= 9     $r = .43$

48. The process of establishing causal relationships is associated most with:

- a. naturalistic observation.
- b. experiments.
- c. correlation.
- d. surveys.

Answer a    % correct 64    a= 64 b= 22 c= 10 d= 3     $r = .27$

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

- a. independent variable.
- b. dependent variable.
- c. manipulation.
- d. hypothesis.

Answer a    % correct 67    a= 67 b= 16 c= 11 d= 7     $r = .47$

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

- a. the dependent variable.
- b. the independent variable.
- c. the manipulation.
- d. the control group.

Answer b    % correct 84    a= 5 b= 84 c= 3 d= 7     $r = .33$

51. In psychological studies, randomization is used to ensure that:
- a. there will be an independent and dependent variable.
  - b. each person has an equal chance of being assigned to each group.
  - c. the control group does not know the purpose of the study.
  - d. the experimenter won't know who is in each group.

Answer d    % correct 81    a= 7 b= 6 c= 6 d= 81     $r = .39$

52. A "fake treatment" is one way to define a \_\_\_\_\_.
- a. decoy
  - b. demand characteristic
  - c. control group
  - d. placebo

Answer c    % correct 83    a= 12 b= 4 c= 83 d= 1     $r = .46$

53. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The manipulated variable is called the \_\_\_\_\_.
- a. dependent variable
  - b. control variable
  - c. independent variable
  - d. hypothetical variable

Answer a    % correct 87    a= 87 b= 1 c= 10 d= 3     $r = .40$

54. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The second variable, which is observed for any possible effects, is called the \_\_\_\_\_.
- a. dependent variable
  - b. control variable
  - c. independent variable
  - d. hypothetical variable

Answer a    % correct 93    a= 93 b= 0 c= 4 d= 3     $r = .21$

55. The method of psychological research which utilizes a control group, a dependent variable, and an independent variable is
- a. the experiment.
  - b. the survey.
  - c. the case study.
  - d. naturalistic observation.

Answer a    % correct 85    a= 85 b= 8 c= 0 d= 7     $r = .46$

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

- a. dependent variable.
- b. independent variable.
- c. control group.
- d. reliability measure.

Answer b    % correct 71    a= 0 b= 71 c= 5 d= 23     $r = .25$

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

- a. They cannot be repeated by anyone other than the experimenter.
- b. They allow for the establishment of cause-effect relationships.
- c. They are not subject to demand characteristics since the subjects do not know they are being observed.
- d. They allow us to draw definitive conclusions about behavior in the natural environment based on subjects' behavior in the laboratory.

Answer a    % correct 76    a= 76 b= 1 c= 20 d= 3     $r = .47$

58. In an experiment, the "measurable aspect of the behavior of the subject" is called the \_\_\_\_\_ variable.

- a. dependent
- b. focal
- c. independent
- d. control

Answer d    % correct 69    a= 4 b= 3 c= 24 d= 69     $r = .30$

59. The purpose of an experiment is to discover whether there is a relationship between the \_\_\_\_\_ and the \_\_\_\_\_.

- a. independent variable; control variable
- b. dependent variable; control variable
- c. control group; experimental group
- d. independent variable; dependent variable

Answer c    % correct 68    a= 4 b= 15 c= 68 d= 13     $r = .28$

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

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

Answer d    % correct 38    a= 19 b= 17 c= 30 d= 38     $r = .27$

61. In an experiment on the effects of level of motivation on the performance of typists, the researcher randomly assigned one third of her subjects to each of three levels of motivation (and then induced different levels of motivation in the three groups). She measured the average words typed per minute by each group, and found that performance was highest under medium motivation, average under low motivation, and worst under high motivation. The regular variation in performance (average, best, worst) as motivation was changed (low, medium, high) is called a(n):

- a. linear relationship.
- b. data pattern.
- c. independent variable.
- d. functional relationship.

Answer a    % correct 85    a= 85 b= 10 c= 3 d= 2     $r = .40$

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

- a. motivation
- b. typing speed
- c. variation in typing speed
- d. manipulation of typing speed

Answer c    % correct 54    a= 15 b= 22 c= 54 d= 9     $r = .30$

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

- a. tendency to desire the company of others
- b. level of shock
- c. level of anxiety
- d. the anxious group

Answer a    % correct 79    a= 79 b= 7 c= 9 d= 5     $r = .58$

64. In an experiment, four groups of college students used different memorizing strategies to learn the material in one chapter of a textbook. Then each group was given the same multiple-choice test on the material. What was the dependent variable in this study?

- a. the students' performance on the test
- b. the four different groups
- c. the four different memorizing strategies
- d. manipulation of memorizing strategies

Answer c    % correct 77    a= 4 b= 10 c= 77 d= 10     $r = .64$

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

- a. the two groups
- b. the level of anxiety
- c. preference for being alone or in a group
- d. manipulation of anxiety

Answer b    % correct 90    a= 8 b= 90 c= 2 d= 0     $r = .27$

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

- a. experimental
- b. control
- c. placebo
- d. test

Answer a    % correct 59    a= 59 b= 5 c= 6 d= 30     $r = .28$

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

- a. serve as a check on the interpretation of results.
- b. increase the ability to generalize the findings.
- c. manipulate the dependent variable.
- d. represent the general, nonlaboratory population.

Answer d    % correct 97    a= 2 b= 1 c= 0 d= 97     $r = .21$

68. In an experiment, the group of subjects to which the experimental group is compared is called the:

- a. comparison group.
- b. standard group.
- c. confederate group.
- d. control group.

Answer b    % correct 79    a= 16 b= 79 c= 3 d= 3     $r = .25$

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

- a. experimental
- b. control
- c. placebo
- d. confederate

Answer d    % correct 40    a= 9 b= 1 c= 50 d= 40     $r = .26$

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

- a. so that the dependent variable can be accurately measured
- b. so that the results will apply outside the laboratory setting.
- c. so that if the behavior of the two groups differs, the difference can be credited to the one thing that distinguished the groups from one another.
- d. so that if the behavior of the two groups differs, that difference can be used to establish a functional relationship between the independent and dependent variables.

Answer c    % correct 77    a= 17 b= 6 c= 77 d= 0     $r = .40$

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

- a. dependent variable
- b. control variable
- c. independent variable
- d. hypothetical variable

Answer a    % correct 83    a= 83 b= 2 c= 14 d= 1     $r = .45$

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

- a. dependent variable
- b. control variable
- c. independent variable
- d. hypothetical variable

Answer a    % correct 83    a= 83 b= 3 c= 90 d= 5     $r = .25$

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

- a. placebo
- b. independent variable
- c. dependent variable
- d. control group

Answer b    % correct 82    a= 10 b= 82 c= 5 d= 3     $r = .40$ .

74. An experiment was run in which group A was given 3 minutes to study a word list, while group B was given 10 minutes to study the same list. Later, both groups were asked to recall words from the list. In this study, the number of words recalled is the \_\_\_\_\_.

- a. independent variable
- b. dependent variable
- c. placebo
- d. control group

Answer c % correct 70 a= 4 b= 5 c= 70 d= 21  $r = .33$

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

- a. stratification
- b. two independent variables
- c. a placebo
- d. randomization

Answer c % correct 97 a= 2 b= 1 c= 97 d= 1  $r = .20$

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

- a. randomization
- b. a placebo
- c. double-blind control
- d. experimenter bias

Answer b % correct 72 a= 11 b= 72 c= 2 d= 15  $r = .23$

77. Which of the following is NOT a strength of the experiment as a research method?

- a. Cause-and-effect relationships can be established.
- b. Experimental conditions usually seem realistic to subjects.
- c. Experiments can usually be replicated if the findings are valid.
- d. Variables can be analyzed carefully because of the degree of control over them.

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## Evaluating the Findings

Answer c % correct 51 a= 13 b= 31 c= 51 d= 4  $r = .34$

78. Almost all research done in psychology is analyzed \_\_\_\_\_.

- a. visually
- b. using correlational techniques
- c. statistically
- d. at the .1 level

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## Keeping the Enterprise Ethical

Answer c % correct 70 a= 7 b= 21 c= 70 d= 2  $r = .41$

79. Keeping responses anonymous helps researchers avoid the ethical problem of \_\_\_\_\_.

- a. deception
- b. experimenter bias
- c. invasion of privacy
- d. animal rights violations



Name \_\_\_\_\_

## Chapter 2 – Quick Quiz 1

1. A(n) \_\_\_\_\_ is an organized system of assumptions and principles that purports to explain a specified set of phenomena.
  - a. theory
  - b. hypothesis
  - c. operational definition
  - d. experiment
2. An ideal scientist should:
  - a. not express skepticism of new ideas.
  - b. rely on scientific intuition.
  - c. not support falsifiable theories.
  - d. be willing to make “risky predictions.”
3. An advantage of naturalistic observation is that:
  - a. it shows whether two or more variables are related.
  - b. firm conclusions about cause and effect can be drawn.
  - c. it is often useful in the first stages of a research program.
  - d. it provides a large amount of information on large numbers of people.
4. An advantage of correlation is that:
  - a. it shows whether two or more variables are related.
  - b. firm conclusions about cause and effect can be drawn.
  - c. it is often useful in the first stages of a research program.
  - d. it provides a large amount of information on large numbers of people.
5. Which of the following methods would be most appropriate to study the effects of alcohol consumption on problem-solving ability?
  - a. correlation
  - b. experiments
  - c. case study
  - d. naturalistic observation
6. The variable manipulated by the researcher in an experiment is the:
  - a. control variable.
  - b. independent variable.
  - c. dependent variable.
  - d. experimental variable.
7. The purpose of a double-blind study is:
  - a. to eliminate experimenter effects.
  - b. to increase experimental effects.
  - c. to test the effects of a placebo.
  - d. to determine the visual ability of newborn infants.
8. Descriptive statistics:
  - a. organize and summarize research data.
  - b. allow determination of statistical significance.
  - c. allow researchers to draw inferences about their results.
  - d. show how likely it is that a study’s results occurred merely by chance.
9. Meta-analysis is used to:
  - a. determine statistical significance.
  - b. combine results from several studies.
  - c. determine the probability of chance affecting the results.
  - d. maintain ethical standards in research.
10. APA ethical standards require researchers to:
  - a. avoid double-blind studies.
  - b. avoid the use of deception.
  - c. limit the use of volunteers as subjects.
  - d. obtain informed consent from subjects.

## **Chapter 2 – Quick Quiz 1**

### **Answer Key**

1. a Rationale: This is the definition of a theory. (Page 35, Factual)
2. d Rationale: Scientists should be willing to make “risky predictions.” All the other choices are the opposite of ideal characteristics of scientists. (Pages 36, Conceptual)
3. c Rationale: Naturalistic observation is important early in the research process to generate hypotheses, but it does not test hypotheses. (Page 40, Conceptual)
4. a Rationale: Correlation is a technique used to measure the strength and direction of a relationship between two or more variables. (Page 45, Conceptual)
5. b Rationale: Since this example is looking for a cause-and-effect relationship, experiment is the only appropriate method. (Page 49, Applied)
6. b Rationale: This is the definition of an independent variable. (Page 50, Factual)
7. a Rationale: Double-blind studies are used to eliminate possible bias and experimenter effects. (Page 52, Factual)
8. a Rationale: Descriptive statistics organize and summarize results, while inferential statistics help to determine whether results are significant. (Page 55, Factual)
9. b Rationale: Meta-analysis is a statistical technique for combining the results of multiple studies. (Page 58, Factual)
10. d Rationale: APA ethical guidelines require the use of informed consent to protect research subjects. (Page 60, Factual)

Name \_\_\_\_\_

## Chapter 2 – Quick Quiz 2

1. A(n) \_\_\_\_\_ is a statement that attempts to predict or to account for a set of phenomena.
  - a. theory
  - b. hypothesis
  - c. operational definition
  - d. experiment
2. An ideal scientist should:
  - a. not express skepticism of new ideas.
  - b. rely on scientific intuition.
  - c. make sure theories are falsifiable.
  - d. not make “risky predictions.”
3. An advantage of case studies is that:
  - a. they can confirm hypotheses.
  - b. general behavioral principles can be derived from them.
  - c. they can help determine cause and effect.
  - d. they provide in-depth information about unusual cases.
4. Which of the following methods would be most appropriate to study maternal behavior in chimpanzees?
  - a. correlation
  - b. experiments
  - c. case study
  - d. naturalistic observation
5. An advantage of an experiment is that:
  - a. it shows whether two or more variables are related.
  - b. firm conclusions about cause and effect can be drawn.
  - c. it is often useful in the first stages of a research program.
  - d. it provides a large amount of information on large numbers of people.
6. An advantage of a survey is that:
  - a. it shows whether two or more variables are related.
  - b. firm conclusions about cause and effect can be drawn.
  - c. it is often useful in the first stages of a research program.
  - d. it provides a large amount of information on large numbers of people.
7. In a double-blind experiment:
  - a. neither the subjects in the experimental group nor the subjects in the control group know the experimental hypothesis.
  - b. neither the subjects in the experimental group nor the subjects in the control group know which group they are in.
  - c. neither the subjects nor the researcher know which subjects are in which group.
  - d. neither the subjects in the experimental group nor the subjects in the control group know or can see the experimenter.
8. Statistical significance means that:
  - a. results are meaningful.
  - b. results are important.
  - c. results are unlikely to be due to chance.
  - d. results are typical.
9. Cross-sectional studies allow one to determine the:
  - a. statistical significance of results.
  - b. effect size.
  - c. experimenter effects.
  - d. generational differences.
10. Which of the following is NOT a reason psychologists study animals?
  - a. to discover practical applications
  - b. to improve human welfare
  - c. to avoid use of deception
  - d. to clarify theoretical questions

## **Chapter 2 – Quick Quiz 2**

### **Answer Key**

1. b Rationale: This is the definition of a hypothesis. (Page 35, Factual)
2. c Rationale: A scientist should make sure theories are falsifiable. All the other choices are the opposite of ideal characteristics of scientists. (Pages 35-36, Conceptual)
3. d Rationale: Case studies provide in-depth information about an individual case and generate hypotheses, but they cannot be used to confirm hypotheses or determine cause and effect. (Page 39, Conceptual)
4. d Rationale: In this case, naturalistic observation would be most appropriate because the researcher wants to know about the natural behaviors of chimpanzees. (Page 40, Applied)
5. b Rationale: The primary advantage of an experiment is that it can be used to determine cause and effect. (Page 49, Conceptual)
6. d Rationale: Surveys can provide a lot of information about attitudes, beliefs, opinions, and behaviors of large groups of people. (Pages 43-44, Conceptual)
7. c Rationale: Double-blind experiments are conducted to eliminate experimenter effects by keeping both the subjects and the researcher “blind” to which group a particular subject is in. (Page 52, Factual)
8. c Rationale: Tests of statistical significance are used to determine the likelihood that a particular set of results are due to chance factors. (Page 56, Factual)
9. d Rationale: Cross-sectional studies are useful in studying generational differences, whereas longitudinal studies are more useful in studying changes in a person over a period of time. (Page 58, Conceptual)
10. c Rationale: Psychologists should use caution in experiments with humans that involve deception, but they do not need to avoid deception. The other choices are all reasons that psychologists study animals. (Page 61, Conceptual)

## Multiple Choice Questions

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### INTRODUCTION

1. Research methods are important for all of the following reasons EXCEPT:
- they allow researchers to separate reliable information from unfounded claims.
  - they can help a person make a wiser decision between alternatives.
  - they provide the means for false claims to be verified.
  - they are the basic foundation for psychology and other sciences.

**Section: Chapter Introduction**

**Page(s): 34**

**Type: Conceptual**

**Answer: c**

**Rationale: Research methods provide the means for false claims to be found out for what they are. All other choices are accurate.**

2. When psychologists learned that hopeful parents of autistic children were being drawn to a program of “facilitated communication”:
- they carefully analyzed the testimonials about the therapy before accepting it.
  - they conducted experiments involving autistic children and their facilitators.
  - they conducted a survey of all the facilitators working with autistic children.
  - they argued that it was not ethical to use this technique with children.

**Section: Chapter Introduction**

**Page(s): 33**

**Type: Factual**

**Answer: b**

**Rationale: The research involving autistic children and their facilitators demonstrated that the claims concerning “facilitated communication” were false.**

3. Which of the following is NOT one of the reasons why research methods matter so much to psychologists?
- These methods allow psychologists to separate truth from unfounded belief.
  - These methods allow psychologists to gain respect from the “hard” sciences.
  - These methods allow psychologists to sort out conflicting views.
  - These methods allow psychologists to correct false ideas that might cause people harm.

**Section: Chapter Introduction**

**Page(s): 35**

**Type: Conceptual**

**Answer: b**

**Rationale: While use of research methods may result in increased respect from the “hard” sciences, this is not the reason they are used. They are used because psychology is a science and, as such, its data must be based on empirical evidence.**

## WHAT MAKES PSYCHOLOGICAL RESEARCH SCIENTIFIC?

### Learning Objectives

- 2.1 The characteristics of an ideal scientist
- 2.2 The nature of a scientific theory
- 2.3 The secret of a good scientific definition
- 2.4 The risk scientists take when testing their ideas
- 2.5 Why secrecy is a big “no-no” in science

4. When the authors refer to psychologists as scientists, they mean that:
- psychologists work with complicated computers and laboratory equipment.
  - psychologists rely upon sophisticated brain-imaging machines.
  - psychologists base their work on scientific attitudes and procedures.
  - psychologists wear white coats when they conduct animal research.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Conceptual**

**Answer: c**

**Rationale:** As a science, psychologists trust only evidence based on empirical data resulting from the use of the scientific method. Science is a way of asking and answering questions and has little to do with the equipment used or the clothing worn.

5. Which of the following is NOT a key characteristic of scientists?
- precision
  - skepticism
  - openness
  - humanism

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35-36**

**Type: Conceptual**

**Answer: d**

**Rationale:** Precision, skepticism, openness to new ideas, and reliance on empirical evidence are the hallmarks of a scientist.

6. An organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships is called a/an:
- hypothesis.
  - operational definition.
  - double-blind study.
  - theory.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: d**

**Rationale:** This is the definition of a theory.

**% correct 83 a= 13 b= 0 c= 3 d= 83 r = .50**

7. A theory is:
- an opinion or idea about the causes of some phenomenon.
  - an organized system of assumptions and principles that attempts to explain some phenomenon.
  - a group of interrelated statements about cause and effect.
  - a hunch about the causes of related phenomena.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: b**

**Rationale:** A theory is an organized system of assumptions and principles that attempts to explain some phenomenon.

8. A statement that attempts to predict or to account for a set of phenomena is called a/an:
- hypothesis.
  - operational definition.
  - double-blind study.
  - theory.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: a**

**Rationale:** A hypothesis is a prediction, usually derived from a theory.

**% correct 100 a= 100 b= 0 c= 0 d= 0 r = .00**

9. Which of the following statements is NOT true?
- a. A hypothesis is a specific prediction derived from a theory.
  - b. A hypothesis is a statement that attempts to explain a specific behavior.
  - c. A hypothesis is a statement about a relationship between variables that may be empirically tested.
  - d. A hypothesis is a prediction about future events based on guesswork.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Conceptual**

**Answer: d**

**Rationale: Hypotheses are not based on guesswork, though they may be educated guesses based on empirical knowledge.**

10. A hypothesis is defined as:
- a. a statement that attempts to predict a set of phenomena, and specifies relationships among variables that can be empirically tested.
  - b. an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.
  - c. the precise meaning of a term which specifies the operations for observing and measuring the process or phenomenon being investigated.
  - d. the principle that a scientific theory must make predications that are specific enough to expose the theory to the possibility of disconfirmation.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: a**

**Rationale: A hypothesis is a prediction, usually derived from a theory.**

11. Theory is defined as:
- a. a statement that attempts to predict a set of phenomena, and specifies relationships among variables that can be empirically tested.
  - b. an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.
  - c. the precise meaning of a term which specifies the operations for observing and measuring the process or phenomenon being investigated.
  - d. the principle that a scientific theory must make predications that are specific enough to expose the theory to the possibility of disconfirmation.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: b**

**Rationale: A theory is an organized system of assumptions and principles that attempts to explain some phenomenon.**

12. A scientific theory could be thought of as:
- a. a personal opinion.
  - b. an established truth.
  - c. an organized system of assumptions.
  - d. a measure of strength between two variables.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Conceptual**

**Answer: c**

**Rationale: A theory is not a personal opinion, an established truth, or a measure of strength. It is an organized system of assumptions and principles that attempts to explain some phenomenon.**

13. An operational definition is:
- a statement that attempts to predict a set of phenomena, and specifies relationships among variables that can be empirically tested.
  - an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.
  - the precise meaning of a term which specifies the operations for observing and measuring the process or phenomenon being investigated.
  - the principle that a scientific theory must make predications that are specific enough to expose the theory to the possibility of disconfirmation.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: c**

**Rationale: An operational definition states how a variable will be measured.**

**% correct 67 a= 7 b= 17 c= 67 d= 7 r = .22**

14. An operational definition:
- tells how something is to be observed and measured.
  - tells the meaning of a term in scientific language.
  - tells the meaning of a term in lay language.
  - tells what is expected to result from manipulation of a variable.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: a**

**Rationale: An operational definition states how a variable will be measured.**

**% correct 97 a= 97 b= 3 c= 0 d= 0 r = .47**

15. Which of the following is an operational definition of depression?
- a feeling of extreme sadness
  - a sense of futility and hopelessness
  - a score on the Beck Depression Inventory
  - the opposite of euphoria

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Applied**

**Answer: c**

**Rationale: Only a score on the Beck Depression Inventory specifies how depression will be measured.**

16. Which of the following is NOT a possible operational definition of intelligence?
- a person's score on the Stanford-Binet Intelligence Test
  - a person's ability to reason and solve problems
  - a student's cumulative GPA
  - the length of time a person takes to solve a complex maze

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Applied**

**Answer: b**

**Rationale: An operational definition must specify how a variable is to be measured.**

17. The principle of falsifiability is defined as:
- a statement that attempts to predict a set of phenomena, and specifies relationships among variables that can be empirically tested.
  - an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.
  - the precise meaning of a term which specifies the principles for observing and measuring the process or phenomenon being investigated.
  - the principle that a scientific theory must make predications that are specific enough to expose the theory to the possibility of disconfirmation.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Factual**

**Answer: d**

**Rationale: To be useful, a scientific theory must be specific enough that its predictions can be proved or disproved.**



18. A precise meaning of a term which species the operations for observing and measuring the process or phenomenon being investigated is called a/an:
- a. hypothesis.
  - b. operational definition.
  - c. double-blind study.
  - d. theory.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: b**

**Rationale: This is a definition of an operational definition.**

19. Marcy is trying to define “anxiety” in a way that can be empirically tested. She is attempting to find an appropriate:
- a. hypothesis.
  - b. operational definition.
  - c. double-blind study.
  - d. theory.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Applied**

**Answer: b**

**Rationale: Operational definitions specify how variables are to be observed or measured.**

20. Hannah has always been drawn to the saying “Absence makes the heart grow fonder,” and she decides that this saying will be incorporated into her research project. Hannah is trying to define “absence” in a way that can be empirically tested. She is attempting to find an appropriate:
- a. hypothesis.
  - b. operational definition.
  - c. double-blind study.
  - d. theory.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Applied**

**Answer: b**

**Rationale: Operational definitions specify how variables are to be observed or measured.**

21. Which of the following is NOT one of the key characteristics of the ideal scientist?
- a. precision
  - b. skepticism
  - c. openness in regard to ideas and research
  - d. avoidance of risky predictions

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35-37**

**Type: Conceptual**

**Answer: d**

**Rationale: Scientists are not afraid to make risky predictions.**

22. Which of the following statements is NOT true?
- a. It is important to balance skepticism with openness to new ideas.
  - b. Skepticism in science is an unwillingness to accept an idea without empirical evidence.
  - c. Even though skepticism about new ideas is important, a scientist should accept older ideas that have been endorsed by authorities in the field.
  - d. Skepticism and caution go hand in hand.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Conceptual**

**Answer: c**

**Rationale: All ideas, both new and old, should be subjected to the test of empirical support and should not be accepted just because they are endorsed by an authority.**

23. Which of the following is most characteristic of scientists?
- creativity in developing new ideas to test
  - reliance on empirical evidence
  - intense conviction that a hypothesis is true
  - reliance on scientific authority

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35-37**

**Type: Conceptual**

**Answer: b**

**Rationale: The basis of all science is reliance on empirical evidence.**

24. In order to be taken seriously, a hypothesis must be:
- plausible given the current theories.
  - backed by empirical evidence.
  - imaginative and appealing.
  - suggested by a credible authority.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Conceptual**

**Answer: b**

**Rationale: Empirical evidence is the key to taking a theory or hypothesis seriously in science.**

25. According to the principle of falsifiability:
- a scientific theory must make predictions that are specific enough to expose the theory to the possibility of disconfirmation.
  - false conclusions are reached in a scientific study when researchers make risky predictions.
  - researchers must conduct naturalistic observations in order to reach a causal rationale about a particular behavior.
  - hypotheses should be considered false until scientific research proves, without a doubt, that they are true.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Factual**

**Answer: a**

**Rationale: To be useful, a scientific theory must be specific enough that its predictions can be proved or disproved, that is, it is falsifiable.**

26. The principle of falsifiability means that:
- scientists must be careful not to falsify their results.
  - scientists, as well as people in general, tend to accept false information when it is endorsed by an authority.
  - a scientist must state an idea in such a way that it can be refuted or disproved by counterevidence.
  - theories that have not been proven are considered falsified.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Factual**

**Answer: c**

**Rationale: To be useful, a scientific theory must be specific enough that its predictions can be proved or disproved, that is, it is falsifiable.**

27. Confirmation bias is:
- a tendency to look for evidence that supports our theory and ignore evidence that contradicts it.
  - a tendency to believe theories that have been confirmed by empirical data.
  - a tendency to accept replicated studies but not accept studies that have not been replicated.
  - a belief that bias exists in many studies that prevents them from being confirmed.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Factual**

**Answer: a**

**Rationale: Confirmation bias is a tendency to look for evidence that supports our theory and ignore evidence that contradicts it.**

28. The tendency to look for information that supports one's own belief is called the:
- principle of falsifiability.
  - confirmation bias.
  - criterion validity.
  - volunteer bias.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Factual**

**Answer: b**

**Rationale: This is a definition of confirmation bias.**

29. In the 1990s, some police officers argued that murderous satanic cults were widespread, but the FBI was never able to substantiate this claim. The police officers continued to believe in the existence of the cults, saying that the FBI was part of the conspiracy. Our textbook points out that this is a violation of \_\_\_\_\_ in everyday life.
- the coefficient of correlation
  - the volunteer bias
  - the principle of falsifiability
  - replication

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Conceptual**

**Answer: c**

**Rationale: The belief of the police officers in satanic cults could not be disproved, therefore it was not a valid theory.**

30. Which of the following statements is true?
- Scientists should keep their research secret so others will not steal their ideas.
  - It is a waste of time and money to replicate a study that has already been done.
  - Disclosure of the details of a study is important to allow for replication by others.
  - Research procedures, once patented, should be shared openly.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36-37**

**Type: Conceptual**

**Answer: c**

**Rationale: Science depends on the free flow of ideas and full disclosure of studies. Replication is an essential part of the scientific process.**

31. Scientists are expected to submit their results to professional journals, which send the findings to experts for evaluation before publication. This process is called:
- reliability.
  - criterion validity.
  - peer review.
  - content validity.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 37**

**Type: Factual**

**Answer: c**

**Rationale: This is a definition of the peer review process.**

32. One purpose of peer review is to:
- make sure that the researchers did not deceive their subjects in any way.
  - choose which, among competing interpretations of a finding, is best.
  - scrutinize the evidence before any announcement to the public.
  - make sure that the research does not involve animals as subjects.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 37**

**Type: Factual**

**Answer: c**

**Rationale: A major purpose of peer review is to make sure a study used valid methods in obtaining its results. Otherwise the results are not valid and could be misleading.**

33. What was wrong with Norman Cousins's claim that humor and vitamins could cure life-threatening diseases?
- a. it was not falsifiable
  - b. it was not based on empirical evidence
  - c. its variables were not operationally defined
  - d. it resulted from confirmation bias

**Section: What Makes Psychological Research Scientific?**

**Page(s): 37**

**Type: Conceptual**

**Answer: b**

**Rationale: Norman Cousins's claim was based on only one case, his own, and was therefore anecdotal evidence that had not been empirically tested.**

## **DESCRIPTIVE STUDIES: ESTABLISHING THE FACTS**

### **Learning Objectives**

**2.6 How participants are selected for psychological studies, and why it matters**

**2.7 The methods psychologists use to describe behavior**

**2.8 The advantages and disadvantages of using descriptive research methods**

34. Researchers prefer to select participants that accurately represent the larger population that the researcher is interested in. This type of group is called a(n):
- a. experimental sample
  - b. single-blind sample
  - c. significance tests
  - d. representative sample

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 38**

**Type: Factual**

**Answer: d**

**Rationale: This is a definition of a representative sample.**

35. Which of the following would be considered a good example of a representative sample of college students in the United States:
- a. a survey given to several rural classrooms in your state
  - b. a questionnaire mailed to several zip codes
  - c. a survey given to a diverse population in both urban and rural classrooms in several states
  - d. volunteers who found your survey on the internet

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 38**

**Type: Applied**

**Answer: c**

**Rationale: A representative sample should reflect the larger population that the researcher is interested in.**

36. Research methods that depict behavior, but are not necessarily causal explanations are called:
- a. experimental methods.
  - b. single-blind studies.
  - c. significance tests.
  - d. descriptive methods.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39**

**Type: Factual**

**Answer: d**

**Rationale: This is a definition of descriptive research techniques.**

37. Which of the following is NOT a descriptive method?
- a. case studies
  - b. tests
  - c. correlation
  - d. surveys

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 38-39**

**Type: Factual**

**Answer: c**

**Rationale: Correlation is a statistical technique, not a descriptive technique.**

**% correct 52 a= 17 b= 17 c= 52 d= 14 r = .21**

38. A detailed description of a particular individual being studied or treated is called:
- a. a representative sample.
  - b. a case study.
  - c. a single-blind study.
  - d. a naturalistic observation.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39**

**Type: Factual**

**Answer: b**

**Rationale: This is the definition of a case study.**

39. Which of the following is an advantage of case studies?
- a. case studies produce a more detailed picture of an individual than other methods do
  - b. information is often missing or hard to interpret
  - c. an individual case may not be representative of others
  - d. the observer may have biases that influence which facts are observed and which are ignored

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39**

**Type: Conceptual**

**Answer: a**

**Rationale: All of the other choices are disadvantages, not advantages, of case studies.**

**% correct 86 a= 86 b= 10 c= 3 d= r = .30**

40. The case of Genie illustrated that:
- a. autistic children often have cold, rejecting mothers.
  - b. language acquisition is possible even if it is delayed until adolescence.
  - c. early severe deprivation can be overcome with later therapy.
  - d. there is an early critical period for language development.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39**

**Type: Factual**

**Answer: d**

**Rationale: The case study of Genie demonstrated that, in this individual, early severe deprivation could not be overcome. Therefore it appears that there is an early critical period for language development.**

41. In the 1970s, a 13-year-old girl was found locked up in a room, strapped to a potty chair. Since she had grown up in a world without human speech, researchers studied "Genie's" ability to acquire words, grammar, and pronunciation. This type of research is called:
- a. a case study.
  - b. a representative sample.
  - c. a single-blind study.
  - d. a naturalistic observation.

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**Page(s): 39**

**Type: Factual**

**Answer: a**

**Rationale: This is an example of a case study, a detailed study of one individual.**

42. In the 1970s, Genie's difficulty acquiring words, grammar, and pronunciation led researchers to conclude that:
- a critical period exists for language development.
  - Genie had suffered brain damage in the birth process.
  - Genie's linguistic deficits can be generalized to other abused children.
  - language depends on nurture rather than nature.

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**Type: Conceptual**

**Answer: a**

**Rationale: The case study of Genie demonstrated that, in this individual, early severe deprivation could not be overcome. Therefore it appears that there is an early critical period for language development.**

43. An academic researcher would use the case study method in all of the following situations EXCEPT:
- when first beginning to study a research topic.
  - when practical considerations prevent other methods of gathering information.
  - when ethical considerations prevent other methods of gathering information.
  - when the purpose of the research is to track down a cause.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39-40**

**Type: Factual**

**Answer: d**

**Rationale: The case study method is not useful in determining causes, though it may result in hypotheses.**

44. \_\_\_\_\_ are usually sources of hypotheses, rather than tests of hypotheses.
- Double-blind studies
  - Case studies
  - Single-blind studies
  - Field research studies

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39**

**Type: Conceptual**

**Answer: b**

**Rationale: Case studies do not test hypotheses, but may suggest them.**

45. Dr. Olson wants to know whether or not the first three years of life are critical for acquiring language. She decides to study children who have been deprived of human language. The appropriate method to use to explore this issue would be a/an:
- observational study.
  - experiment.
  - survey.
  - case study.

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**Type: Applied**

**Answer: d**

**Rationale: It would not be ethical to do an experiment in this case. The other methods listed would be possible, but one or several related case studies would be most useful.**

46. Which of the following statements is NOT TRUE about case studies?
- the person studied may have inaccurate memories of the event
  - these studies have serious drawbacks
  - information from case studies cannot be used to develop hypothesis
  - information from case studies is often unreliable

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Applied**

**Answer: c**

**Rationale: A representative sample should reflect the larger population that the researcher is interested in.**

47. In \_\_\_\_\_ the researcher carefully and systematically watches and records behavior, without interfering with the behavior.
- a. observational research
  - b. survey research
  - c. experimental research
  - d. double-blind research

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 40**

**Type: Factual**

**Answer: a**

**Rationale: This is a description of observational research.**

48. An advantage of observational studies is that:
- a. they can provide accurate descriptions of behavior.
  - b. the presence of observers can alter the behavior being observed.
  - c. they can answer questions about cause and effect.
  - d. they do not provide hypotheses to be tested.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Conceptual**

**Answer: a**

**Rationale: Observational studies provide good descriptive information but cannot answer questions about cause and effect, though they may provide some hypotheses to be tested. Observer effects are a disadvantage, not an advantage.**

49. Dawn is systematically recording behaviors at a nursery school, making sure that she doesn't interfere with the behaviors. Dawn is engaged in:
- a. observational research.
  - b. survey research.
  - c. experimental research.
  - d. double-blind research.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Applied**

**Answer: a**

**Rationale: This is an example of observational research.**

**% correct 100 a= 100 b= 0 c= 0 d= 0 r = .00**

50. For his adult development class, Barry is systematically recording behaviors at an assisted-care facility, making sure that he doesn't interfere with the behaviors. Barry is engaged in:
- a. observational research.
  - b. standardized testing.
  - c. experimental research.
  - d. statistically-significant research.

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**Type: Applied**

**Answer: a**

**Rationale: This is an example of observational research.**

51. Dr. Littman-Smith is conducting research in Kenya in order to determine the ways that mothers and their toddlers interact throughout the day. It is most likely that she is engaged in:
- a. naturalistic observation.
  - b. laboratory observation.
  - c. case study research.
  - d. experimental research.

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**Type: Applied**

**Answer: a**

**Rationale: Naturalistic observation, or observation in a natural setting, would be most useful in this example.**

52. Dr. Nicod is conducting research in France in order to determine the ways that mothers and their toddlers interact throughout the day. It is most likely that she is engaged in:
- naturalistic observation.
  - psychological testing.
  - survey research.
  - meta-analysis research.

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**Type: Applied**

**Answer: a**

**Rationale: Naturalistic observation, or observation in a natural setting, would be most useful in this example.**

53. Professor Gaggos wants to determine whether the needs for personal space are different in Greece than they are in the United States. His results will be used to train business executives in maintaining appropriate conversational distances. The research method appropriate to his purpose would be:
- naturalistic observation.
  - an objective inventory.
  - a case study.
  - laboratory observation.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Applied**

**Answer: a**

**Rationale: Naturalistic observation, or observation in a natural setting, would be most useful in this example.**

54. Ethologists, such as Jane Goodall and Dian Fossey used the \_\_\_\_\_ method to study apes and other animals in the wild.
- case study
  - objective inventory
  - naturalistic observation
  - experimental

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Factual**

**Answer: c**

**Rationale: These scientists used naturalistic observation in their studies of chimpanzees and gorillas.**

55. Professor Hardin wants to know if people consume greater quantities of alcohol during “Happy Hour” specials. It is most likely that she will use the \_\_\_\_\_ method to explore this topic.
- case study
  - double-blind
  - naturalistic observation
  - experimental

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Applied**

**Answer: c**

**Rationale: Naturalistic observation, or observation in a natural setting, would be most useful and accurate in this example.**

56. When researchers visited 32 pubs in one city, they ordered beers and recorded observations on napkins and pieces of newspaper. The reason they kept records in this way was:
- to conduct a double-blind study in each of the pubs.
  - to make sure the study had test-retest reliability
  - to be able to determine experimenter effects at a later point in time.
  - to make sure that their intentions were not obvious to those they were observing.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Applied**

**Answer: d**

**Rationale: In observational research, it is important that the subjects not be aware that they are being observed. Otherwise their behavior may be altered.**



57. Tess agrees to sleep in a laboratory for three nights so that researchers can obtain information about her brain and muscle activity during sleep. She is taking part in a \_\_\_\_\_ study.
- a. single-blind
  - b. double-blind
  - c. naturalistic observation
  - d. laboratory observation

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**Type: Applied**

**Answer: d**

**Rationale: In this example, observation is being carried out in a specialized laboratory, not in a natural setting.**

58. Psychologists sometimes prefer to make observations in a laboratory setting rather than a naturalistic setting because:
- a. it is too time consuming to have to drive from place to place to observe subjects.
  - b. subjects take their participation seriously in a professional environment.
  - c. a lab allows the researchers to have more control over the situation.
  - d. laboratory observation results generalize to everyday life.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Conceptual**

**Answer: c**

**Rationale: In some cases, it is important for researchers to have more control over the environment than they would have in a natural setting.**

59. Professor Steegel wants to know how infants of different ages respond when left with a stranger. The most efficient approach to explore this topic would be to conduct a:
- a. series of case studies.
  - b. double-blind experiment.
  - c. laboratory observation.
  - d. naturalistic observation.

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**Type: Applied**

**Answer: c**

**Rationale: It would be unlikely that one would encounter this type of situation very often in a natural setting, but it can be set up in a laboratory.**

60. Professor Kribs wants to know how infants of different ages respond when left with a stranger. The most efficient approach to explore this topic would be to conduct a:
- a. single-blind experiment.
  - b. double-blind experiment.
  - c. laboratory observation.
  - d. survey.

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**Type: Applied**

**Answer: c**

**Rationale: It would be unlikely that one would encounter this type of situation very often in a natural setting, but it can be set up in a laboratory.**

61. One shortcoming of laboratory observation is that:
- the presence of researchers and special equipment may cause subjects to act differently than they would in their natural surroundings.
  - the results often are inaccurate because many people have a distorted view of their own abilities and traits.
  - some subjects are given detailed instructions about how to behave whereas others receive only vague instructions.
  - teachers and parents do not usually question the results from a laboratory observation since the results are summarized in a single, precise-sounding number.

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**Type: Factual**

**Answer: a**

**Rationale: When people know they are being observed and when they are not in their normal environment, their behavior may differ from what it would be in a more natural setting without the presence of observers.**

62. Procedures used to measure and evaluate personality traits, emotional states, aptitudes, and values are called:
- laboratory observations.
  - psychological tests.
  - control conditions.
  - field research.

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**Page(s): 41**

**Type: Factual**

**Answer: b**

**Rationale: Tests are used to measure personality traits, emotional states, aptitudes, opinions, values, and other characteristics.**

**% correct 90    a= 10   b= 90   c= 0   d= 0    r = .21**

63. Assessment instruments that are designed to tap unconscious feelings or motives are called:
- objective tests.
  - projective tests.
  - inventories.
  - alternate forms.

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**Type: Factual**

**Answer: b**

**Rationale: Projective tests are used to try to determine a person's unconscious feelings and motives.**

64. Tessa agrees to an evaluation designed to tap her unconscious feelings and motives. Tessa will be given a/an:
- objective test.
  - projective test.
  - inventory.
  - alternate form exam.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Applied**

**Answer: b**

**Rationale: This is an example of a situation in which a projective test would be used.**

65. Assessment instruments that are designed to measure beliefs, feelings, or behaviors of which an individual is aware are called:
- inferential statistics.
  - projective tests.
  - objective tests.
  - norms.

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**Type: Factual**

**Answer: c**

**Rationale: This is a description of objective tests, as distinguished from projective tests.**

66. Harvey is being assessed in order to measure his beliefs and feelings regarding the next election. It is most likely that the assessment instrument will be a/an:
- a. inferential statistic.
  - b. projective test.
  - c. objective test.
  - d. norm.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Factual**

**Answer: c**

**Rationale: An objective test would be most appropriate in this situation because Harvey is aware of his beliefs and feelings regarding the upcoming election.**

67. A researcher decides that a psychological test is the most efficient means of testing his hypothesis. A test would NOT be appropriate if the researcher wanted to
- a. make a conclusion regarding cause and effect.
  - b. clarify the reactions of the same person at different stages of life.
  - c. draw generalizations about human behavior.
  - d. promote self-understanding among his participants.

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**Page(s): 42 and 49**

**Type: Conceptual**

**Answer: a**

**Rationale: Tests are descriptive and cannot be used to determine cause and effect.**

68. One test of a good test is whether it is standardized, that is, whether:
- a. the test specifies the operations for observing and measuring the process being tested.
  - b. the test specifies relationships between events or variables and yields an empirical evaluation.
  - c. the test yields consistent scores from one time and place to another time and place.
  - d. uniform procedures exist for giving and scoring the test.

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**Page(s): 42**

**Type: Factual**

**Answer: d**

**Rationale: Standardization involves uniformity in giving and scoring tests.**

69. Which of the following is NOT a characteristic of a good test?
- a. it is standardized
  - b. it is reliable
  - c. it is believable
  - d. it is valid

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**Page(s): 42**

**Type: Factual**

**Answer: c**

**Rationale: Whether a test is believable has no bearing on whether it is a good test.**

**% correct 86 a= 0 b= 14 c= 86 d= 0 r = .55**

70. When Haylee takes a personality test, the researcher gives her detailed instructions and plenty of time to complete it. But Tyler takes the same test and is given only vague instructions and a limited amount of time. This procedural difference shows a problem in regard to:
- a. validity.
  - b. standardization.
  - c. reliability.
  - d. norms.

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**Type: Applied**

**Answer: b**

**Rationale: Standardization means that the test is always given under the same circumstances and with the same instructions.**

71. Hadley is told that the achievement test that he is taking is a standardized test. This means that:
- the score he receives is likely to be similar to the score he would receive at a later test session.
  - the test will be measuring what it is intended to measure.
  - similar scores occur when the test is given in a standard laboratory setting or in a naturalistic setting.
  - uniform procedures exist for giving and scoring the test.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Applied**

**Answer: d**

**Rationale: Standardization involves uniformity in giving and scoring tests.**

72. Hoshi asked if the test she is taking used established standards of performance. Hoshi's question was about the test's:
- criterion validity.
  - norms.
  - content validity.
  - test-retest reliability.

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**Page(s): 42**

**Type: Applied**

**Answer: b**

**Rationale: Norms are standards of achievement that have been determined from a representative sample of people.**

73. Reliability in tests means that:
- the test actually measures what it is supposed to measure.
  - the test is fair.
  - the test is unbiased.
  - the test produces the same results from one time and place to the next.

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**Type: Factual**

**Answer: d**

**Rationale: Reliable tests are consistent.**

**% correct 95    a= 0   b= 0   c= 5   d= 95    r = .23**

74. An established standard of performance defines:
- a norm.
  - a standard score.
  - content validity.
  - reliability.

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**Type: Factual**

**Answer: a**

**Rationale: This is a definition of a norm.**

75. In order to be useful, a test must be reliable, that is, it must:
- measure what it is designed to measure.
  - compare results against established standards of performance.
  - produce the same results from one time to the next.
  - predict other criteria of the trait in question.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Factual**

**Answer: c**

**Rationale: To be reliable, a test must produce consistent results.**

**% correct 80    a= 14   b= 7   c= 80   d= 0    r = .52**

76. When Joyce takes a personality test she is told that the test is reliable, that is, it:
- measures what it is designed to measure.
  - compares its results against established standards of performance.
  - produces the same results from one time to the next.
  - predicts other criteria of the personality trait in question.

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**Page(s): 42**

**Type: Applied**

**Answer: c**

**Rationale: To be reliable, a test must produce consistent results.**

77. Two types of validity are:
- content validity and standardization.
  - validity with norms and validity without norms.
  - standardization and reliability.
  - content validity and criterion validity.

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**Page(s): 42-43**

**Type: Factual**

**Answer: d**

**Rationale: Content validity and criterion validity are the two major types of validity.**

**% correct 62 a= 11 b= 23 c= 3 d= 62 r = .21**

78. If a test measures what it is supposed to measure it is:
- reliable.
  - valid.
  - criterion referenced.
  - standardized.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Factual**

**Answer: b**

**Rationale: This is a definition of validity.**

**% correct 95 a= 5 b= 95 c= 0 d= 0 r = .23**

79. When Dana takes a personality test she is told that the test has been judged to have criterion validity, that is:
- it measures what it is designed to measure.
  - its results are compared to established standards of performance.
  - it produces the same results from one time to the next.
  - it predicts other criteria of the personality trait in question.

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**Type: Applied**

**Answer: d**

**Rationale: Criterion validity exists when a test's results are predictive of other criteria of the trait being measured.**

80. When Becky takes a personality test she is told that the test has been judged to have content validity, that is:
- it measures what it is designed to measure.
  - its results are compared to established standards of performance.
  - it produces the same results from one time to the next.
  - it predicts other criteria of the personality trait in question.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Applied**

**Answer: a**

**Rationale: Content validity exists when a test's items are related to actual standards of performance.**

81. When Sandee takes a personality test she is told that the resulting score is compared to norms, that is, the test:
- a. measures what it is designed to measure.
  - b. results are compared to established standards of performance.
  - c. produces the same results from one time to the next.
  - d. predicts other criteria of the personality trait in question.

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**Type: Applied**

**Answer: b**

**Rationale: Norms are established standards of performance to which an individual's test score can be compared.**

82. In order to be useful, a test must be valid, that is, it must:
- a. measure what it is designed to measure.
  - b. compare results against established standards of performance.
  - c. produce the same results from one time to the next.
  - d. produce comparable results when alternate forms are given.

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**Page(s): 42**

**Type: Factual**

**Answer: a**

**Rationale: Validity means that a test measures what it is designed to measure.**

83. Juan is given a vocational-interest test and then retakes the same test a week later. The psychologist is measuring the \_\_\_\_\_ of the test.
- a. content validity
  - b. test-retest reliability
  - c. alternate-forms reliability
  - d. criterion validity

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Applied**

**Answer: b**

**Rationale: This is a description of how test-retest reliability is established.**

84. Ken is given a vocational-interest test and then takes a similar test a week later. The psychologist is measuring the \_\_\_\_\_ of the test.
- a. content validity
  - b. test-retest reliability
  - c. alternate-forms reliability
  - d. criterion validity

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Applied**

**Answer: c**

**Rationale: This is a description of how alternate-forms reliability is established.**

85. Anastasia is given a vocational-interest test in November and then retakes the test in January. The psychologist is \_\_\_\_\_ of the test.
- a. standardizing the norms
  - b. measuring the test-retest reliability
  - c. measuring the alternate-forms reliability
  - d. establishing the criterion validity

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Applied**

**Answer: b**

**Rationale: This is a description of how test-retest reliability is established.**

86. Ryan and his middle-school teammates buy a sports magazine and take the test entitled “Do you have what it takes to make the NFL?” Given our textbook’s discussion of test construction, what advice would be best to give to Ryan?
- The norms were probably established using college students and so the results wouldn’t apply to you.
  - Don’t take the results too seriously because the test is just a list of questions that someone thought would interest the public.
  - Magazine tests are usually valid instruments but they are rarely reliable and so the results only explain current football skills.
  - Keep practicing because unless an injury gets in the way, the test’s results are likely to be reliable and valid.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43**

**Type: Applied**

**Answer: b**

**Rationale: Tests in popular magazines have rarely been determined to be valid or reliable and they lack normative data.**

87. The pop-psych tests found in magazines and newspapers usually:
- have not been evaluated for reliability but are valid tests.
  - have not been evaluated for validity but are reliable tests.
  - have not been evaluated for validity or reliability.
  - have been evaluated for validity and reliability.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Applied**

**Answer: c**

**Rationale: Tests in popular magazines have rarely been determined to be valid or reliable and they lack normative data.**

88. Most personality and intelligence tests on the Internet and in magazines:
- are both reliable and valid.
  - are neither reliable nor valid.
  - are reliable, but not valid.
  - are valid, but not reliable.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43**

**Type: Applied**

**Answer: b**

**Rationale: Tests in popular magazines and on the Internet have rarely been determined to be valid or reliable and they lack normative data.**

89. When a radio talk show host asked listeners to call in their opinions regarding legislation increasing social security benefits, the overwhelming response was support for the increase. All of the following are likely shortcomings of this survey EXCEPT:
- the lack of a representative sample.
  - the issue of volunteer bias.
  - the tendency to lie about touchy subjects.
  - the method of subject recruitment.

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**Page(s): 43-44**

**Type: Applied**

**Answer: c**

**Rationale: In this situation, most people probably do not lie.**

90. \_\_\_\_\_ usually generate information about people indirectly; in contrast, \_\_\_\_\_ gather information by asking people directly about their experiences.
- Psychological tests; surveys
  - Surveys; case studies
  - Laboratory experiments; psychological tests
  - Case studies; laboratory experiments

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**Page(s): 43**

**Type: Conceptual**

**Answer: a**

**Rationale: This is a comparison of tests to surveys.**

91. A group of subjects, randomly selected from the population of interest, which matches the population on important characteristics such as age and sex is called:
- volunteer bias.
  - a representative sample.
  - the experimental group.
  - the control group.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 38**

**Type: Factual**

**Answer: b**

**Rationale: This is a definition of a representative sample.**

92. Dr. Wiseman wants to know about the alcohol consumption patterns among college juniors in the United States. He should:
- give the survey to every college junior in the country.
  - remember that sample size is the most critical factor in survey research.
  - require students' names on each survey to avoid the tendency to lie.
  - draw a representative sample among college juniors.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 44**

**Type: Applied**

**Answer: d**

**Rationale: It is not necessary to survey the entire population of interest as long as the sample used is representative.**

93. The editors of *Scientific American* are able to obtain a representative sample of their readers in order to assess their attitudes toward preservation of the rain forests in Costa Rica. When interpreting the results of their survey the editors will be able to:
- apply the results to the entire U.S.
  - apply the results to Costa Rica.
  - apply the results to subscribers of *Scientific American*.
  - apply the result to scientists.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 44**

**Type: Applied**

**Answer: c**

**Rationale: Survey results can be generalized only to people similar to the original respondents.**

94. The magazine *Lover's Delight* publishes a survey of its female readers called "The Sex Life of the American Wife." It reports that 87 percent of all wives like to make love in rubber boots. The critical flaw in this research would be:
- the fact that the sample is not representative of American wives.
  - the fact that a psychological test, rather than a survey, should have been given.
  - the fact that rubber boots are not equally available in all regions of the country.
  - the fact that "making love" has not been operationally defined.

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**Type: Applied**

**Answer: a**

**Rationale: Respondents to such a survey would include only readers of the particular magazine and would not be representative of all people.**

95. A representative sample is:
- a large group of participants containing at least 25 percent of the population of interest.
  - a group of participants containing males, females, and representatives of all racial and ethnic groups.
  - a group of participants which contains both volunteers and nonvolunteers.
  - a group of participants that accurately represents the larger population of interest.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 38**

**Type: Factual**

**Answer: d**

**Rationale: A definition of a representative sample is a group of participants that accurately represents the larger population of interest.**



96. Problems with surveys may include all of the following EXCEPT:
- a. volunteer bias.
  - b. lack of representative samples.
  - c. choice of media (phone, Internet, etc.) to use for the survey.
  - d. lack of honesty of participants.

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**Page(s): 43-44**

**Type: Factual**

**Answer: c**

**Rationale: Choice of media is an important consideration, but is not necessarily a problem.**

97. Which of the following statements is FALSE?
- a. Most people do not realize that a sample's size is less critical than its representativeness.
  - b. Surveys are procedures used to measure and evaluate personality traits, emotional states, aptitude, interests, abilities, and values.
  - c. Popular polls and surveys often suffer from volunteer bias because people who feel strongly enough to volunteer their opinions may differ from those who remain silent.
  - d. A problem with surveys is that sometimes people lie or misinterpret the question.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43-44**

**Type: Factual**

**Answer: b**

**Rationale: Tests, not surveys, are procedures used to measure and evaluate personality traits, emotional states, aptitude, interests, abilities, and values.**

98. The likelihood of lying about a touchy topic is reduced when respondents:
- a. are paid for their participation in the survey.
  - b. receive explanations regarding the importance of the survey.
  - c. are questioned by a compassionate interviewer.
  - d. are guaranteed anonymity.

**Section: Descriptive Studies: Establishing the Facts**

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**Type: Conceptual**

**Answer: d**

**Rationale: Anonymity generally results in increased honesty about touchy subjects.**

99. In one national study of HIV-risk sexual behaviors, teenage boys who responded \_\_\_\_\_ were far more likely to admit to risky behaviors than were boys who were given the survey through other procedures.
- a. on a paper-and-pencil questionnaire in a small group setting
  - b. to questions asked by a male interviewer
  - c. on a computer keyboard to questions played through headphones
  - d. to questions asked by a female interviewer

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 44**

**Type: Factual**

**Answer: c**

**Rationale: This is an example of anonymity resulting in increased honesty.**

100. Famed sex researcher Alfred Kinsey found that more truthful responses were elicited when he phrased a question in which of the following ways?
- a. Have you ever engaged in fornication or adultery?
  - b. How many times have you had nonmarital sex?
  - c. Have you ever had sex outside of marriage?
  - d. Do your behaviors regarding nonmarital sex match your values?

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 44**

**Type: Conceptual**

**Answer: b**

**Rationale: This type of phrasing generally lends itself to more honest answers.**

101. A team of psychologists is studying changes in attitudes toward nuclear disarmament after a TV movie about nuclear holocaust. It is most likely that they are conducting a/an:
- a. case study.
  - b. observational study.
  - c. experiment.
  - d. test.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Applied**

**Answer: d**

**Rationale: Tests can be used to measure attitudes both before and after viewing the movie.**

102. Professor Turner wants to know if physiological changes occur when people watch violent movies. The most appropriate method to study this would be:
- a. case study.
  - b. naturalistic observation.
  - c. survey.
  - d. laboratory observation.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 41**

**Type: Applied**

**Answer: d**

**Rationale: Laboratory observation would be the most efficient method to use in this situation.**

103. Professor Tearlach gives her new test of psychological aptitude to her psychology students at the start of the year. At the end of the year, she finds out that those students who did poorly on her test averaged an "A" in her courses. A shortcoming of the test is that it lacks:
- a. criterion validity.
  - b. reliability.
  - c. a representative sample.
  - d. double-blind procedures.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43**

**Type: Applied**

**Answer: a**

**Rationale: In this example, criterion validity is clearly lacking since the test does not predict performance.**

104. Professor Flummox gives her new test of psychological aptitude to her psychology students at the start of the year. At the end of the year, she finds out that those students who received excellent scores on her test averaged only a "C" in her courses. A shortcoming of the test is that it lacks:
- a. criterion validity.
  - b. reliability.
  - c. a representative sample.
  - d. double-blind procedures.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43**

**Type: Applied**

**Answer: a**

**Rationale: In this example, criterion validity is clearly lacking since the test does not predict performance.**

105. A case study would be the most appropriate method to investigate which of these topics?
- a. the ways in which the games of boys differ from the games of girls
  - b. the development of a male baby raised as a female after a surgical error destroyed his penis
  - c. the math skills of students in Japan as compared to those of U.S. students
  - d. physiological changes that occur when people watch violent movies

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39**

**Type: Applied**

**Answer: b**

**Rationale: Case studies are most useful in unusual or rare cases.**

106. A naturalistic observation would be the most appropriate method to investigate which of these topics?
- the ways in which the games of boys differ from the games of girls
  - the development of a male baby raised as a female after a surgical error destroyed his penis
  - the math skills of students in Japan as compared to those of U.S. students
  - physiological changes that occur when people watch violent movies

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 40**

**Type: Applied**

**Answer: a**

**Rationale: Naturalistic observation, which observes and describes behavior in a natural setting, would be most useful for determining the types of games that boys and girls engage in.**

107. A laboratory observation would be the most appropriate method to investigate which of these topics?
- the ways in which the games of boys differ from the games of girls
  - the development of a male baby raised as a female after a surgical error destroyed his penis
  - the math skills of students in Japan as compared to those of U.S. students
  - physiological changes that occur when people watch violent movies

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 41**

**Type: Conceptual**

**Answer: d**

**Rationale: Because of the need for specialized equipment to measure physiological changes, laboratory observation would be most efficient.**

108. A test would be the most appropriate method to investigate which of these topics?
- the ways in which the games of boys differ from the games of girls
  - the development of a male baby raised as a female after a surgical error destroyed his penis
  - the math skills of students in Korea as compared to those of U.S. students
  - physiological changes that occur when people watch violent movies

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 41-42**

**Type: Conceptual**

**Answer: c**

**Rationale: Tests are most appropriate for measuring characteristics of large groups of people.**

109. Over a period of 55 years, a British woman sniffed large amounts of cocaine, which she obtained legally under British regulations for the treatment of addicts. She appeared to show no negative effects, other than drug dependence. What does this case tell us about the dangers/safety of cocaine?
- not much
  - it is safe when legally regulated
  - it is dangerous because it causes dependence
  - it should be legalized in the United States.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 40**

**Type: Conceptual**

**Answer: a**

**Rationale: This is a case study and cannot be generalized to other people, therefore it tells us nothing.**

110. Which descriptive method would be most appropriate for studying attitudes toward stem cell research?
- observation
  - case study
  - survey
  - test

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43-44**

**Type: Applied**

**Answer: c**

**Rationale: Surveys are generally most appropriate for measuring attitudes of large groups of people.**

111. Which descriptive method would be most appropriate for studying flirtation behavior in college students?
- a. observation
  - b. case study
  - c. survey
  - d. test

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 40** **Type: Applied**

**Answer: a**

**Rationale: Because flirtation is often engaged in without awareness, observation would be most appropriate.**

112. Which descriptive method would be most appropriate for studying mathematics ability of incoming freshmen?
- a. observation
  - b. case study
  - c. survey
  - d. test

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42** **Type: Applied**

**Answer: d**

**Rationale: Tests are most useful in measuring ability of large groups of people.**

113. Which descriptive method would be most appropriate for studying changes in behavior following a rare brain disorder?
- a. observation
  - b. case study
  - c. survey
  - d. test

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39** **Type: Applied**

**Answer: b**

**Rationale: Case studies are most useful in rare or unusual cases.**

114. People who are willing to take part in surveys differ from those who decline to take part. This phenomenon is called:
- a. volunteer bias
  - b. volunteer advantage
  - c. biased response
  - d. unfair response

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43** **Type: Factual**

**Answer: a**

**Rationale: This phenomenon is called volunteer bias.**

## **CORRELATIONAL STUDIES: LOOKING FOR RELATIONSHIPS**

### **Learning Objectives**

**2.9 What positive and negative correlations signify about the relationship between two variables**

**2.10 Why a correlation does not establish a causal relationship between two variables**

115. A/an \_\_\_\_\_ is a measure of how strongly two variables are related to one another.
- a. independent variable
  - b. dependent variable
  - c. experimental effect
  - d. correlation

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 45** **Type: Factual**

**Answer: d**

**Rationale: This is a definition of correlation.**

116. A statistical measure of the relationship between two variables is the definition of:
- correlation.
  - relationship coefficient.
  - replication.
  - an experiment.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 45**

**Type: Factual**

**Answer: a**

**Rationale: This is a definition of correlation.**

**% correct 89 a= 89 b= 0 c= 0 d= 11 r = .21**

117. Shannon reads in a news magazine that people who are chronically depressed are more likely than non-depressed people to develop cancer. From this article, Shannon would be able to determine that:
- chronic depression causes cancer.
  - early, undetected cancer causes depression.
  - depressed people tend to smoke, causing cancer.
  - chronic depression and cancer are related to one another.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 45-46**

**Type: Applied**

**Answer: d**

**Rationale: Correlation tells us about relationships, but not causal relationships.**

118. A negative correlation means that:
- high values of one variable are associated with low values of the other.
  - high values of one variable are associated with high values of the other.
  - low values of one variable are associated with low values of the other.
  - there is no relationship between the two variables.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: a**

**Rationale: Negative correlations indicate that two related variables move in opposite directions, that is, the higher one variable the lower the other is and vice versa.**

**% correct 97 a= 97 b= 3 c= 0 d= 0 r = .21**

119. Julie has found that the number of hours she sleeps each night is related to the scores she receives on quizzes the next day. As her sleep approaches 8 hours, her quiz scores improve; as her sleep drops to 5 hours, her quiz scores show a similar decline. Julie realizes that:
- there is a negative correlation between the number of hours she sleeps and her quiz grades.
  - there is a positive correlation between the number of hours she sleeps and her quiz grades.
  - her low quiz scores are caused by sleep deprivation the night before a quiz.
  - she should sleep about 10 hours a night to ensure 100 percent quiz grades.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Applied**

**Answer: b**

**Rationale: This is an example of a positive correlation.**

120. Janie has found that the number of hours she sleeps each night is related to the scores she receives on quizzes the next day. As her sleep approaches 8 hours, her quiz scores improve; as her sleep drops to 5 hours, her quiz scores show a similar decline. Janie realizes that:
- worrying about low quiz scores causes her to have insomnia before a quiz.
  - there is a positive correlation between the number of hours she sleeps and her quiz grades.
  - her low quiz scores are caused by sleep deprivation the night before a quiz.
  - she should sleep about 10 hours a night to ensure 100 percent quiz grades.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Applied**

**Answer: b**

**Rationale: This is an example of a positive correlation, but does not give any information about cause and effect.**

121. The word “correlation” is often used as a synonym for:
- a. validity.
  - b. reliability.
  - c. variable.
  - d. relationship.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 45** **Type: Conceptual**

**Answer: d**

**Rationale: Correlation is a measure of relationship.**

122. A correlation is a numerical measure of the:
- a. unintended changes in subjects’ behavior due to cues from the experimenter.
  - b. strength of the relationship between two variables.
  - c. behaviors of subjects of different ages compared at a given time.
  - d. behaviors of subjects followed and periodically assessed over time.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 45** **Type: Conceptual**

**Answer: b**

**Rationale: Correlation is a measure of relationship.**

123. All of the following variables EXCEPT \_\_\_\_\_ show a positive correlation.
- a. height and weight
  - b. men’s educational level and their income
  - c. average income and the incidence of dental disease
  - d. school grades and I.Q. scores

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46** **Type: Conceptual**

**Answer: c**

**Rationale: There is a negative relationship between average income and the incidence of dental disease.**

124. All of the following variables EXCEPT \_\_\_\_\_ show a negative correlation.
- a. average income and the incidence of dental disease
  - b. adult shoe size and IQ scores
  - c. the price of a car and the age of a car
  - d. hours spent watching TV and grade point average

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46** **Type: Conceptual**

**Answer: b**

**Rationale: There is no relationship between shoe size and IQ scores.**

125. Two sets of observations assessing height and weight are compared. Which of the following is the most likely outcome?
- a. The first variable causes the second variable.
  - b. The two variables will be uncorrelated.
  - c. The two variables will be negatively correlated.
  - d. The two variables will be positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46** **Type: Applied**

**Answer: d**

**Rationale: Height and weight are positively correlated; that is, in general the taller one is the more he or she weighs.**

126. Two sets of observations assessing men’s educational level and their annual income are compared. Which of the following is the most likely outcome?
- a. The first variable caused the second variable.
  - b. The two variables will be uncorrelated.
  - c. The two variables will be negatively correlated.
  - d. The two variables will be positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46** **Type: Applied**

**Answer: d**

**Rationale: In general, men with more education also earn more, a positive correlation.**

127. Two sets of observations, assessing annual income and the number of dental problems needing care, are compared. Which of the following is the most likely outcome?
- a. The first variable causes the second variable.
  - b. The two variables will be uncorrelated.
  - c. The two variables will be negatively correlated.
  - d. The two variables will be positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Applied**

**Answer: c**

**Rationale: In general, people with low incomes do not receive preventive dental care and therefore have more dental problems. Thus this is a negative correlation.**

128. Two sets of observations, assessing annual income and dental health, are compared. Which of the following is the most likely outcome?
- a. The first variable causes the second variable.
  - b. The two variables will be uncorrelated.
  - c. The two variables will be negatively correlated.
  - d. The two variables will be positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Applied**

**Answer: d**

**Rationale: In general, people with higher incomes receive more preventive dental care and therefore have better dental health. Thus this is a positive correlation.**

129. Two sets of observations, assessing hours spent watching television and grade point averages, are compared. Which of the following is the most likely outcome?
- a. The first variable causes the second variable.
  - b. The two variables will be uncorrelated.
  - c. The two variables will be negatively correlated.
  - d. The two variables will be positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Applied**

**Answer: c**

**Rationale: In general, grade point average decreases as hours watching television increases, a negative correlation.**

130. Two sets of observations, assessing age and the number of hairs on a man's head, are compared. Which of the following is the most likely outcome?
- a. The first variable causes the second variable.
  - b. The two variables will be uncorrelated.
  - c. The two variables will be negatively correlated.
  - d. The two variables will be positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Applied**

**Answer: c**

**Rationale: Generally, older men have less hair, a negative correlation.**

131. Two sets of observations, assessing shoe size and IQ, are compared. Which of the following is the most likely outcome?
- a. The first variable causes the second variable.
  - b. The two variables will be uncorrelated.
  - c. The two variables will be negatively correlated.
  - d. The two variables will be positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Applied**

**Answer: b**

**Rationale: It is unlikely that shoe size and IQ are related in any way.**

132. The coefficient of correlation conveys:
- the size and direction of a relationship between two variables.
  - whether one variable causes the other variable to happen.
  - the unintended changes in a subject's behavior due to the experimenter's cues.
  - whether or not the principle of falsifiability applies to each variable.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: a**

**Rationale: Correlations give information about size and direction of relationships, but not cause and effect.**

133. Which of the following correlations is the strongest?
- +0.5
  - 0.8
  - +0.7
  - 0.1

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: b**

**Rationale: Correlations farther away from 0 (either positive or negative) are stronger.**

134. A correlation coefficient of  $-1.73$  means that:
- the relationship between the two variables is very strong.
  - the relationship between the two variables is very weak.
  - as one variable increases, so does the other.
  - a calculation error has been made.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: d**

**Rationale: Correlations can only range from  $-1$  to  $+1$ , therefore a calculation error has been made.**

**% correct 47 a= 7 b= 47 c= 0 d= 47 r = .41**

135. When two variables are not related, the correlation coefficient will be close to:
- 0.
  - 1.
  - +1.
  - 10.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: a**

**Rationale: The closer the correlation coefficient is to 0, the weaker the relationship. A correlation coefficient of 0 indicates no relationship.**

136. When two variables have a strong positive correlation, the correlation coefficient will be close to:
- 0.
  - 1.
  - +1.
  - +10.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: c**

**Rationale: Correlation coefficients close to  $+1$  indicate strong positive relationships.**

137. When two variables have a strong negative correlation, the correlation coefficient will be close to:
- 0.
  - 1.
  - +1.
  - 10.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: b**

**Rationale: Correlation coefficients close to  $-1$  indicate strong negative relationships.**



138. The strongest relationship, as indicated by these correlation coefficients, is:

- a.  $-.74$ .
- b.  $+3.42$ .
- c.  $-.35$ .
- d.  $0.0$ .

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: a**

**Rationale: The farther a correlation coefficient is from 0, the stronger the relationship. A correlation coefficient of  $+3.42$  is not possible.**

139. The strongest relationship, as indicated by these correlation coefficients, is:

- a.  $-.74$ .
- b.  $+.68$ .
- c.  $-.69$ .
- d.  $+.71$ .

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: a**

**Rationale: The farther a correlation coefficient is from 0, the stronger the relationship.**

140. The strongest relationship, as indicated by these correlation coefficients, is:

- a.  $-.74$ .
- b.  $+.68$ .
- c.  $-.67$ .
- d.  $+.73$ .

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: a**

**Rationale: The farther a correlation coefficient is from 0, the stronger the relationship.**

141. The weakest relationship, as indicated by these correlation coefficients, is:

- a.  $-.74$ .
- b.  $+.27$ .
- c.  $-.35$ .
- d.  $+.16$ .

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: d**

**Rationale: The closer the correlation coefficient is to 0, the weaker the relationship.**

142. A researcher finds that there is no correlation between the color of the house you grew up in and your IQ. This relationship, as indicated by these correlation coefficients, is:

- a.  $-1.00$ .
- b.  $+.27$ .
- c.  $-.35$ .
- d.  $0.0$ .

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: d**

**Rationale: The closer the correlation coefficient is to 0, the weaker the relationship. A correlation coefficient of 0 indicates no relationship.**

143. A researcher finds that there is no correlation between the color of the house you grew up in and your IQ. This relationship, as indicated by these correlation coefficients, is:
- 1.00.
  - +10.00.
  - 10.00.
  - 0.0.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: d**

**Rationale: The closer the correlation coefficient is to 0, the weaker the relationship. A correlation coefficient of 0 indicates no relationship.**

144. Which of the following statements about correlation is true?
- Positive correlations are meaningful, but negative ones are not.
  - Negative correlations are weak, but positive ones are strong.
  - Correlations close to +1.0 or -1.0 are strong, while correlations close to 0 are weak.
  - A strong correlation is indicative of a causal relationship between variables.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: c**

**Rationale: The closer the correlation coefficient is to 0, the weaker the relationship and the closer the correlation coefficient is to +1 or -1, the stronger the relationship.**

145. The number of storks nesting in some European villages is positively correlated with the number of human births in the villages. This means that:
- the researchers made an error in their calculations since babies don't attract storks!
  - since storks don't bring babies, one may assume that correlation never represents causation.
  - when many storks are nesting in the villages then researchers may predict fewer human births.
  - the number of human births may be predicted by knowing the number of stork nestings.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Applied**

**Answer: d**

**Rationale: Correlations can be used to make predictions, but do not indicate cause and effect.**

146. The higher a male monkey's level of the hormone testosterone, the more aggressive he is likely to be. This means that:
- testosterone causes aggression.
  - testosterone and aggression are uncorrelated.
  - testosterone and aggression are negatively correlated.
  - testosterone and aggression are positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: d**

**Rationale: Correlations indicate strength and direction of relationships, but do not indicate cause and effect. This is an example of a positive correlation.**

147. The higher a male monkey's level of the hormone testosterone, the less docile he is likely to be. This means that:
- testosterone deficiencies cause docility in monkeys.
  - testosterone and docility are uncorrelated.
  - testosterone and docility are negatively correlated.
  - testosterone and docility are positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: c**

**Rationale: Correlations indicate strength and direction of relationships, but do not indicate cause and effect. This is an example of a negative correlation.**

148. The hotter the weather, the more muggings tend to occur. This means that:
- a. heat causes violent behaviors.
  - b. hot weather and crime are uncorrelated.
  - c. hot weather and crime are negatively correlated.
  - d. hot weather and crime are positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: d**

**Rationale: Correlations indicate strength and direction of relationships, but do not indicate cause and effect. This is an example of a positive correlation.**

149. The colder the weather, the fewer muggings tend to occur. This means that:
- a. cold weather causes a reduction in crime.
  - b. cold weather and crime are uncorrelated.
  - c. cold weather and crime are negatively correlated.
  - d. cold weather and crime are positively correlated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: c**

**Rationale: Correlations indicate strength and direction of relationships, but do not indicate cause and effect. This is an example of a negative correlation.**

150. The higher a male monkey's level of the hormone testosterone, the more aggressive he is likely to be. This means that:
- a. testosterone causes aggression.
  - b. aggression stimulates the production of testosterone.
  - c. age may influence aggression and hormone production independently.
  - d. Any of the above explanations is a possibility.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Conceptual**

**Answer: d**

**Rationale: Any of the explanations is a possibility, but a correlation cannot indicate which one is true.**

151. The hotter the weather, the more muggings tend to occur. This means that:
- a. hot temperatures make people edgy and cause them to commit crimes.
  - b. potential victims are more plentiful when the weather warms up.
  - c. criminals may find it more comfortable to commit crimes in warm weather.
  - d. Any of the above explanations is a possibility.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 45**

**Type: Conceptual**

**Answer: d**

**Rationale: Any of the explanations is a possibility, but a correlation cannot indicate which one is true.**

## **EXPERIMENTS: HUNTING FOR CAUSES**

### **Learning Objectives**

**2.11 Why psychologists rely so heavily on experiments**

**2.12 What are the defining features of an experiment**

**2.13 What are the special challenges in doing cross-cultural research**

152. A controlled test of a hypothesis, in which the researcher manipulates one variable in order to discover its effect on another variable, is called a/an:
- a. correlational study.
  - b. experiment.
  - c. control condition.
  - d. single-blind study.

**Section: Experiments: Hunting for Causes**

**Page(s): 48-49**

**Type: Factual**

**Answer: b**

**Rationale: This is a description of an experiment.**

**% correct 97 a= 3 b= 97 c= 0 d= 0 r = .21**

153. A controlled test of a hypothesis, in which the researcher manipulates one variable in order to discover its effect on another variable, is called:
- a. a valid study.
  - b. an experiment.
  - c. a case study.
  - d. a reliable study.

**Section: Experiments: Hunting for Causes**

**Page(s): 48-49**

**Type: Factual**

**Answer: b**

**Rationale: This is a description of an experiment.**

154. Experiments are more valuable than other research methods because:
- a. they are conducted in labs where the researcher is able to control all the variables.
  - b. they use both independent and dependent variables.
  - c. there is a control group to compare with the experimental group.
  - d. they allow a determination of cause-effect relationships.

**Section: Experiments: Hunting for Causes**

**Page(s): 49**

**Type: Conceptual**

**Answer: d**

**Rationale: Experiments are the only method that allow a determination of cause and effect.**

155. Which variable does the experimenter manipulate?
- a. the control variable
  - b. the confounding variable
  - c. the independent variable
  - d. the dependent variable

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: c**

**Rationale: The independent variable is manipulated by the experimenter.**

156. A variable that the experimenter manipulates is called a/an:
- a. coefficient of correlation.
  - b. dependent variable.
  - c. control condition.
  - d. independent variable.

**Section: Experiments: Hunting for Causes**

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**Type: Factual**

**Answer: d**

**Rationale: The independent variable is manipulated by the experimenter.**

**% correct 90 a= 0 b= 5 c= 5 d= 90 r = .30**

157. A variable that the experimenter predicts will be affected by her manipulations is called a/an:
- coefficient of correlation.
  - dependent variable.
  - control condition.
  - independent variable.

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**Type: Factual**

**Answer: b**

**Rationale: The dependent variable is a measure of the outcome of an experiment.**

**% correct 93    a= 3   b= 93   c= 3   d= 0    r = .24**

158. \_\_\_\_\_ is/are critical in testing new drugs because of the optimism that a potential “miracle cure” often brings with it.
- Random assignment
  - Small sample size
  - Full disclosure
  - Placebos

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**Type: Conceptual**

**Answer: d**

**Rationale: Using placebos will help with this issue.**

159. Subjects are randomly assigned to the experimental or control condition:
- to make sure the two groups are equivalent.
  - to eliminate the placebo effect.
  - to control for possible correlations between the independent and dependent variables.
  - to control for experimenter effects.

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**Type: Conceptual**

**Answer: a**

**Rationale: Random assignment helps to eliminate differences between groups.**

**% correct 31    a= 31   b= 7   c= 34   d= 28    r = .32**

160. In an experiment on the effects of playing video games on school grades, which group is the control group?
- a group that doesn't play video games at all
  - a group that only plays video games on weekends
  - a group that is allowed to play video games for 1 hour each day
  - a group that is allowed to play video games for as long as they want each day

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**Type: Applied**

**Answer: a**

**Rationale: The control group is the one that is not exposed to the independent variable. In this case, the independent variable is playing video games.**

161. A research hypothesis proposes that consuming low carbohydrate diets results in increased weight loss. One group of people follows a low-carb diet for three weeks, while a second group follows a high-carb diet containing the same number of calories for three weeks. The average number of pounds lost per person is compared. What is the dependent variable?
- number of pounds lost
  - length of time on the diet
  - the amount of carbs in each diet
  - the number of calories in each diet

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**Type: Applied**

**Answer: a**

**Rationale: The dependent variable is the outcome measure, the number of pounds lost.**

162. A research hypothesis proposes that consuming low carbohydrate diets results in increased weight loss. One group of people follows a low-carb diet for three weeks, while a second group follows a high-carb diet containing the same number of calories for three weeks. The average number of pounds lost per person is compared. What is the independent variable?
- a. number of pounds lost
  - b. length of time on the diet
  - c. the amount of carbs in each diet
  - d. the number of calories in each diet

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**Type: Applied**

**Answer: c**

**Rationale: The independent variable is manipulated by the experimenter, the amount of carbs in each diet.**

163. In a laboratory, smokers are asked to “drive” using a computerized driving simulator equipped with a stick shift and a gas pedal. The object is to maximize the distance covered by driving as fast as possible on a winding road while avoiding rear-end collisions. Some of the subjects smoke a real cigarette immediately before climbing into the driver’s seat. Others smoke a fake cigarette without nicotine. You are interested in comparing how many collisions the two groups have. In this study, the independent variable is:
- a. the use of nicotine.
  - b. the use of a driving simulator.
  - c. the number of collisions.
  - d. the driving skills of each driver.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Applied**

**Answer: a**

**Rationale: The independent variable is manipulated by the experimenter, the use of nicotine.**

164. In a laboratory, smokers are asked to “drive” using a computerized driving simulator equipped with a stick shift and a gas pedal. The object is to maximize the distance covered by driving as fast as possible on a winding road while avoiding rear-end collisions. Some of the subjects smoke a real cigarette immediately before climbing into the driver’s seat. Others smoke a fake cigarette without nicotine. You are interested in comparing how many collisions the two groups have. In this study, the dependent variable is:
- a. the use of nicotine.
  - b. the use of a driving simulator.
  - c. the number of collisions.
  - d. the driving skills of each driver.

**Section: Experiments: Hunting for Causes**

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**Type: Applied**

**Answer: c**

**Rationale: The dependent variable is the outcome measure, the number of collisions.**

165. In a laboratory, smokers are asked to “drive” using a computerized driving simulator equipped with a stick shift and a gas pedal. The object is to maximize the distance covered by driving as fast as possible on a winding road while avoiding rear-end collisions. Some of the subjects smoke a real cigarette immediately before climbing into the driver’s seat. Others smoke a fake cigarette without nicotine. You are interested in comparing how many collisions the two groups have. In this study, the cigarette without nicotine is:
- a. a dependent variable.
  - b. a placebo.
  - c. a double-blind procedure.
  - d. a hypothesis.

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**Type: Applied**

**Answer: b**

**Rationale: A placebo is a “sugar pill” or treatment without the active ingredient. It is used so that the subjects do not know who is getting nicotine and who isn’t.**

166. Ideally, everything in the experimental situation EXCEPT the \_\_\_\_\_ is held constant.
- a. inferential statistic
  - b. placebo
  - c. independent variable
  - d. hypothesis

**Section: Experiments: Hunting for Causes**

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**Type: Conceptual**

**Answer: c**

**Rationale: The only difference between experimental and control groups should be the independent variable.**

167. Ideally, in the experimental situation the independent variable is:
- a. changed.
  - b. not measured.
  - c. held constant.
  - d. manipulated.

**Section: Experiments: Hunting for Causes**

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**Type: Conceptual**

**Answer: c**

**Rationale: The independent variable is always held constant.**

168. One of the variables in a research study is chocolate. Chocolate:
- a. would be a dependent variable.
  - b. would be a placebo.
  - c. would be an independent variable.
  - d. may be either an independent or dependent variable.

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**Type: Conceptual**

**Answer: d**

**Rationale: Most variables could be either dependent or independent, depending on the experiment.**

169. A researcher wants to know whether eating chocolate makes people nervous. The amount of chocolate eaten:
- a. would be a dependent variable.
  - b. would be a placebo.
  - c. would be an independent variable.
  - d. may be either an independent or dependent variable.

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**Type: Applied**

**Answer: c**

**Rationale: Independent variables are manipulated by the experimenter.**

170. A researcher wants to know whether eating chocolate makes people nervous. The amount of chocolate eaten:
- a. would be the operational definition.
  - b. would be the criterion validity.
  - c. would be the independent variable.
  - d. would be the inferential statistic.

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**Type: Applied**

**Answer: c**

**Rationale: Independent variables are manipulated by the experimenter.**

171. A researcher wants to know whether feeling nervous makes people eat chocolate. The amount of chocolate eaten:
- a. would be a dependent variable.
  - b. would be a placebo.
  - c. would be an independent variable.
  - d. may be either an independent or dependent variable.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Applied**

**Answer: a**

**Rationale: Dependent variables are outcome measures.**

172. Professor Marshall wants to know if eating sweets for a bedtime snack makes children active. In his study, sweets before bedtime would be:
- the independent variable.
  - the dependent variable.
  - the control condition.
  - the placebo.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Applied**

**Answer: a**

**Rationale: Independent variables are manipulated by the experimenter.**

173. A researcher plans to investigate whether a cup of hot milk at night helps people relax so that they fall asleep quickly. In this study,
- the independent variable is the amount of time it takes the person to fall asleep.
  - the independent variable is the consumption of hot milk at bedtime.
  - the control group consists of the subjects drinking hot milk at bedtime.
  - experimenter effects will occur unless the researcher improves the hypothesis.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Applied**

**Answer: b**

**Rationale: The independent variable, hot milk, is manipulated by the experimenter.**

174. All of the following are accurate statements regarding random assignment EXCEPT:
- it is a procedure for assigning people to experimental and control groups.
  - it is a procedure in which each subject has the same possibility of being assigned to a given group.
  - it is a procedure in which subjects are assigned to a positive correlation or a negative correlation condition.
  - it is a procedure that allows individual characteristics to be roughly balanced between groups.

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**Page(s): 51**

**Type: Factual**

**Answer: c**

**Rationale: Random assignment has nothing to do with correlation. It is a procedure for helping to assure that the experimental and control groups are equivalent.**

175. Professor Wakelin has developed a new form of therapy that he believes cures anxiety. Sixty-three percent of the people who go through his program improve. A problem with his research study is:
- it lacks a control condition.
  - it lacks a well-developed hypothesis.
  - over thirty percent of the people did not improve.
  - he conducted an experiment when he should have done a laboratory observation.

**Section: Experiments: Hunting for Causes**

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**Type: Applied**

**Answer: a**

**Rationale: Without a control group for comparison, it is not possible to interpret the meaning of the experimental results.**

176. The \_\_\_\_\_ in an experiment is a comparison condition in which subjects are not exposed to the same treatment as in the experimental condition.
- double-blind condition
  - control condition
  - single-blind condition
  - criterion validity

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Conceptual**

**Answer: b**

**Rationale: This is a description of a control group.**

**% correct 62 a= 35 b= 62 c= 0 d= 3 r = .27**



177. The purpose of a single-blind or double-blind study is to:
- compare people blind in one eye with people blind in both eyes.
  - eliminate the effects of expectations on the results of an experiment.
  - examine the effects of the independent variable on the experimental group.
  - examine the difference between the experimental and control groups.

**Section: Experiments: Hunting for Causes**

**Page(s): 51-52**

**Type: Conceptual**

**Answer: b**

**Rationale: Single- and double-blind studies help to limit the effects of bias and expectations.**

178. \_\_\_\_\_ is an experiment in which subjects do not know if they are in the experimental or the control group.
- The double-blind study
  - Field research
  - The single-blind study
  - Correlational research

**Section: Experiments: Hunting for Causes**

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**Type: Factual**

**Answer: c**

**Rationale: This is a description of a single-blind study.**

179. \_\_\_\_\_ is an experiment in which neither the subjects nor the individuals running the experiment know if subjects are in the experimental or the control group until after the results are tallied.
- The double-blind study
  - Field research
  - The single-blind study
  - Correlational research

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**Page(s): 52**

**Type: Factual**

**Answer: a**

**Rationale: This is a description of a double-blind study.**

180. Unintended changes in subjects' behavior due to cues inadvertently given by the experimenter are called:
- replications.
  - experimenter effects.
  - volunteer biases.
  - single-blind studies.

**Section: Experiments: Hunting for Causes**

**Page(s): 51**

**Type: Factual**

**Answer: b**

**Rationale: This is a definition of experimenter effects.**

**% correct 89 a= 3 b= 89 c= 5 d= 0 r = .50**

181. Many psychologists have called for more field research because experimental studies:
- cannot identify cause and effect.
  - often involve artificial situations.
  - do not allow firm conclusions to be drawn.
  - may be missing vital information due to subjects' inaccurate memories.

**Section: Experiments: Hunting for Causes**

**Page(s): 52**

**Type: Conceptual**

**Answer: b**

**Rationale: Laboratory studies often involve somewhat artificial studies and the results cannot generalize to real situations. Field research overcomes this limitation.**

182. A well-known study on experimenter effects using rats labeled as “maze bright” and “maze dull” was conducted by \_\_\_\_\_ in 1966.
- B.F. Skinner
  - Robert Rosenthal
  - Alex Jacobsen
  - Wade Tavis

**Section: Experiments: Hunting for Causes**

**Page(s): 51- 52**

**Type: Factual**

**Answer: b**

**Rationale: Rosenthal conducted the study that is described here.**

183. Which of the following problems is NOT common to both experiments and surveys?
- it is not possible to determine cause and effect
  - generalization may be limited if subjects are not selected randomly
  - subjects may not behave honestly
  - participants may not be representative of the larger population

**Section: Experiments: Hunting for Causes**

**Page(s): 52**

**Type: Conceptual**

**Answer: a**

**Rationale: Experiments, but not surveys, can determine cause and effect.**

184. Which of the following is NOT a problem with experiments?
- experimenter bias may affect subjects’ performance
  - generalization may be limited because the situation is artificial
  - cause and effect cannot be determined in an experiment
  - use of volunteers may bias the results

**Section: Experiments: Hunting for Causes**

**Page(s): 52**

**Type: Conceptual**

**Answer: c**

**Rationale: Cause and effect can be determined by experiments.**

185. Field research may yield better results than laboratory research because:
- placebos don’t need to be used.
  - subjects don’t know they are in an experiment.
  - there is no control group.
  - the situation is less artificial.

**Section: Experiments: Hunting for Causes**

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**Type: Conceptual**

**Answer: d**

**Rationale: Artificial situations in some laboratory research cause results to be less generalizable to real situations.**

186. All of the following are major concerns that arise in cross-cultural research EXCEPT:
- need.
  - methods and sampling.
  - stereotyping.
  - reification.

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**Page(s): 53-54**

**Type: Factual**

**Answer: a**

**Rationale: There is a great need for cross-cultural research. The others listed are major concerns.**

187. Cultural psychologists must work to identify the underlying mechanisms that account for cultures. This requires psychologists to avoid the process of:
- validity.
  - reification.
  - reliability.
  - correlation.

**Section: Experiments: Hunting for a Cause**

**Page(s): 54**

**Type: Factual**

**Answer: b**

**Rationale: Reification is a major concern in cross-cultural research.**

188. Worries about how one language translates to another is a concern in:
- a. cross-cultural research
  - b. laboratory experiments
  - c. animal subjects
  - d. correlational data

**Section: Experiments: Hunting for a Cause**

**Page(s): 54**

**Type: Factual**

**Answer: a**

**Rationale: Finding linguistic equivalents is a large concern in cross-cultural research.**

## **EVALUATING THE FINDINGS**

### **Learning Objectives**

#### **2.14 Why averages can be misleading**

#### **2.15 How psychologists use inferential statistics to reach conclusions about their research**

#### **2.16 How psychologists can combine results from many studies of a question to get a better overall answer**

189. \_\_\_\_\_ is a technique which allows a researcher to do an overview of numerous studies.
- a. Demographic analysis
  - b. Meta-analysis
  - c. Overview analysis
  - d. Superficial analysis

**Section: Evaluating the Findings**

**Page(s): 58**

**Type: Factual**

**Answer: b**

**Rationale: This technique is called meta-analysis.**

190. Which of the following is the definition of “standard deviation”?
- a. A statistical procedure that allows researchers to draw implications about how statistically meaningful a study’s results are.
  - b. A commonly used measure of variability that indicates the average difference between scores in a distribution and their mean.
  - c. An average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set.
  - d. A statistical test that assesses how likely it is that a study’s results occurred merely by chance so that the researcher knows that the probability that the difference is “real” is overwhelming.

**Section: Evaluating the Findings**

**Page(s): 56**

**Type: Factual**

**Answer: b**

**Rationale: A standard deviation is defined as a commonly used measure of variability that indicates the average difference between scores in a distribution and their mean.**

191. Statistics are used for all of the following EXCEPT:
- a. describing results.
  - b. generating results.
  - c. determining reliability and meaningfulness of results.
  - d. determining the significance of the results.

**Section: Evaluating the Findings**

**Page(s): 55**

**Type: Conceptual**

**Answer: b**

**Rationale: Experiments generate results and statistics describe and analyze them.**

192. Descriptive statistics includes all of the following EXCEPT:

- a. use of graphs and charts.
- b. tests of significance.
- c. calculating the arithmetic mean.
- d. calculating the standard deviation.

**Section: Evaluating the Findings**

**Page(s): 55-56**

**Type: Factual**

**Answer: b**

**Rationale: Tests of significance are inferential statistics, not descriptive statistics.**

193. Which of the following is the definition of “descriptive statistics”?

- a. Statistical procedures that allow researchers to draw inferences about how statistically meaningful a study’s results are.
- b. Statistical procedures that organize and summarize research data.
- c. Averages that are calculated by adding up a set of quantities and multiplying the sum by the total number of quantities in the set.
- d. Statistical tests that assess how likely it is that a study’s results occurred merely by chance.

**Section: Evaluating the Findings**

**Page(s): 55**

**Type: Factual**

**Answer: b**

**Rationale: Descriptive statistics are procedures that organize and summarize research data.**

194. Which of the following is the definition of the “arithmetic mean”?

- a. A statistical procedure that allows researchers to draw inferences about how statistically meaningful a study’s results are.
- b. A commonly used measure of variability that indicates the average difference between scores in a distribution and their mean.
- c. An average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set.
- d. A statistical test that assesses how likely it is that a study’s results occurred merely by chance so that the researcher knows that the probability that the difference is “real” is overwhelming.

**Section: Evaluating the Findings**

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**Type: Factual**

**Answer: c**

**Rationale: An arithmetic mean is an average.**

195. Which of the following is the definition of “inferential statistics”?

- a. Statistical procedures that allow researchers to draw inferences about how statistically meaningful a study’s results are.
- b. Statistical procedures that organize and summarize research data.
- c. Averages that are calculated by adding up a set of quantities and multiplying the sum by the total number of quantities in the set.
- d. Statistical tests that assess how likely it is that a study’s results occurred merely by chance.

**Section: Evaluating the Findings**

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**Type: Factual**

**Answer: a**

**Rationale: Inferential statistics are procedures that allow researchers to draw inferences about how statistically meaningful a study’s results are.**

196. Which of the following is the definition of “significance tests”?

- a. Statistical procedures that allow researchers to draw inferences about how statistically meaningful a study’s results are.
- b. Statistical procedures that organize and summarize research data.
- c. Averages that are calculated by adding up a set of quantities and multiplying the sum by the total number of quantities in the set.
- d. Statistical procedures that assess how likely it is that a study’s results occurred merely by chance.

**Section: Evaluating the Findings**

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**Type: Factual**

**Answer: d**

**Rationale: Tests of significance are statistical procedures that assess how likely it is that a study’s results occurred merely by chance.**

197. If the likelihood that a result occurred by chance is less than 5 percent:
- the results are statistically significant.
  - the results are meaningless.
  - the results can be used to predict individual behavior with some accuracy.
  - the results fail to support the hypothesis being tested.

**Section: Evaluating the Findings**

**Page(s): 56**

**Type: Factual**

**Answer: a**

**Rationale: This is a definition of statistical significance.**

198. Psychologists consider a result to be significant if it would be expected to occur by chance \_\_\_\_\_ time(s) in 100 repetitions of the study.
- one
  - five or fewer
  - ten or fewer
  - fifteen or fewer

**Section: Evaluating the Findings**

**Page(s): 56**

**Type: Factual**

**Answer: b**

**Rationale: The most common criterion for significance is a probability less than 5 times in 100 repetitions.**

199. In a journal article, the authors report that the result is significant at the .05 level. This means that:
- the researchers know that the results were not obtained by chance and that the difference between the experimental and the control group is "real."
  - the probability that the result is due to "real" differences between groups is 5 times in 100 repetitions of the study.
  - the results failed to support the hypothesis of the study, although the researchers may want to do further studies.
  - the probability that the result occurred by chance is extremely low and the probability that the difference is "real" is overwhelming.

**Section: Evaluating the Findings**

**Page(s): 56**

**Type: Conceptual**

**Answer: d**

**Rationale: A .05 level of significance means that there is less than 5 percent probability that the results were due to chance.**

200. When Patrick and Mary Anne first got married they agreed to participate in a research project that investigated the happiness of married couples over time. Every five years they complete a survey that indicates their marital satisfaction. It is evident that Patrick and Mary Anne are:
- participants in a single-blind study.
  - participants in a longitudinal study.
  - subjects in a control condition.
  - subjects in a cross-sectional study.

**Section: Evaluating the Findings**

**Page(s): 58**

**Type: Applied**

**Answer: b**

**Rationale: Longitudinal studies involve repeated testing of the same subjects over a long period of time.**

201. A psychologist is studying gender relationships in childhood and early adolescence. Fourth grade and sixth grade children are observed during lunchtime at school in order to assess seating preferences of boys and girls. From this information, it is evident that the researcher is:
- conducting a cross-sectional study.
  - conducting a longitudinal study.
  - performing a meta-analysis procedure.
  - able to draw firm conclusions about cause and effect.

**Section: Evaluating the Findings**

**Page(s): 57**

**Type: Applied**

**Answer: a**

**Rationale: Cross-sectional studies compare subjects of different ages at the same time.**

202. Techniques such as meta-analysis are useful in psychology because:
- a. they help reduce unintended changes in subjects' behavior due to cues given by the experimenter.
  - b. they allow for the careful study of behavior in schools, workplaces, and other natural contexts.
  - c. they include subjects who are exposed to experimental conditions that do not include the independent variable.
  - d. rarely does one study prove anything and this technique analyzes data from many studies.

**Section: Evaluating the Findings**

**Page(s): 58**

**Type: Factual**

**Answer: d**

**Rationale: Meta-analysis allow the results of many studies to be combined. Thus the results are more meaningful than the results of one small study that may or may not prove anything.**

203. Interpreting the results of an experiment involves all of the following EXCEPT:
- a. choosing the best explanation.
  - b. judging the results' importance.
  - c. determining the effect size.
  - d. summarizing the results with descriptive statistics.

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**Type: Conceptual**

**Answer: d**

**Rationale: Descriptive statistics are used to report the results but not to explain them.**

204. Which of the following statements is NOT true?
- a. Scientific progress typically occurs gradually.
  - b. Meta-analysis can reveal trends and effect size.
  - c. Scientific breakthroughs are typically based on a single, well-designed study.
  - d. Effect size can be small even with statistically significant results.

**Section: Evaluating the Findings**

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**Type: Conceptual**

**Answer: c**

**Rationale: Scientific breakthroughs are rarely based on a single study.**

## **KEEPING THE ENTERPRISE ETHICAL**

### **Learning Objectives**

#### **2.17 Why psychologists sometimes lie to people taking part in their studies**

#### **2.18 Why psychologists study nonhuman animals**

205. According to the ethical guidelines of the American Psychological Association, researchers using human subjects must do all of the following EXCEPT:
- a. provide adequate financial reimbursement to compensate for the time and effort of their subjects.
  - b. warn the subjects in advance if any risk exists for those participating in the study.
  - c. explain enough about the study so that subjects can decide whether they wish to participate.
  - d. give subjects the opportunity to withdraw from the study at any time without any penalty.

**Section: Keeping the Enterprise Ethical**

**Page(s): 60-61**

**Type: Factual**

**Answer: a**

**Rationale: The APA ethical guidelines are designed to protect the rights of the subject and prevent harm to the subject, not compensate the subject.**

206. APA ethical guidelines for research with human subjects require all of the following EXCEPT:
- a. protecting participants from physical and mental harm.
  - b. obtaining informed consent from research subjects.
  - c. warning subjects of potential risks resulting from participation.
  - d. avoiding deception in all research.

**Section: Keeping the Enterprise Ethical**

**Page(s): 60-61**

**Type: Factual**

**Answer: d**

**Rationale: The APA ethical guidelines are designed to protect the rights of the subject and prevent harm to the subject. Deception is sometimes necessary in experiments, but subjects should be debriefed after the study when deception is involved.**

207. As a result of controversy over the use of deception in research:
- a. the APA now does not allow deception.
  - b. debriefing is required when deception is used.
  - c. subjects who are deceived must receive therapy free of charge if requested.
  - d. deception is allowed as long as subjects are volunteers.

**Section: Keeping the Enterprise Ethical**

**Page(s): 61**

**Type: Factual**

**Answer: b**

**Rationale: Deception is sometimes necessary in experiments, but subjects should be debriefed after the study when deception is involved.**

208. People who participate in research studies must participate voluntarily and must know enough about the study to make an intelligent decision about participating, a concept known as:
- a. criterion validity.
  - b. experimental clarification.
  - c. informed consent.
  - d. the basic research ethic.

**Section: Keeping the Enterprise Ethical**

**Page(s): 60**

**Type: Factual**

**Answer: c**

**Rationale: This is a description of informed consent.**

209. Animal research is used for all of the following reasons EXCEPT:
- a. to improve human welfare.
  - b. to discover practical applications.
  - c. to conduct basic research on a particular species.
  - d. to replace human studies that would require deception.

**Section: Keeping the Enterprise Ethical**

**Page(s): 61-62**

**Type: Conceptual**

**Answer: d**

**Rationale: Animal research is used, in some cases, when human studies would be unethical or impossible.**

210. Psychologists study animals for all of the following reasons EXCEPT:
- a. to clarify theoretical questions, such as assessing that a male-female difference in lifestyle exists in mammals other than humans.
  - b. to discover practical applications of psychological principles without concerns over the treatment of the subjects.
  - c. to conduct basic research on a particular species, such as studying cooperation among apes.
  - d. to improve human welfare, for example, investigating the mechanisms underlying memory loss and senility.

**Section: Keeping the Enterprise Ethical**

**Page(s): 61-62**

**Type: Conceptual**

**Answer: b**

**Rationale: Even in animal research, experimenters are concerned about the treatment of the subjects.**

211. An essential part of scientific thinking is not only how to use statistics correctly, but also how to identify the misuse of statistics. Our authors suggest that students should:
- a. distrust all statistics because they convey a false impression of certainty and are typically wildly inaccurate.
  - b. integrate statistics with “real-life” issues, such as day care, in order to interpret them.
  - c. trust only those statistics that are presented in reputable newspapers and journals.
  - d. ask how the statistic was calculated and what data the statistic is based upon.

**Section: Taking Psychology with You**

**Page(s): 63-64**

**Type: Factual**

**Answer: d**

**Rationale: To understand statistics, it is important to know how they are calculated and what data they are based on.**

212. A primary reason for misuse of statistics is:
- a. innumeracy.
  - b. inaccuracy.
  - c. illegibility.
  - d. illiteracy.

**Section: Taking Psychology with You**

**Page(s): 63**

**Type: Factual**

**Answer: a**

**Rationale: Many people do not understand numbers and therefore misuse statistics.**

213. To guard against misuse of statistics a person should do all of the following EXCEPT:
- a. avoid use of statistics whenever possible.
  - b. check to see how terms have been defined.
  - c. look for the control group.
  - d. be cautious about correlations.

**Section: Taking Psychology with You**

**Page(s): 63-64**

**Type: Factual**

**Answer: a**

**Rationale: Statistics should not be avoided, but every attempt should be made to understand them and the research that was conducted.**



## True-False Questions

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1. The scientific enterprise has more to do with attitudes and procedures than with scientific apparatus.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

2. A hypothesis is an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: False**

**Rationale: This is a definition of a theory, not a hypothesis.**

3. A theory is an organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

4. A hypothesis is a statement that attempts to predict or to account for a set of phenomena.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

5. A theory is a statement that attempts to predict or to account for a set of phenomena.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: False**

**Rationale: This is a definition of a hypothesis, not a theory.**

6. Terms used in hypotheses are given operational definitions, which specify how the phenomena in question are to be observed and measured.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

7. Violations of the principle of falsifiability are rare in everyday life.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Factual**

**Answer: False**

**Rationale: Violations of the principle of falsifiability are common in everyday life.**

8. The principle of falsifiability is the tendency to look for information that confirms one's beliefs thereby avoiding information that would prove one's beliefs to be false.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Factual**

**Answer: False**

**Rationale: The principle of falsifiability means that theories must be stated in such a way that they can be refuted or disproved by counterevidence.**

9. Confirmation bias is the tendency to look for information that supports one's beliefs.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 36**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

10. According to the principle of falsifiability, a scientific theory must make predictions that are specific enough to expose the theory to the possibility of disconfirmation.  
**Section: What Makes Psychological Research Scientific?**  
**Page(s): 36** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
11. Replication is an essential part of the scientific process.  
**Section: What Makes Psychological Research Scientific?**  
**Page(s): 37** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
12. Replication occurs when scientists repeat a study in order to verify or challenge its findings.  
**Section: What Makes Psychological Research Scientific?**  
**Page(s): 37** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
13. In order to maintain scientific objectivity, psychologists and other scientists cannot work on research that is sponsored by private, for-profit businesses.  
**Section: What Makes Psychological Research Scientific?**  
**Page(s): 37** **Type: Factual** **Answer: False**  
**Rationale: Research is often sponsored by private, for-profit businesses which makes it difficult to commit to the scientific requirement of full disclosure.**
14. Scientists are expected to submit their results for peer review before any announcements regarding the study are made to the public.  
**Section: What Makes Psychological Research Scientific?**  
**Page(s): 37** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
15. Descriptive methods yield characterizations of behavior but not necessarily causal explanations.  
**Section: What Makes Psychological Research Scientific?**  
**Page(s): 39** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
16. Experiments yield descriptions of behavior but cannot provide causal explanations.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 39** **Type: Factual** **Answer: False**  
**Rationale: Experiments are the one method that can provide causal explanations.**
17. Case studies are most commonly used by clinicians.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 39** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
18. Case studies are usually only sources of hypotheses, not tests of hypotheses.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 39** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
19. The case study of Genie disproved the hypothesis that a critical period exists for language development.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 39** **Type: Factual** **Answer: False**  
**Rationale: The case study of Genie supported the hypothesis that a critical period exists for language development.**

20. Case studies proved that autism in children was caused by rejecting, cold, “refrigerator” mothers.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 39** **Type: Factual** **Answer: False**  
**Rationale: Case studies cannot prove anything, but they can suggest hypotheses for further research.**
21. Observational studies are more useful for describing behavior than for explaining behavior.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 40** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
22. A laboratory observation would be the most effective research method in order to determine the “personal space” preferred by individuals from different cultures.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 40** **Type: Factual** **Answer: False**  
**Rationale: Naturalistic observation would be more effective than laboratory observation in this example.**
23. Naturalistic observation would be the most effective research method in order to determine the “personal space” preferred by individuals from different cultures.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 40** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
24. One shortcoming of laboratory observation is that the presence of researchers and special equipment may cause subjects to behave differently than they would in their usual surroundings.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 41** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
25. The usual procedure for developing norms is to give the test to a large group of people who resemble those for whom the test is intended.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 42** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
26. When psychologists say that a test has been standardized, they mean that uniform procedures for giving and scoring a test have been developed.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 42** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**
27. The ability of a test to measure what it is designed to measure is called reliability.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 42** **Type: Factual** **Answer: False**  
**Rationale: The ability of a test to measure what it is designed to measure is called validity, not reliability.**
28. The ability of a test to measure what it is designed to measure is called standardization.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 42** **Type: Factual** **Answer: False**  
**Rationale: The ability of a test to measure what it is designed to measure is called validity, not standardization.**
29. The ability of a test to measure what it is designed to measure is called validity.  
**Section: Descriptive Studies: Establishing the Facts**  
**Page(s): 42** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**

30. Psychologists measure test-retest reliability by giving different versions of the same test to the same group on two separate occasions.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Factual**

**Answer: False**

**Rationale: Test-retest reliability is determined by giving the same test to the same group on two separate occasions.**

31. Psychologists measure alternate-forms reliability by giving different versions of the same test to the same group on two separate occasions.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

32. Psychologists measure test-retest reliability by giving the same test twice to the same group of people.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

33. Psychologists measure alternate-forms reliability by giving the same test twice to the same group of people.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 42**

**Type: Factual**

**Answer: False**

**Rationale: Alternate-forms reliability is determined by giving different versions of the same test to the same group on two separate occasions.**

34. A sample's representativeness is less critical than its size.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 38**

**Type: Factual**

**Answer: False**

**Rationale: A sample's representativeness is more critical than its size.**

35. A sample's size is less critical than its representativeness.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 38**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

36. Popular polls often suffer from volunteer bias because those who feel strongly enough about their opinions may differ from those who remain silent.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

37. Computer technology can help reduce lying on surveys because many people feel more anonymous when they "talk" to a computer.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 44**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

38. A recent review mentioned in your text concluded that the SAT does a poor job at predicting intellectual performance.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 43**

**Type: Applied**

**Answer: False**

**Rationale: The SAT does a fairly good job at predicting intellectual performance.**

39. In a recent study comparing self-report of illicit drug use to the subjects urinalysis found that up to 10 percent of the subjects lied.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 44**

**Type: Factual**

**Answer: False**

**Rationale: Up to 70 percent of the subjects lied about their drug use.**

40. The likelihood of lying in surveys is greatly reduced when the respondents are guaranteed anonymity.

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 44**

**Type: Applied**

**Answer: True**

**Rationale: Statement of fact.**

41. When a correlation coefficient indicates a strong relationship between two variables, one variable is causing the other.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: False**

**Rationale: Correlation does not provide information about causal relationships.**

42. An association between increases in one variable and decreases in the other variable is called a negative correlation.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

43. An association between increases in one variable and decreases in the other variable is called a positive correlation.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: False**

**Rationale: This is a description of a negative correlation.**

44. An association between increases in one variable and decreases in the other variable indicates that the two variables are uncorrelated.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46**

**Type: Factual**

**Answer: False**

**Rationale: This is a description of a negative correlation.**

45. If variable A predicts variable B, then A is causing B to occur.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 47**

**Type: Factual**

**Answer: False**

**Rationale: It is possible that variable A causes variable B, that variable B causes variable A or that some other variable causes both variables A and B. It is not possible to determine cause and effect using correlation.**

46. When two variables are correlated, one variable may or may not be causing the other.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 47**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

47. An experiment is a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.

**Section: Experiments: Hunting for Causes**

**Page(s): 48**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

48. A laboratory observation is a controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.

**Section: Experiments: Hunting for Causes**

**Page(s): 49**

**Type: Factual**

**Answer: False**

**Rationale: This is a description of an experiment, not a laboratory observation.**

49. The variable that an experimenter manipulates is called the dependent variable.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: False**

**Rationale: The variable than an experimenter manipulates is the independent variable, not the dependent variable.**

50. Ideally, everything in an experiment except the independent variable is held constant.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

51. The dependent variable depends on the independent variable.

**Answer: True**

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

52. The variable that an experimenter manipulates is called the independent variable.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

53. Ideally, everything in an experiment except the dependent variable is held constant.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: False**

**Rationale: Ideally, everything in an experiment except the independent variable is held constant.**

54. The independent variable depends on the dependent variable.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: False**

**Rationale: The dependent variable depends on the independent variable.**

55. If a researcher wants to know whether eating chocolate makes people nervous, then the amount of chocolate eaten is the independent variable.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

56. In the control condition, subjects are treated exactly as they are in the experimental condition, except that they are not exposed to the same treatment of the independent variable.

**Section: Experiments: Hunting for Causes**

**Page(s): 50**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

57. In the experimental condition, subjects are treated exactly as they are in the control condition except that the experimental subjects are exposed to the placebo.

**Section: Experiments: Hunting for Causes**

**Page(s): 51**

**Type: Factual**

**Answer: False**

**Rationale: Experimental subjects are exposed to the independent variable, not a placebo.**

58. If we have enough participants in our study and use a random assignment procedure, then individual characteristics that could possibly affect the results are likely to be roughly balanced in the two groups.

**Section: Experiments: Hunting for Causes**

**Page(s): 51** **Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

59. Control groups are important in experimental studies and in nonexperimental studies.

**Section: Experiments: Hunting for Causes**

**Page(s): 50** **Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

60. In a single-blind experiment, subjects do not know if they are in an experimental group or a control group.

**Section: Experiments: Hunting for Causes**

**Page(s): 51** **Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

61. If the placebo produces the same results as the real thing, the reason must be the participants' expectations rather than the treatment itself.

**Section: Experiments: Hunting for Causes**

**Page(s): 51** **Type: Applied**

**Answer: True**

**Rationale: Statement of fact.**

62. Double-blind studies are conducted in order to avoid the powerful influence of experimenter effects on the results of an experiment.

**Section: Experiments: Hunting for Causes**

**Page(s): 52** **Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

63. Rosenthal's research revealed that experimenter effects could influence a person's behavior, but had no influence on the behavior of animals.

**Section: Experiments: Hunting for Causes**

**Page(s): 52** **Type: Factual**

**Answer: False**

**Rationale: Rosenthal's research revealed experimenter effects in research with animals as well as with humans.**

64. Rosenthal's research revealed that experimenter effects could influence a rodent's behavior.

**Section: Experiments: Hunting for Causes**

**Page(s): 52** **Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

65. Field research is descriptive or experimental research that is conducted in a natural setting outside the laboratory.

**Section: Experiments: Hunting for Causes**

**Page(s): 52** **Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

66. A disadvantage of the naturalistic observation is that it allows the researcher little or no control of the situation.

**Section: Experiments: Hunting for Causes**

**Page(s): 53** **Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

67. A disadvantage of correlational research is that it does not permit identification of cause and effect.

**Section: Experiments: Hunting for Causes**

**Page(s): 53** **Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

68. An advantage of the naturalistic observation is that it allows the use of sophisticated equipment.  
**Section: Experiments: Hunting for Causes**  
**Page(s): 53** **Type: Factual** **Answer: False**  
**Rationale: This is an advantage of laboratory observation, not naturalistic observation.**

69. An advantage of the laboratory observation is that it allows the use of sophisticated equipment.  
**Section: Experiments: Hunting for Causes**  
**Page(s): 53** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**

70. The arithmetic mean is a commonly used measure of variability.  
**Section: Evaluating the Findings**  
**Page(s): 55** **Type: Factual** **Answer: False**  
**Rationale: The arithmetic mean is a measure of central tendency, not variability.**

71. The standard deviation is a commonly used measure of variability that indicates the average difference between scores in a distribution and their mean.  
**Section: Evaluating the Findings**  
**Page(s): 56** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**

72. The arithmetic mean is an average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set.  
**Section: Evaluating the Findings**  
**Page(s): 55** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**

73. The standard deviation is an average that is calculated by adding up a set of quantities and dividing the sum by the total number of quantities in the set.  
**Section: Evaluating the Findings**  
**Page(s): 55** **Type: Factual** **Answer: False**  
**Rationale: This is a definition of a mean, not a standard deviation.**

74. Descriptive statistics are statistical procedures that organize and summarize research data.  
**Section: Evaluating the Findings**  
**Page(s): 55** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**

75. Inferential statistics are statistical procedures that organize and summarize research data.  
**Section: Evaluating the Findings**  
**Page(s): 56** **Type: Factual** **Answer: False**  
**Rationale: This is a definition of descriptive statistics, not inferential statistics.**

76. If the results of research are not significant at the .05 level, then the researchers conclude that their hypothesis was not supported.  
**Section: Evaluating the Findings**  
**Page(s): 56** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**

77. Results from longitudinal studies find that as people age, they sometime perform as well as they ever did on certain mental tests.  
**Section: Evaluating the Findings**  
**Page(s): 58** **Type: Factual** **Answer: True**  
**Rationale: Statement of fact.**



78. Results from cross-sectional studies find that older people perform as well as younger individuals on tests of mental functioning.

**Section: Evaluating the Findings**

**Page(s): 58**

**Type: Factual**

**Answer: False**

**Rationale: Results from longitudinal, not cross-sectional studies give these results.**

79. A study in which subjects of different ages are compared at a given time is called a longitudinal study.

**Section: Evaluating the Findings**

**Page(s): 58**

**Type: Factual**

**Answer: False**

**Rationale: This is a definition of cross-sectional research, not longitudinal research.**

80. A study in which subjects of different ages are compared at a given time is called a cross-sectional study.

**Section: Evaluating the Findings**

**Page(s): 57**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

81. Naturalistic observation would be an appropriate research method to study aggressive acts early in childhood.

**Section: Evaluating the Findings**

**Page(s): 59**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

82. The case study would be an appropriate research method to study the nature of aggressive acts early in childhood.

**Section: Evaluating the Findings**

**Page(s): 59**

**Type: Factual**

**Answer: False**

**Rationale: Naturalistic observation would be a more appropriate research method in this case.**

83. Meta-analysis combines and analyzes data from many studies, instead of assessing each study's results separately.

**Section: Evaluating the Findings**

**Page(s): 58**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

84. The American Psychological Association (APA) suggests that all its members develop strong ethical codes for their research projects.

**Section: Keeping the Enterprise Ethical**

**Page(s): 60**

**Type: Factual**

**Answer: False**

**Rationale: The APA requires that all its members follow the APA code of ethics.**

85. The American Psychological Association (APA) requires that all its members follow the APA code of ethics.

**Section: Keeping the Enterprise Ethical**

**Page(s): 60**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

86. The American Psychological Association's ethical guidelines require researchers to show that any deceptive procedures are justified by a study's potential value.

**Section: Keeping the Enterprise Ethical**

**Page(s): 60**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

87. The American Psychological Association's ethical guidelines require researchers to thoroughly debrief participants about the true purpose of a study if deception has been involved.

**Section: Keeping the Enterprise Ethical**

**Page(s): 61**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

88. The majority of psychological research studies involve animals.

**Section: Keeping the Enterprise Ethical**

**Page(s): 61**

**Type: Factual**

**Answer: False**

**Rationale: More psychological research involves humans than other animals.**

89. Animals have always been used in only a small percentage of psychological studies, and in recent years the number has declined further.

**Section: Keeping the Enterprise Ethical**

**Page(s): 61**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

90. The authors recommend distrusting all statistics because statistics confuse and mislead.

**Section: Taking Psychology with You**

**Page(s): 63**

**Type: Factual**

**Answer: False**

**Rationale: The authors recommend careful consideration of statistics because they can be used to confuse and mislead.**

91. When statistical findings have important implications for the decisions people make, it is important to try to examine the data dispassionately.

**Section: Taking Psychology with You**

**Page(s): 63**

**Type: Factual**

**Answer: True**

**Rationale: Statement of fact.**

92. If you hear that a particular treatment causes a 100 percent increase in some serious side effect, you must reject the treatment.

**Section: Taking Psychology with You**

**Page(s) 63**

**Type: Applied**

**Answer: False**

**Rationale: Your response should take into account the base rate of the side effect.**

## Matching

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### Set A

**Instructions:** Match these descriptions with the appropriate research terms.

- |    |   |                       |
|----|---|-----------------------|
| 1. | A statement that attempts to predict or to account for a set of phenomena; it specifies relationships among events or variables.      | a. Correlation        |
| 2. | A measure of how strongly two variables are related to one another.   | b. Experiment         |
| 3. | A controlled test in which the researcher manipulates one variable to discover its effect on another.                                 | c. Hypothesis         |
| 4. | An organized system of assumptions and principles that purports to explain a specified set of phenomena and their interrelationships. | d. Longitudinal study |
| 5. | A study in which subjects are followed and periodically reassessed over time.   | e. Theory             |

**Answers:** 1-c, 2-a, 3-b, 4-e, 5-d

### Set B

**Instructions:** Match these descriptions the appropriate research method.

- |     |   |                        |
|-----|---|------------------------|
| 6.  | A detailed description of a particular individual being studied or treated.   | a. Case study          |
| 7.  | Questionnaires and interviews that ask people directly about their experiences, attitudes, or opinions.                           | b. Correlation         |
| 8.  | A controlled test of a hypothesis in which the researcher manipulates one variable to discover its effect on another.             | c. Experiment          |
| 9.  | A measure of how strongly two variables are related to one another.   | d. Observational study |
| 10. | A study in which the researcher carefully and systematically observes and records behavior without interfering with the behavior. | e. Surveys             |

**Answers:** 1-a, 2-e, 3-c, 4-b, 5-d

### Set C

**Instructions:** Match these definitions with the terms they define.

- |     |  |                        |
|-----|--|------------------------|
| 11. | The ability of a test to measure what it was designed to measure.  | a. Norms               |
| 12. | Established standards of performance for tests.  | b. Standardization     |
| 13. | The consistency of scores derived from a test, from one time and place to another.   | c. Psychological tests |
| 14. | The development of uniform procedures for giving and scoring a test.   | d. Reliability         |
| 15. | Procedures used to measure and evaluate personality traits, emotional states, aptitudes, interests, abilities, and values. | e. Validity            |

**Answers:** 11-e, 12-a, 13-d, 14-b, 15-c

#### Set D

**Instructions:** Match these definitions with the terms they define.

- |     |  |    |                      |
|-----|--|----|----------------------|
| 16. | The tendency to look for or pay attention only to information that confirms one's own belief.  | a. | Confirmation bias    |
| 17. | A shortcoming of findings derived from a sample of volunteers instead of a representative sample.  | b. | Double-blind study   |
| 18. | Unintended changes in subjects' behavior due to cues inadvertently given by the experimenter.  | c. | Experimenter effects |
| 19. | An inactive substance or fake treatment used as a control in an experiment or given by a medical practitioner to a patient.  | d. | Placebo              |
| 20. | An experiment in which neither the subjects nor the researcher know which subjects are in the control group and which are in the experimental group until after the results are tallied. | e. | Volunteer bias       |

**Answers:** 16-a, 17-e, 18-c, 19-d, 20-b

#### Set E

**Instructions:** Match these descriptions with the appropriate term.

- |     |   |    |                      |
|-----|---|----|----------------------|
| 21. | A variable that an experimenter manipulates.  | a. | Control condition    |
| 22. | In an experiment, a comparison condition in which subjects are not exposed to the same treatment as in the experimental condition.                                    | b. | Independent variable |
| 23. | An experiment in which subjects do not know whether they are in an experimental or a control group.   | c. | Dependent variable   |
| 24. | A variable that an experimenter predicts will be affected by the manipulation of another variable.  | d. | Random assignment    |
| 25. | A procedure for putting people in the experimental and control groups in which each individual has the same probability as any other of being put into a given group. | e. | Single-blind study   |

**Answers:** 21-b, 22-a, 23-e, 24-c, 25-d

#### Set F

**Instructions:** Match these definitions with the appropriate statistical term.

- |     |   |    |                        |
|-----|---|----|------------------------|
| 26. | A procedure for combining and analyzing data from many studies.   | a. | Descriptive statistics |
| 27. | Statistical tests that show how likely it is that a study's results occurred merely by chance.                              | b. | Effect size            |
| 28. | The amount of variance among scores in a study accounted for by the independent variable.                                   | c. | Inferential statistics |
| 29. | Statistical procedures that allow researchers to draw conclusions about how statistically meaningful a study's results are. | d. | Meta-analysis          |
| 30. | Statistical procedures that organize and summarize research data.   | e. | Significance tests     |

**Answers:** 26-d, 27-e, 28-b, 29-c, 30-a

### Short Answer Questions

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1. List five characteristics of an ideal scientist.

**Section:** What Makes Psychological Research Scientific?

**Page(s):** 35-36

**Type:** Factual

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

- Precision
- Skepticism
- Reliance on empirical evidence
- Willingness to make "risky predictions"
- Openness

2. Ralph Waldo Emerson wrote that “Nothing great was ever achieved without enthusiasm.” How would you frame this question in clear and concrete terms? Specify an operational definition for the major terms.  
**Section: What Makes Psychological Research Scientific?** **Page(s): 35**  
**Type: Applied**  
**Answer: A good answer will include the following key points.**
- To achieve something great, a person must have enthusiasm.
  - A possible operational definition for a great achievement might be an achievement that is reported in a national news magazine.
  - A possible operational definition of enthusiasm might be an average rating of 8 or higher on a 10-point rating scale by a panel of independent judges.
3. Explain the purpose and process of peer review.  
**Section: What Makes Psychological Research Scientific?** **Page(s): 37**  
**Type: Conceptual**  
**Answer: A good answer will include the following key points.**
- The purpose of peer review is to ensure that research lives up to accepted scientific standards.
  - When a scientist sends research results to a professional journal for publication, the report is sent to experts in the field for evaluation and suggestions for revision prior to publication.
4. Norman Cousins wrote a bestseller explaining how humor and vitamins cured him of a life-threatening disease. What rule of science did he violate?  
**Section: What Makes Psychological Research Scientific?** **Page(s): 37**  
**Type: Applied**  
**Answer: A good answer will include the following key points.**
- Cousins offered only a personal account so his theory was not based on empirical data.
  - He also did not look for contradictory evidence and so was guilty of confirmation bias.
5. Dr. Benjamin Rush treated yellow fever by bloodletting. He attributed each recovery to the bloodletting and each death to the severity of the yellow fever. What rule of science did he violate?  
**Section: What Makes Psychological Research Scientific?** **Page(s): 36**  
**Type: Applied**  
**Answer: A good answer will include the following key points.**
- Rush violated the principle of falsifiability.
  - There was no possible counterevidence that could refute his theory.
6. In what circumstances is a psychological case study informative?  
**Section: Descriptive Studies: Establishing the Facts** **Page(s): 39-40**  
**Type: Factual**  
**Answer: A good answer will include the following key points.**
- A case study is informative in the early stages of research.
  - It is also informative when other ways of gathering information are not possible because of practical or ethical considerations.
  - Case studies can be useful in generating hypotheses for further research and testing.
7. In what circumstances is a psychological case study of limited use?  
**Section: Descriptive Studies: Establishing the Facts** **Page(s): 39-40**  
**Type: Factual**  
**Answer: A good answer will include the following key points.**
- Case studies have only limited usefulness for deriving general principles of behavior.
  - This is especially true when information is missing or hard to interpret.
  - It is also true if the individual being studied is unrepresentative of the group that a researcher is interested in.

8. Briefly outline how you could conduct a study of “personal space.”  
**Section: Descriptive Studies: Establishing the Facts** **Page(s): 40**  
**Type: Applied**  
**Answer: A good answer will include the following key points.**
- Naturalistic observation would be the best method for studying personal space.
  - Personal space would need to be operationally defined. For example, it could be defined as the distance in inches between two people who are carrying on a conversation.
  - Careful record keeping is necessary to ensure accuracy.
  - Observers should be careful to disguise their intentions so people are not aware that they are being observed.
  - Observations should be made in a variety of locations and of a variety of types of people.
9. Dr. Slocum is interested in studying brain lateralization, that is, how the two sides of the brain serve different functions. In order to investigate this topic, she notes whether parents tend to carry their infants in a “left-sided” hold or in a “right-sided” hold. Explain what research method Dr. Slocum is using. What are the limitations of this method?  
**Section: Descriptive Studies: Establishing the Facts** **Page(s): 40-41**  
**Type: Applied**  
**Answer: A good answer will include the following key points.**
- This research would involve observation methods, either in the laboratory or in natural settings.
  - A major drawback is that the presence of an observer may affect the behavior that is being observed.
  - Laboratory observation might occur in artificial situations that might alter the behavior being observed.
10. A psychologist has the option of gathering information through psychological tests or through self-evaluations by the subjects. Which option would be more effective in clarifying the differences/similarities between individuals? Why?  
**Section: Descriptive Studies: Establishing the Facts** **Page(s): 41-42**  
**Type: Applied**  
**Answer: A good answer will include the following key points.**
- Tests would be more useful.
  - Tests are objective measures.
  - Results from a good test (one that is reliable, valid, and standardized) can allow direct comparison of different individuals.
11. Think of a topic in psychology (from Chapter One, from your own experience, or from the media) that interests you. Write a hypothesis regarding this topic and explain what research method you would use in order to investigate the topic.  
**Section: Descriptive Studies: Establishing the Facts** **Page(s): 35, 53**  
**Type: Applied**  
**Answer: A good answer will include the following key points.**
- Hypothesis: People who are under stress experience more frequent illnesses than others.
  - Appropriate methods to study this hypothesis could include surveys, correlation, or experimentation.
  - A variety of hypotheses and methods might be given in this answer.

12. When two variables are correlated, it is easy to assume that if “A” predicts “B,” then “A” must be causing “B.” Explain why this is not necessarily so, using this example: The higher a male monkey’s level of the hormone testosterone, the more aggressive he is likely to be.

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 46-47**

**Type: Applied**

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

- **Correlation does not indicate causation.**
- **A positive correlation between testosterone levels and aggression could mean that testosterone causes aggression.**
- **It could also mean that aggressive behavior causes an increase in testosterone levels.**
- **It could also mean that some other unspecified variable causes both high testosterone levels and high aggression.**

13. If TV watching is correlated positively with children’s aggressiveness, then what possible ways could this relationship be explained?

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 47-48**

**Type: Applied**

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

- **Watching TV could cause children to behave aggressively.**
- **Aggressiveness in children could cause them to watch more TV.**
- **Another unspecified variable could cause both TV watching and increased aggressiveness.**

14. The text describes an example of experimental design to test the hypothesis that talking on a cell phone impairs driving skills. Explain why a control condition would be important to include in testing this hypothesis. How should subjects be assigned to conditions? How can the researchers design the experiment so that the only difference between both conditions is the use of a cell phone?

**Section: Correlational Studies: Looking for Relationships**

**Page(s): 49**

**Type: Applied**

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

- **A control condition is necessary for comparison purposes.**
- **Subjects should be randomly assigned to the experimental and control groups.**
- **Both groups should be treated identically except for exposure of the control group to use of a cell phone.**

15. Experiments have long been the method of choice in psychology. However, the experiment does have its limitations. Describe these limitations and explain why many psychologists have called for more field research.

**Section: Experiments: Hunting for Causes**

**Page(s): 52**

**Type: Factual**

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

- **One limitation of experiments is experimenter effects. That is, if subjects know whether they are in the experimental or control group their expectations may affect the results.**
- **A researcher’s expectations can also influence the results of an experiment.**
- **If participants are not representative of the larger population of interest, the results cannot be generalized.**
- **Controlled experiments may result in artificial situations in which behavior is not normal and cannot be generalized to the real world.**
- **Field research can at least partially overcome this last objection.**

16. Compare the advantages and the disadvantages of conducting a laboratory observation. What are the advantages and disadvantages of conducting an experiment? Describe a topic that you believe would be most effectively studied by laboratory observation rather than by an experiment.  
**Section: Experiments: Hunting for Causes** **Page(s): 53**  
**Type: Conceptual**  
**Answer: A good answer will include the following key points.**
- An advantage of laboratory observation is an increase in control and uniformity from one subject to another.
  - A disadvantage is that behavior observed in an artificial situation may not be totally normal.
  - The primary advantage of an experiment is the ability to determine cause and effect.
  - Disadvantages include experimenter effects, nonrepresentative samples, and artificial situations.
  - Study of the characteristics of sleep could better be studied by laboratory observation than an experiment.
  - Many other examples are also possible.
17. If you have just completed a research study, your work has just begun! What three things must you do once you have results in hand?  
**Section: Evaluating the Findings** **Page(s): 55**  
**Type: Factual**  
**Answer: A good answer will include the following key points.**
- You must describe your results.
  - You must assess how reliable and meaningful your results are.
  - You must figure out how to explain your results.
18. In the “Miss Peach” cartoon in the textbook, Ira said that he averaged two baths a day. Explain why averages, such as this one, are sometimes misleading.  
**Section: Evaluating the Findings** **Page(s): 55**  
**Type: Conceptual**  
**Answer: A good answer will include the following key points.**
- Without knowing something about variability, an average does not explain much.
  - The average (e.g., two baths a day) may never actually occur.
19. A psycholinguist wants to know whether children who speak their first words at an earlier age than average also learn to read earlier than other children. Should she conduct a cross-sectional study or a longitudinal study? Explain your answer.  
**Section: Evaluating the Findings** **Page(s): 57-58**  
**Type: Applied**  
**Answer: A good answer will include the following key points.**
- A longitudinal study would probably be more useful because the researcher is interested in the time of occurrence of two different events in the same person.
  - Cross-sectional studies are more useful for assessing generational differences.



## Essay Questions

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1. When the authors refer to psychologists as scientists, they do not mean that psychologists work with complicated gadgets and machines or wear white lab coats (although some do). The scientific enterprise has more to do with attitudes and procedures than it does with apparatus and apparel. Describe, in detail, the five key characteristics of the ideal scientist.

**Section: What Makes Psychological Research Scientific?**

**Page(s): 35-36**

**Type: Factual**

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

- **Scientists must be precise. In other words, they must develop specific hypotheses and operationally define all important terms.**
- **Scientists must be skeptical. They should not accept ideas on faith or authority, but should treat all conclusions with caution.**
- **Scientists must rely on empirical evidence, not on anecdotes, intuition, or an appeal to authority.**
- **Scientists must be willing to make “risky predictions.” They must state ideas in such a way that they can be refuted or disproved by counterevidence (principle of falsifiability) and they must be careful of confirmation bias.**
- **Scientists must be open to new ideas and must be willing to commit to full disclosure of their research methods and results.**

2. Is there a critical period for language? When the sad story of Genie was broadcast over national television, many people wondered what the future would hold for a 13-year-old girl who had survived on minimal physical care. What did psychologists learn about language acquisition through their efforts to teach language to Genie? In what ways does Genie’s story illustrate some drawbacks to the case study method?

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 39**

**Type: Applied**

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

- **Study of Genie supported the idea that there is an early critical period for learning language.**
- **The likelihood of fully mastering a first language declines steadily after early childhood and falls off drastically at puberty.**
- **A drawback to case studies is that information is often missing or hard to interpret.**
- **Observers may have biases that influence which facts get noticed and which are ignored.**
- **Memory of observers may be selective or inaccurate, making conclusions unreliable.**
- **Most important, the person studied may be unrepresentative of the group that a researcher is interested in.**
- **The case study method has only limited usefulness for deriving general principles of behavior.**

3. The president of the Parent Teacher Association (PTA) is concerned after reading that during puberty children have increased needs for sleep. She wants to find out if other parents of middle-school children would support a later starting time for school. At one of the Tuesday night meetings, she conducts a survey of the PTA members in order to address this question. When she asks those parents in support of the change to raise their hands, she discovers that 85 percent of the parents support a later starting time. What information has she gained by conducting this survey? What shortcomings exist in her survey?

**Section: Descriptive Studies: Establishing the Facts**

**Page(s): 44**

**Type: Applied**

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

- **She has learned that a majority of other PTA members who attend meetings support a later starting time.**
- **A major shortcoming is that the PTA members at the meeting may not be representative of all parents of students at the school in question.**

4. A researcher hypothesizes that adults will respond differently to the same baby depending on how the child is dressed. Her colleague, on the other hand, hypothesizes that boys and girls are treated equally and that only temperamental differences lead to differences in their handling. Design a research study to test their hypotheses. Provide a detailed explanation of how this study would be conducted.

**Section: Experiments: Hunting for Causes**

**Page(s): 50-51**

**Applied: Applied**

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

- Two babies with similar temperament should be selected, one a male and one a female.
- Subjects in the experimental group will be exposed to a baby dressed in clothing appropriate to the opposite sex.
- Subjects in the control group will be exposed to an infant dressed in sex-appropriate clothing.
- All subjects will be observed for ten minutes while interacting with the baby and their behaviors carefully noted.
- Behaviors of subjects in the experimental and control groups will be compared.

5. For many years, it was thought that a child's fascination with the genitals of an anatomically realistic doll indicated sexual abuse of the child. Using this example, explain why experiments usually require an experimental and a control condition. If you were designing an experiment to test this topic, what would be the independent variable? What would be the dependent variable?

**Section: Experiments: Hunting for Causes**

**Page(s): 50-51**

**Type: Applied**

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

- A control group is necessary as a comparison group.
- An experiment to test this hypothesis would use dolls with anatomically realistic genitals (for the experimental group) and without anatomically realistic genitals (for the control group) as the independent variable.
- The dependent variable would be a measurement of fascination with or interest in the genitals on the part of the child.

6. Experiments have long been the method of choice in psychology, but they do have their limitations. Describe the strengths and the weaknesses of experiments.

**Section: Experiments: Hunting for Causes**

**Page(s): 52-53**

**Type: Factual**

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

- The primary advantage of an experiment is the ability to determine cause and effect.
- Disadvantages include experimenter effects, nonrepresentative samples, and artificial situations.

7. Why is it important to go beyond averages when summarizing data? What other descriptive statistics are used to help interpret data?

**Section: Evaluating the Findings**

**Page(s): 56**

**Type: Factual**

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

- An average may not actually occur in any individual case.
- It is important to also have some indication of the variability of results such as the range or standard deviation.
- A measure of variability helps one to know how representative an average is.

8. Rarely does a psychological study have completely straightforward results. Usually there is some possibility that the difference between two groups could be due to chance. Explain how inferential statistics help us determine how statistically meaningful a study's results are.

**Section: Evaluating the Findings**

**Page(s): 56**

**Type: Factual**

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

- One type of inferential statistics, tests of significance, assess the likelihood that a given set of results could occur by chance.
- Results are statistically significant only if they would occur by chance less than five times in one hundred.

9. When mental abilities are studied through cross-sectional methods, the results conflict with the findings from longitudinal studies. Explain the basic procedures in each type of study and then provide an example of why each method yields different results.

**Section: Evaluating the Findings**

**Page(s): 57-58**

**Type: Conceptual**

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

- Longitudinal studies examine the same people over a period of time, reassessing them periodically.
- Cross-sectional studies examine groups of people of different ages at the same time.
- Longitudinal studies are especially useful to study changes in individuals over time.
- Cross-sectional studies are more useful when studying generational differences.
- When comparing the mental test scores of younger and older people, cross-sectional studies usually indicate that younger people achieve higher scores.
- Longitudinal studies, in contrast, do not indicate any decline until people are in their 70s or 80s.

10. Psychologists follow a code of ethics that has been developed by the APA. Explain the APA code in regard to research with human subjects. What happens when participants must be misled about the true purpose of the study in order to make sure that their responses are natural?

**Section: Keeping the Enterprise Ethical**

**Page(s): 60-61**

**Type: Factual**

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

- The APA code of ethics expects scientists to respect the dignity and welfare of human subjects and specifies a number of guidelines to guarantee this.
- People must participate in research voluntarily.
- Informed consent should be obtained.
- Participants should be protected from physical and mental harm.
- If risks exist, subjects must be informed in advance.
- Subjects must be given the right to withdraw from research at any time without penalty.
- If deception is involved, subjects must be debriefed.

11. Psychologists follow a code of ethics that has been developed by the APA. Describe five reasons that psychologists study animals. Explain the APA code in regard to research with animal subjects. Why has animal research provoked angry disputes?

**Section: Keeping the Enterprise Ethical**

**Page(s): 61-62**

**Type: Factual**

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

- Psychologists study animals to conduct basic research on a particular species.
- Psychologists study animals to discover practical applications.
- Psychologists study animals to study issues that cannot be studied experimentally with human beings because of practical or ethical considerations
- Psychologists study animals to clarify theoretical questions.
- Psychologists study animals to improve human welfare.
- The APA code requires the humane treatment of animals and is more comprehensive than federal law.
- Animal research provokes angry disputes because animal rights activists want to eliminate all research using animals.

12. What role does mathematical illiteracy play in the misuse of statistics? Illustrate this misuse using the following quote from the text: “Every year since 1950, the number of American children gunned down has doubled.”

**Section: Taking Psychology with You**

**Page(s): 63**

**Type: Conceptual**

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

- Mathematical illiteracy (innumeracy) is a primary reason for the misuse of statistics.
- This means that people do not understand numbers and statistics.
- The quotation listed above misrepresented a statistic from the Children’s Defense Fund, which said that the number of children gunned down doubled from 1950 to 1994, not every year.
- The CDF source was misleading because it did not report that the total population had also doubled during that period.
- The quotation, if true, would mean that more children were being killed in 1987 than the entire human population throughout history.

### **Integrative Essay Questions: Linking the Chapters**

1. What makes psychological research scientific? Chapter Two points out the importance of precision in the pursuit of knowledge. How does this principle of good science correspond to the critical thinking guideline, “Define Your Terms,” discussed in Chapter One?

**Chapter 1** **Page(s): 7-8**

**Chapter 2** **Page(s): 35-36**

**Type: Factual**

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

- The requirement for precision in science includes both stating specific hypotheses and providing operational definitions of all variables.
- This directly corresponds with the guideline requiring that critical thinkers define the terms that they use.

2. Unlike plays and poems, scientific theories are not judged by how pleasing they are. Instead a theory must be backed by empirical evidence if it is to be taken seriously. Integrate this information from Chapter Two with the critical thinking guideline, “Avoid Emotional Reasoning,” that you studied in Chapter One.

**Chapter 1**

**Page(s): 11-12**

**Chapter 2**

**Page(s): 35-36**

**Type: Factual**

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

- Theories must be based on empirical evidence.
- They should not be based on emotion, intuition, or appeal to authority.
- This directly corresponds with the guideline that critical thinkers should avoid emotional reasoning.

3. In Chapter Two we read about the disastrous consequences that can take place when conclusions are drawn solely on the basis of case studies. How does the example of the connection between autism and vaccinations illustrate the importance of the critical thinking guideline, “Don’t Oversimplify,” discussed in Chapter One?

**Chapter 1**

**Page(s): 12**

**Chapter 2**

**Page(s): 47**

**Type: Factual**

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

- No convincing evidence exists between autism and vaccinations.
- Once the suspect elements were removed from vaccinations, the incidence of autism did not decline.
- The coincidence seems to be that the symptoms of autism occur about the same time that children are vaccinated.
- Even when a correlation is meaningful, a correlation does not establish causation.

4. How wise is popular wisdom? In Chapter One we pondered how many old sayings have other old sayings that contradict them. For example, a common saying is “You can’t teach an old dog new tricks.” But we also hear “You are never too old to learn.” Now that you have read Chapter Two, design a research study in order to test these sayings. Provide your reasoning in selecting a particular research method, subjects, and other key details.

**Chapter 1**

**Page(s): 4-5**

**Chapter 2**

**Page(s): 38-41**

**Type: Factual**

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

- One method that could be used is laboratory observation.
- A representative group of older people should be selected as subjects.
- An attempt should be made to teach the subjects a new task, such as searching the Internet for information.
- Subjects should then be tested to see whether or not they were able to learn the task.

5. Which research method did Sigmund Freud rely upon? Analyze what you know about his theory given your understanding of research methods. What are the strengths and limitations of his approach?

**Chapter 1**                      **Page(s): 17**

**Chapter 2**                      **Page(s): 39-40**

**Type: Conceptual**

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

- Freud's theory was based on case studies.
- Case studies are useful for studying unusual or rare cases and for generating hypotheses for further research.
- One drawback to case studies is that information is often missing or hard to interpret.
- Observers may have biases that influence which facts get noticed and which are ignored.
- Memory of observers may be selective or inaccurate, making conclusions unreliable.
- Most important, the person studied may be unrepresentative of the group that a researcher is interested in.
- The case study method has only limited usefulness for deriving general principles of behavior.
- The limitations of the case study method make it likely that Freud's theory has only limited usefulness.