Research Methods

Princeton Review

1. In a double-blind experimental design, which of the following would be true?

(A) The experimental subjects know whether they are in an experimental group or a control group, but the researchers do not.
(B) The researchers know whether particular subjects have been assigned to an experimental group or a control group, but the experimental subjects do not.
(C) Both the researchers and the experimental subjects know whether the latter have been assigned to an experimental group or a control group.
(D) Neither the researchers nor the experimental subjects know whether the latter have been assigned to an experimental group or a control group.
(E) The observers are unable to see the response or behaviors of the experimental group during the course of the experimental manipulation.

2. In a normal distribution of scores, approximately what percentage of all scores will occur within one standard deviation from the mean?

(A) 34
(B) 68
(C) 95
(D) 97.5
(E) 100

3. Which of the following would NOT be considered essential for a proposed research design to meet the requirements for ethicality?

(A) Research subjects must consent to participate in the project, and a full description of what their participation consists of must be spelled out before they are asked to give consent.
(B) Participants must be allowed to withdraw from the project at any time.
(C) Both the subjects and the researchers must know which of the subjects will be part of the experimental group.
(D) If deception is involved, a full debriefing of the subjects must occur soon after the completion of the project.
(E) In keeping with protecting the privacy and confidentiality of the subjects, data should be obtained as anonymously as possible.

4. The correlation between two observed variables is -0.84. From this, it can be concluded that

(A) As one variable increases, the other is likely to increase, showing a direct relationship.
(B) As one variable increases, the other is likely to decrease, showing an inverse relationship.
(C) The two variables are unrelated.
(D) One variable causes the other variable to occur
(E) One variable causes the other variable not to occur

Kaplan

5. Suppose a study finds there is only a small correlation between IQ and the ability to solve word problems in math. The correlation shows that a very weak relationship demonstrates that the higher the IQ, the better the ability to solve word problems. A correlation that would demonstrate such a relationship could be

(A) .00
(B) +.99
(C) +.10
(D) -.98
(E) -.56

6. A teacher wants to determine the impact of teaching style on quiz scores. To do this, she divides a class into two groups and teaches one group using one style and the other group using a different style. She then measures the scores on the quizzes. The independent variable here is

(A) Group 1
(B) Group 2
(C) Teaching style
(D) Scores on quizzes
(E) Teacher

7. In the experiment just described, which is the dependent variable?

(A) Group 1
(B) Group 2
(C) Teaching style
(D) Scores on quizzes
(E) Teacher

8. If Jose were to do a study that involved using two groups that already existed, and he simply measured an aspect of their behavior, he could determine how the groups are related on a particular measure of behavior. Such a study would typically involve statistics. If he didn’t want to infer causation but rather was just interested in the relationship between the variables, he would be using which statistic?

(A) Mean
(B) Standard deviation
(C) T-test
(D) F-test
(E) Correlation
9. If Sarah scored 1 standard deviation above the average, ________ percentage of the population scored higher than she did.

(A) 15%
(B) 25%
(C) 50%
(D) 65%
(E) 95%

10. Assume you take the SAT and score 2 standard deviations about the average. You scored better than ________ of the population.

(A) 15%
(B) 25%
(C) 50%
(D) 65%
(E) 95%

11. When there are only two groups of participants, the most commonly used statistical test is the

(A) T-test
(B) F-test
(C) Chi-square
(D) Mean
(E) Standard deviation

12. When there are more than two groups of participants, the appropriate statistical test to use is the

(A) T-test
(B) F-test
(C) Chi-square
(D) Mean
(E) Standard deviation

13. A correlation of +.90 would probably indicate

(A) A very weak negative relationship between two variables
(B) That variable a caused variable b to occur
(C) That variable b caused variable a to occur
(D) A strong positive relationship between two variables
(E) No relationship between two variables
14. Control is essential in psychological research. Which of the following research methods procedure has the most control?

(A) Correlation study
(B) Experiment
(C) Observational study with participation
(D) Observational study without participation
(E) Operationalization

15. According to the ethical principles of doing psychological research, which of the following would not likely be allowed?

(A) Participants are deceived but eventually debriefed.
(B) Participants are given informed consent but are deceived
(C) Participants are not given informed consent but are debriefed
(D) Participants are given full disclosure but are not able to tell the independent from the dependent variable
(E) Participants are not told what to expect but are given informed consent and debriefed

16. If we reject our null hypothesis, we can say our results are

(A) Important
(B) Significant
(C) Essential
(D) Incorrect
(E) False

17. The term *operationalize* means to

(A). utilize more than one variable.
(B). create an experiment
(C). define correlation
(D). define variables clearly
(E). define the statistical procedures

18. A confounding variable is one that causes

(A). unsystematic variation
(B). systematic variation
(C). unreliable data
(D). participants to feel deceived
(E). an experiment to be valid

19. A nuisance variable is one that causes

(A). unsystematic variation
(B). systematic variation
(C). unreliable data
(D). participants to feel deceived
(E). an experiment to be valid

20. Which of the following is the most commonly used measure of central tendency?

(A). Correlation
(B). Mean
(C). Median
(D). Standard Deviation
(E). Mode

21. Which of the following is the most commonly used measure of variability?

(A). Correlation
(B). Mean
(C). Median
(D). Standard deviation
(E). Mode

22. Inferential statistics is used to

(A). establish strength of relationship
(B). establish cause and effect
(C). generalize to the population
(D). describe a data set
(E). formulate hypotheses

23. A negative correlation typically means that

(A). variables are related inversely
(B). variables are related directly
(C). variables are unrelated
(D). variables are only weakly related
(E). variables are strongly related

24. Suppose you wanted to study the effects of dopamine on the amount of exercise in a rat. In such an experiment, the dependent variable would be

(A). the amount of dopamine
(B). the rat
(C). the groups of rats
(D). the amount of exercise
(E). the number of rats in the groups
25. Organized sets of concepts that explain phenomena are

(A). independent variables
(B). dependent variables
(C). hypotheses
(D). theories
(E). statistics

Refer to the following and your knowledge of psychology to answer questions 26 and 27: Students will be able to read a statement printed in the Comic Sans font faster than the same statement written in the Lucida Calligraphy font.

26. This statement is a(n)

(A). hypothesis
(B). theory
(C). replication
(D). operational definition
(E). correlation

27. The dependent variable in an experiment based on the statement would be

(A). the statement written in the Comic Sans font
(B). the statement written in the Lucida Calligraphy font
(C). the length of time it takes students to read the statements
(D). the students who read the statements written in the Comic Sans font
(E). the number of students who participate in the experiment

28. A quasi-experiment cannot be considered a controlled experiment because

(A). subjects cannot be randomly selected
(B). subjects cannot be randomly assigned
(C). experimenter bias is unavoidable
(D). demand characteristics are unavoidable
(E). too few subjects participate in the procedure

Refer to the following and your knowledge of psychology to answer questions 29 and 30: When subjects in the experimental group put a puzzle piece in the wrong place, the experimenter unconsciously winced. The experimenter did not wince when subjects in the control group put a piece in the wrong place.

29. The wincing of the experimenter must be eliminated because it is
(A). fraudulent
(B). a demand characteristic
(C). a placebo effect
(D). a confabulation
(E). a confounding variable

30. One method to eliminate the wincing of the experimenter is by instituting

(A). the experimenter expectancy effect
(B). the single-blind procedure
(C). the double-blind procedure
(D). the placebo effect
(E). counterbalancing

31. Of the following, which research method is most effective for studying unusually complex or rare phenomena?

(A). controlled experiment
(B). quasi-experiment
(C). test
(D). survey
(E). case study

32. Of the following, which research method would be most appropriate for investigating the relationship between political party membership and attitude toward the death penalty?

(A). controlled experiment
(B). quasi-experiment
(C). test
(D). survey
(E). case study

33. Of the following, the strongest positive correlation would most likely be shown between

(A). an adult’s weight and running speed
(B). close friendships and happiness
(C). sense of humor and years of education
(D). poverty and good health
(E). visual acuity and salary

34. John wants to study the effects of alcohol on the behavior of college students. For his study, he spends 5 hours every night for 2 weeks at a bar near a college watching how the patrons act before and after drinking alcoholic beverages. The research method John is employing is a

(A). controlled experiment
35. Of the following, which can establish a cause and effect relationship?
   I. controlled experiment
   II. quasi-experiment
   III. correlation research
   (A). I only
   (B). II only
   (C). I and II only
   (D). I and III only
   (E). I, II, and III

Refer to the following and your knowledge of psychology to answer questions 36 and 37:
Ms. Costas owns a business with nine other employees. Ms. Costa’s annual salary is $90,000.
Her manager’s salary is $60,000. Of her other employees, three earn $25,000 each and five earn
$15,000 each.

36. The range of this distribution is
   (A). $75,000
   (B). $50,000
   (C). $25,000
   (D). $20,000
   (E). $15,000

37. For this distribution, the mean is
   (A). lower than both the median and the mode
   (B). lower than the median, but higher than the mode
   (C). lower than the mode, but higher than median
   (D). higher than both the median and the mode
   (E). the same as the median

38. The frequency polygon for this distribution resembles a
   (A). Normal curve
   (B). Positively skewed line graph
   (C). Negatively skewed line graph
   (D). Bar graph
   (E). Scatterplot
40. Professor Jackson is conducting an experiment on the effects of chalk dust on memory retention. Two groups are given the same memory test. Participants in group A are exposed to chalk dust at all. Identify the dependent variable in Professor Jackson’s study.

(A). Exposure to chalk dust  
(B). Memory retention  
(C). Ability to form mnemonics  
(D). The length of time subjects were exposed to chalk dust  
(F). The amount of time between exposures

41. If a study is considered statistically significant, we can assume that

(A). the study has both dependent and independent variables  
(B). the study is conducted in a controlled environment  
(C). all participants were debriefed after the experiment was completed  
(D). neither the experimenter nor the participants knew which groups participants were assigned  
(E). there is a relatively small chance the results were caused by random variables

42. Researchers conclude that subjects who were given a sugar pill experienced the same results as those who took actual medication. This is known as the

(A). confirmation bias  
(B). placebo effect  
(C). double-blind effect  
(D). hindsight bias  
(E). participation bias

43. Recent research found a correlation between the time one spends listening to heavy metal music and the number of books one reads. The correlation coefficient between these two variables was -.83. What does this correlation mean?

(A). The more a person listens to heavy metal, the more books he or she reads.  
(B). The number of hours spent listening to heavy metal has no effect on the number of books a person reads  
(C). The less a person listens to heavy metal, the more books he or she reads.  
(D). As the age of the subject increases, the number of books he or she reads decreases.  
(E). As the age of the subject decreases, the number of books he or she reads increases.

44. Dr. Sanborn is interested in studying people who have sustained brain damage after ingesting banana peels. Over the past five years, he has studied only one patient. Which of the following research methods is Dr. Sanborn most likely using?
(A) Naturalistic Observation  
(B) Experimental  
(C) Survey  
(D) Case Study  
(E) Twin Studies

45. Which of the following is an example of positive correlation?

(A). As the number of hours a person sleeps increases, her violent behavior decreases.  
(B). As the number of dogs a person owns decreases, her violent behavior increases.  
(C). The less sleep a person gets, the lower her grade-point average is  
(D). The more a person watches television, the less she reads.  
(E). The number of reptiles a person owns has no effect on the number of emails she send.

46. Dr. Cho is concerned that his body language might influence the outcome of his experiment. Which of the following methods should Dr. Cho use to ensure that he will not impact the results of the study?

(A) Sampling size  
(B) Double-blind study  
(C) Single-blind study  
(D) Case study method  
(E) Survey method

47. Dr. Mallard conducted research that required 50 participants. The first 25 people that arrived on the day of the experiment were assigned to the experimental group’ and the remaining 25 were assigned to the control group. Such a method of assignment may influence the results of his experiment. Instead, Dr. Mallard should have used which method of assignment?

(A). Random sampling  
(B). Random placement  
(C). Random assignment  
(D). Random selection  
(E). Random blindness

48. Which of the following correlation coefficients would be considered to have the greatest relationship of strength?

(A) +.78  
(B) +.33  
(C) -.56  
(D) -.84  
(E) -.14
49. Descriptive statistics

(A) Allow the researcher to make generalizations to the wider population
(B) Are a numerical set of data used to describe and experiment
(C) Are used only in rare instances
(D) Allow the researcher to control for confounding variables
(E) Ensure that neither the subject nor the researcher influences the outcome

50. Professor Leonard is interested in studying the effects of caffeine on attention. One group of students is administered 100mg of caffeine prior to a two-hour lecture on the migrating practices of North American geese. The other group receives no caffeine prior to hearing the lecture. In this study, what is the dependent variable?

(A) The number of times Professor Leonard looks at his watch
(B) The money students received for taking part in the study
(C) Subjects’ tolerance levels for caffeine
(D) The ability of students to pay attention to the lecture
(E) The amount of caffeine administered

51. Professor Washburn noticed that her class’s scores on their first test were between 89 and 14. Professor Washburn is describing her class’s

(A) Range
(B) Reliability
(C) Sample size
(D) Standard deviation
(E) Correlation coefficient

Myers AP Text

52. What statistical technique would be appropriate for a researcher to use in trying to determine how consistent intelligence scores are over time?

(A) Correlation coefficient
(B) Mean
(C) Median
(D) Standard deviation
(E) Range

53. A scientist’s willingness to admit that she is wrong is an example of

(A) Curiosity
(B) Intelligence
(C) Humility
(D) Skepticism
(E) Cynicism
54. When distribution of scores is skewed, the best representation of central tendency is the

(A) Inference
(B) Standard deviation
(C) Mean
(D) Median
(E) Correlation coefficient

55. Which of the following represents naturalistic observation?

(A) From a third-floor window, researchers watch how elementary school children interact on a playground.
(B) Researchers bring people into a laboratory to see how they respond when asked to solve a puzzle with no solution.
(C) A principle sits in the back of a classroom to evaluate a teacher.
(D) A social worker spends the afternoon in the home of a mother accused of neglecting her children.
(E) Two grandparents sit in the front row to watch as their grandson performs his piano recital.

56. “Monday morning quarterbacks” rarely act surprised about the outcome of weekend football games. Their tendency to believe they knew how the game would turn out is explained by

(A) Overconfidence
(B) Hindsight bias
(C) Intuition
(D) Illusory correlation
(E) Random sampling

57. A student is writing an article for her school newspaper about the school’s new cell-phone policy, and she’d like to include survey results form a random sample of students in her article. Which of the following constitutes a random sample?

(A) The writer arrives at school early and interviews the first five students who come through the main entrance.
(B) The writer pulls the names of five students from a hat that contains all students’ names. She interviews the five selected students.
(C) The writer asks her teacher if she can distribute a brief survey to the students in her AP Psychology class.
(D) The writer passes out brief surveys to 50 students in the hall and uses the 18 surveys returned to her as the basis of her article.
(E) The writer asks the principal for the names of 10 students who have had their cell phones confiscated for a day for violating the policy. She interviews these 10 students.

58. Which of the following is a positive correlation?
(A) As study time decreases, students achieve lower grades.
(B) As levels of self-esteem decline, levels of depression increase.
(C) People who exercise regularly are less likely to be obese.
(D) Gas mileage decreases as vehicle weight increases.
(E) Repeatedly shooting free throws is associated with a smaller percentage of missed free throws.

59. Which of the following demonstrates the need for psychological science?
(A) Psychology’s methods are unlike those of any other science.
(B) Psychological experiments are less valuable without psychological science.
(C) Intuition and common sense are not always correct.
(D) Intuition can never be right unless applied scientifically.
(E) Psychological science can be used to answer fundamental questions about religion.

60. Which of the following is a potential problem with case studies?
(A) They provide too much detail and the researcher is likely to lose track of the most important facts.
(B) They are generally too expensive to be economical.
(C) They may be misleading because they don’t fairly represent other cases.
(D) They are technically difficult and most researchers don’t have the skills to do them properly.
(E) The dependent variable is difficult to operationally define in a case study.

61. Which of the following is not an ethical principle regarding research on humans?
(A) Researchers must protect participants from needless harm and discomfort.
(B) Participants must take part in the study on a voluntary basis.
(C) Personal information about individual participants must be kept private.
(D) The research must be fully explained to participants when the study is completed.
(E) It is never acceptable for a researcher to deceive a participant during the research.

62. There is a negative correlation between TV watching and grades. What can we properly conclude from this discovery?
(A) We cannot conclude anything about cause and effect.
(B) We can conclude that TV watching leads to lower grades.
(C) We can conclude that TV watching increases grades.
(D) We can conclude that the grades students get have an effect on their TV watching habits.
(E) We can conclude that this is an illusory correlation.
Answer Key

1. D.
2. B.
3. C.
4. B.
5. C.
6. C.
7. D.
8. E.
9. A.
10. E.
11. A.
12. B.
13. D.
14. B.
15. C.
16. B.
17. D.
18. B.
19. A.
20. B.
21. D.
22. C.
23. A.
24. D.
25. D.
26. A.
27. C.
28. B.
29. E.
30. C.
31. E.
32. D.
33. B.
34. D.
35. A.
36. A.
37. D.
38. B.
39. B.
40. E.
41. B.
42. C.
43. D.
44. C.
45. B.
46. C.
47. D.
48. B.
49. D.
50. A.
51. D.
52. D.
53. C.
54. D.
55. A.
56. B.
57. B.
58. A.
59. C.
60. C.
61. E.
62. A.