Chapter 2 Research Methods in Psychology

MULTIPLE CHOICE

1. The scientific approach assumes that
   a. events are governed by some lawful order.
   b. each event is completely unique.
   c. there are no general laws or principles that apply to human behaviour.
   d. the search for absolute truth is the ultimate goal.

   ANS: A

2. Answering the question of "how" something works is most closely associated with which goal of science?
   a. the search for truth
   b. application and control
   c. measurement and description
   d. understanding and prediction

   ANS: C

3. Which is NOT among the goals of scientific psychology?
   a. the development of measurement techniques for describing behaviour precisely and accurately
   b. understanding why certain behaviours occur
   c. applications of research findings to solve everyday problems
   d. searching for absolute truths about behaviour

   ANS: D

4. Answering the question of "why" something happens is most closely associated with which goal of science?
   a. the search for truth
   b. application and control
   c. measurement and description
   d. understanding and prediction

   ANS: D

5. IQ score, age, weight, grade point average, and income are all examples of
   a. constants.
   b. variables.
   c. correlations.
   d. statistics.

   ANS: B

6. Any measurable conditions, events, characteristics, or behaviours that are controlled or observed in a study are called
   a. hypotheses.
   b. correlations.
   c. variables.

d. confounds.

ANS: C

7. The ____ approach assumes that events are governed by some lawful order.
   a. philosophical
   b. mechanical
   c. scientific
   d. cognitive

   ANS: C

8. A tentative statement about the relationship between two or more variables is a(n)
   a. variable.
   b. hypothesis.
   c. theory.
   d. operational definition.

   ANS: B

9. Theories permit researchers to move from
   a. understanding to application.
   b. concept to description.
   c. application to control.
   d. description to understanding.

   ANS: D

10. A scientific theory has to be
    a. true.
    b. accepted by others.
    c. testable.
    d. well established and not disputed.

    ANS: C

11. Theory construction is
    a. a gradual iterative process that is always subject to revision.
    b. a standard step-like process that quickly moves toward the truth.
    c. a circular process that typically leads nowhere.
    d. a process that results in concrete findings that are accepted by other scientists.

    ANS: A

12. Dr Matamela believes that "misery loves company." Based on this belief, Dr Matamela predicts that people who have received bad news will seek out other people. Dr Matamela's belief is an example of ____, and her prediction is an example of ____.
    a. a hypothesis; a theory
    b. a theory; a hypothesis
    c. a variable; an application
    d. a hypothesis; a variable

    ANS: B

13. Mrs. Smith, an elementary school teacher, believes that girls are smarter than boys. She predicts that the girls in her class will learn more than the boys during the school year. Her prediction is a(n)
    a. hypothesis.
    b. opinion.
    c. fact.
    d. theory.

    ANS: A

14. A theory is
    a. an objective description of behaviour.
    b. a system of interrelated ideas used to explain a set of observations.
    c. the application of research to practical problems.
    d. a statement about the relationship between two or more variables.

    ANS: B

15. Scientific theories are most directly associated with which goal of science?
    a. application and control
    b. construction and revision
    c. measurement and description
    d. understanding and prediction

    ANS: D

16. A clinical psychologist notes that an unusually large number of obese people are depressed or anxious, and she offers an explanation that excess weight causes emotional disorders. Her explanation is a(n)
    a. hypothesis.
    b. theory.
    c. opinion.
    d. fact.

    ANS: B

17. While theories are most closely associated with the scientific goal of ____, hypotheses are most closely associated with the goal of ____.
    a. application; description
    b. description; application
    c. understanding; prediction
    d. prediction; understanding

    ANS: C

18. Hypotheses are typically expressed as
    a. theories.
    b. variables.
    c. predictions.
    d. statistics.

    ANS: C

19. Dr Snyman predicts that if people are observed while they perform a complex task they will make more errors. Dr Snyman's prediction is an example of

a. a hypothesis.
b. an operational definition.
c. a theory.
d. inferential statistics.

ANS: A

20. Dr Desai predicts that if teachers ignore students who act up in class, fewer students will act up in class. Dr Desai's prediction is an example of
a. an operational definition.
b. a theory.
c. inferential statistics.
d. a hypothesis.

ANS: D

21. A researcher is measuring the heart rate of subjects as an index of anxiety. In this study, heart rate is
a. a confounded variable.
b. negatively correlated with anxiety.
c. an independent variable.
d. an operational definition of anxiety.

ANS: D

22. Dr Ebrahim wants to study attachment patterns in single-parent families. The first step in her scientific investigation would be to
a. design the study and select the research method.
b. analyse the data.
c. formulate a testable hypothesis.
d. collect the data.

ANS: C

23. Dr Botha is studying aggression in children and plans to define aggression as the number of times one child pushes or strikes another child. Defining aggression in this way would
a. be an example of a hypothesis.
b. violate ethical guidelines for psychological research.
c. represent an operational definition.
d. require a double-blind research design.

ANS: C

24. A researcher is interested in examining whether relaxation techniques help decrease the perception of anxiety in subjects. The second step in this scientific investigation would be
a. to design the study and select the research method.
b. to analyse the data.
c. to formulate a testable hypothesis.
d. to collect the data.

ANS: A

25. A psychologist monitors changes in the subject's heart rate as the subject watches a violent movie. The data collection technique being used is
a. direct observation.

b. psychological testing.
c. physiological recording.
d. archival records.

ANS: C

26. A standardised measure used to obtain a sample of a person's behaviour is called
a. a psychological test.
b. a case study.
c. an experiment.
d. a survey.

ANS: A

27. Percy is working with a company to help them develop more effective training programs for their employees. He has spent a great deal of time reviewing all the documentation the company has about previous training opportunities they have provided for their employees. Up to this point in time, Percy has been engaged in
a. psychological testing.
b. archival research.
c. direct observation.
d. meta-analysis.

ANS: B

28. Dineo answered a series of written questions that asked about her attitudes and opinions on a number of current issues. The method of data collection that was being used in this case was
a. a standardised psychological test.
b. archival research.
c. direct observation.
d. a questionnaire.

ANS: D

29. The FINAL step in a scientific investigation is to
a. conduct the study.
b. analyse the data.
c. decide whether or not the hypothesis was supported.
d. report the findings.

ANS: D

30. A scientific journal refers to
a. a personal diary kept by a scientist.
b. a periodical that publishes technical and scholarly articles.
c. a detailed record of the daily procedures followed in conducting a study.
d. a collection of biographies of famous scientists.

ANS: B

31. Publication of research findings is extremely important to the scientific method because
a. it allows for critique and self-correction.
b. it brings recognition to the research worker.
c. it forces the writer to be clear.

d. the royalties help the researcher pay for the research.

ANS: A

32. In scientific investigations a researcher must clearly define the variables under study by precisely describing how they will be measured or controlled. These definitions are referred to as
a. objective definitions.
b. precise definitions.
c. operational definitions.
d. dictionary definitions.

ANS: C

33. A psychologist measures blood alcohol level to determine intoxication. In this example, blood alcohol level is the ____ definition of intoxication.
a. operational
b. dictionary
c. objective
d. precise

ANS: A

34. Psychologists use a variety of data collection techniques; which of the following is best suited for studying attitudes?
a. questionnaires
b. direct observations
c. psychological tests
d. physiological recordings

ANS: A

35. Statistical procedures are used during which step in conducting a scientific investigation?
a. collect the data
b. select a research method and design the study
c. report the findings
d. analyse the data and draw conclusions

ANS: D

36. Most typically, researchers report their findings
a. by holding a press conference.
b. in a book.
c. in a scientific magazine.
d. in a journal.

ANS: D

37. Which of the following is NOT true regarding common sense analyses of behaviour?
a. they tend to be vague and ambiguous
b. they often tolerate contradictory generalisations
c. they usually involve little effort to verify ideas or detect errors
d. they are typically based on precise definitions and hypotheses

ANS: D

38. The scientific approach requires that people specify exactly what they are talking about when they formulate hypotheses. Which advantage of scientific investigation does this illustrate?
    a. precision
    b. acceptance of a degree of error
    c. skepticism
    d. operational definitions

    ANS: A

39. Operational definitions are most closely associated with which major advantage of the scientific approach?
    a. commonsense approach
    b. clarity and precision
    c. intolerance of error
    d. tolerance of error

    ANS: B

40. The different general strategies for conducting scientific investigation are referred to as
    a. data collection techniques.
    b. operational definitions.
    c. research methods.
    d. hypotheses.

    ANS: C

41. The two main types of research methods used in psychology are the
    a. experimental and descriptive/correlational research methods
    b. experimental and case study research methods
    c. descriptive and correlational research methods
    d. descriptive/correlational and case study research methods

    ANS: A

42. Manipulating a variable under carefully controlled conditions and observing the changes in a second variable defines
    a. the testing approach.
    b. the survey approach.
    c. the experimental approach.
    d. naturalistic observation.

    ANS: C

43. A researcher wants to see if a protein-enriched diet will enhance the maze-running performance of rats. One group of rats is fed the high-protein diet for the duration of the study; the other group continues to receive ordinary rat chow. In this experiment, the rats' maze-running performance is the
    a. correlated variable.
    b. control variable.
    c. dependent variable.
    d. independent variable.

    ANS: C

44. In an experiment, the variable that is controlled or manipulated by the researcher is called the
    a. dependent variable.
    b. independent variable.
    c. control variable.
    d. stimulus variable.

    ANS: B

45. An independent variable in an experiment refers to
    a. the variable that is held constant across experimental conditions.
    b. the variable deliberately manipulated by the experimenter.
    c. the variable that the experimenter believes will change in value because of systematic correlations that exist in the experiment.
    d. the variable that provides an alternative explanation for the results of the experiment.

    ANS: B

46. A group of researchers wanted to determine if people will eat more food in a room with red paint and red decorations than in a room that is decorated blue. Half the participants in this study ate in a red room and half ate in a blue room. The researchers then measured how much food was consumed in each of the two rooms. In this study, the independent variable was
    a. the type of food that was available during the study.
    b. the amount of food that was consumed.
    c. the colour of the decorations in the room.
    d. how hungry the participants were at the end of the study.

    ANS: C

47. Researchers who were studying plant growth raised plants in two separate rooms. One room had taped conversations playing 24 hours a day; the other room was silent. The researchers found that the plants grew better in the room which had the conversations playing. In this study, the type of room (conversation or silence) would be
    a. the dependent variable.
    b. an extraneous variable.
    c. a placebo.
    d. the independent variable.

    ANS: D

48. A dependent variable in an experiment refers to the variable
    a. held constant across the experimental conditions.
    b. deliberately manipulated by the experimenter.
    c. that changes value because of the systematic manipulation in the experiment.
    d. that the experimenter is depending on to cause something to happen in the experiment.

    ANS: C

49. Researchers studying the effects of sleep deprivation tested the physical coordination skills of 25-year-old males who had been sleep deprived for either 24, 36, or 48 hours. In this study, the dependent variable would be
    a. the age of the research participants.
    b. the physical coordination skills of the men in the study.
    c. the length of time the participants had been sleep deprived.

d. the type of physical coordination task the researchers use.

ANS: B

50. A group of researchers wants to determine if people are more likely to follow directions if the person giving the directions is in a uniform. Half the participants are directed to a parking spot by a uniformed security guard, the other half are directed to a parking spot by an individual wearing blue jeans and a t-shirt. In this study, the dependent variable would be
    a. the number of participants who park in the spot they are directed to.
    b. the type of clothing worn by the person giving the directions.
    c. the gender of the person driving into the parking lot.
    d. the distance between the parking spot and the entrance.

    ANS: A

51. An industrial designer wants to determine if the new design for a piece of office equipment will result in fewer errors. The designer sets up a machine with the old design in one room, and a machine with the new design in a second room. He counts how many errors are made using each of the two machines. In this study, the number of errors that are made would be
    a. a control variable.
    b. the dependent variable.
    c. the independent variable.
    d. an extraneous variable.

    ANS: B

52. If we view an experiment as an attempt to establish a cause-effect relationship, the ____ variable would be the cause, and the ____ variable would be the effect.
    a. dependent; independent
    b. independent; dependent
    c. control; experimental
    d. independent; confounded

    ANS: B

53. A researcher found that clients who were randomly assigned to same-sex groups participated more in group therapy sessions than clients who were randomly assigned to coed groups. In this experiment, the dependent variable was
    a. the amount of participation in the group therapy sessions.
    b. whether or not the group was coed.
    c. the clients' attitudes toward group therapy.
    d. how much the clients' mental health improved.

    ANS: A

54. The experimental group
    a. consists of the subjects who receive some special treatment with regard to the independent variable.
    b. consists of the subjects who receive some special treatment with regard to the dependent variable.
    c. consists of the subjects who do not receive the special treatment.
    d. must be chosen so as to be as different from the control group as possible.

    ANS: A

55. In an experiment designed to test memory processes, one group was given special instructions and asked to group the items on a list into categories while they tried to memorise them. A second group of participants was given the same list, but they did not receive any special instructions. In this study, the experimental group is
    a. the group in which the participants remember the least items from the list.
    b. the group who did not receive any special instructions.
    c. the group who received the special instructions.
    d. the group in which the participants remember the most items from the list.

    ANS: C

56. In a study designed to test the effects of a new drug developed to treat Alzheimer's disease, half the patients were given the actual drug while the other half of the patients were given a placebo (sugar pill). In this study, the experimental group is
    a. the patients who show evidence of an improvement in their memory.
    b. the group who received the actual drug.
    c. the group who received the placebo.
    d. the patients who were not included in the study.

    ANS: B

57. David and Val both take part in a research study that is investigating the effects of sleep deprivation on reaction time. David is kept awake for 24 hours straight, while Val follows her normal sleep routine. In this study, David is part of the
    a. hypothesis group.
    b. experimental group.
    c. control group.
    d. dependent variable group.

    ANS: B

58. The purpose of the control group is to
    a. make the experiment more complex.
    b. isolate the effect of the independent variable on the dependent variable.
    c. make statistical significance more likely.
    d. isolate the effect of the dependent variable on the independent variable.

    ANS: B

59. A group of researchers wanted to determine whether children would behave more aggressively after watching violent television programming. Half the children in the study watched a violent television show; the other children watched a non-violent television program. In this study, the control group is the children who
    a. behave the most aggressively at the end of the study.
    b. watch the non-violent program.
    c. watch the violent show.
    d. behave the least aggressively at the end of the study.

    ANS: B

60. Dr Mokoena believes that people who are under stress will develop more colds than people who are not under stress. When he randomly selects 10 participants and exposes them to high levels of stress, he finds that 9 of the participants develop colds. Based on these results he concludes that stress causes an increase in colds. Dr Mokoena's reasoning may be flawed because in this study
    a. there was no dependent variable in his study.
    b. there was no control group for comparison.
    c. he didn't formulate a hypothesis before he collected his data.
    d. he didn't measure the independent variable when the study ended.

    ANS: B

61. A variable, other than the independent variable, that appears to have influenced the dependent variable in a study is referred to as
    a. a covariate.
    b. an extraneous variable.
    c. a redundant variable.
    d. an inverse bias.

    ANS: B

62. When two variables are linked and their individual effects cannot be separated out, we speak of the variables as being
    a. independent variables.
    b. dependent variables.
    c. confounded variables.
    d. codependent variables.

    ANS: C

63. Tyrone conducts a decision-making experiment to determine if people reason more logically when they have more time to decide. All the participants who are under 40 are allowed 15 minutes to reach a decision about a problem; all the participants who are over 40 are allowed 20 minutes to reach a decision about the same problem. Tyrone has a problem with his experimental design because
    a. there are two control groups and no experimental group.
    b. the time allowed for the decision is confounded with the independent variable.
    c. there is no dependent variable in the experiment.
    d. the age of the participants is confounded with the independent variable.

    ANS: D

64. In experiments, placing subjects in experimental groups such that each subject has an equal probability of ending up in any experimental group is referred to as
    a. random selection.
    b. random sampling.
    c. random forecasting.
    d. random assignment.

    ANS: D

65. Dr Slabbert plans on introducing a new exam review procedure in his chemistry classes. To check the effectiveness of the new procedure he is going to have half his students try the new technique for one semester, while the remaining students review in the way they have always done in the past. He asks each student to decide which of the techniques they would like to use, the new technique or the standard technique. In this example, Dr Slabbert's procedure illustrates
    a. the use of non-random assignment.
    b. a correlational research design.
    c. a double-blind research design.
    d. what is meant by informed consent in research.

    ANS: A

66. Bill received a poor performance evaluation in his job last year. Since then Bill has started working through his lunch hour, has taken on four special projects, and has enrolled in night classes to upgrade his computer skills. If Bill receives a better evaluation at his next performance it will be hard for him to figure out why because
    a. he failed to use a double-blind procedure to test his hypothesis.
    b. he didn't formulate a research hypothesis before implementing the changes.
    c. none of the actions he took are likely to be related to his overall job performance.
    d. the three actions he took are confounded with each other.

    ANS: D

67. Bongani designed an experiment in which participants listened to a persuasive speech delivered either by a person who was very tall or a person who was average in height. In addition, the speeches were delivered either by individuals wearing business clothes or by people wearing casual clothes. In this example, Bongani
    a. has two dependent variables, and will be able to determine if persuasion interacts with any other factors.
    b. has two independent variables, and will be able to determine if height and style of clothing interact.
    c. does not have a control group, which should reduce the impact of self-reporting bias in his study.
    d. is using a double-blind procedure, which should reduce experimenter bias.

    ANS: B

68. The research method in which the investigator manipulates a variable under carefully controlled conditions and observes whether any changes occur in a second variable as a result is the
    a. scientific method.
    b. correlational method.
    c. descriptive method.
    d. experimental method.

    ANS: D

69. In experimental research, the variable that the researcher measures because it is thought to be affected by the manipulation of another variable is the
    a. extraneous variable.
    b. dependent variable.
    c. independent variable.
    d. controlled variable.

ANS: B

70. In experimental research, the researcher manipulates the ____ variable in order to measures its effect on the ____ variable.
    a. dependent; independent
    b. dependent; extraneous
    c. independent; dependent
    d. independent; extraneous

    ANS: C

71. If a researcher varies the loudness of music in a factory to observe its effect on the rate of productivity of the employees, the dependent variable is the
    a. factory setting.
    b. rate of productivity.
    c. style of music being used.
    d. loudness of music being used.

    ANS: B

72. In experimental research, subjects that receive some special treatment in regard to the independent variable are the
    a. experimental group.
    b. control group.
    c. observational group.
    d. correlational group.

    ANS: A

73. In experimental research, while subjects in the ____ group received some special treatment in regard to the independent variable, subjects in the ____ group did not.
    a. control; experimental
    b. experimental; control
    c. primary; secondary
    d. secondary; primary

    ANS: B

74. Subjects in the control group should be ____ subjects in the experimental groups in all respects except for the treatment they receive in regards to the ____.
    a. very different from; independent variable
    b. very different from; dependent variable
    c. very similar to; independent variable
    d. very similar to; dependent variable

    ANS: C

75. A researcher tries to make sure that subjects in the experimental and control groups are very similar to each other in order to reduce the effects of
    a. extraneous variables.
    b. random variables.
    c. dependent variables.
    d. independent variables.

ANS: A

76. Conclusions concerning cause and effect relationships are only possible when the ____ method is used.
    a. survey
    b. experimental
    c. correlational
    d. descriptive

    ANS: B

77. The main advantage associated with the experimental method is
    a. its precise control.
    b. its ability to duplicate real life in the laboratory.
    c. that it can be used to explore just about everything.
    d. participants usually enjoy taking part in the study.

    ANS: A

78. One of the disadvantages of the experimental method is
    a. the inability to generate cause-and-effect conclusions.
    b. the length of time necessary to complete the study.
    c. the fact that only one variable can be studied at a time.
    d. the fact that experiments often can't be done for practical or ethical reasons.

    ANS: D

79. One of the disadvantages of the experimental method is
    a. the inability to generate cause-and-effect conclusions.
    b. the artificial, contrived situations in which experiments are often conducted.
    c. the length of time necessary to complete the study.
    d. the fact that only one variable can be studied at a time.

    ANS: B

80. Compared to the other scientific research methods, the principal advantage of the experimental method is it
    a. can easily be used to study all research questions.
    b. allows for a description of behaviour.
    c. permits conclusions about cause and effect relationships.
    d. observes behaviour in its natural setting.

    ANS: C

81. In descriptive/correlational research, the investigator
    a. systematically observes two variables to see whether there is an association between them.
    b. manipulates a variable under carefully controlled conditions and observes whether there are changes in a second variable as a result.
    c. exposes subjects to two closely related treatment conditions.
    d. simultaneously manipulates two or more independent variables.

    ANS: A

82. Naturalistic observation, case studies, and surveys all have in common that

a. they do not directly observe behaviour.
b. they do not manipulate the variables under study.
c. they can show causal relationships.
d. the results obtained cannot be analysed statistically.

ANS: B

83. Which research method involves a researcher engaging in careful observation of behaviour without intervening directly with the subjects?
a. criterion-based induction
b. case studies
c. surveys
d. naturalistic observation

ANS: D

84. Recording all instances of an event for a particular time period (such as how many times an older brother strikes his younger brother) without the subjects' awareness is an example of
a. compiling a case study.
b. correlational research.
c. conducting an experiment.
d. naturalistic observation.

ANS: D

85. You are sitting on a park bench in a major metropolitan area from 7 a.m. to 7 p.m. and you note the number of people who walk by, whether or not they litter, and their gender. You are engaging in
a. casual observation.
b. naturalistic observation.
c. case study research.
d. experimental research.

ANS: B

86. One of the main concerns with the case study method of research is that
a. a single case is seldom able to provide a historical perspective.
b. hypotheses cannot be generated about the origin of the behaviour.
c. they cannot be used to study rare or unusual events.
d. the experiences reported may not be representative of other cases.

ANS: D

87. A group of researchers wanted to investigate allegations of sexual harassment on a company's assembly line. To make their observations, the researchers took jobs working on the assembly line and pretended to be new employees. In this example, the researchers were using
a. naturalistic observation.
b. correlational research.
c. survey research.
d. the case study method of research.

ANS: A

88. Patricia believed that there are gender differences in driving habits. To test this assumption she stood near a quiet intersection. Patricia recorded the gender of each driver who approached a stop sign, and also whether the individual came to a complete stop before proceeding into the intersection. Patricia is conducting
    a. an experiment with two dependent variables.
    b. case study research.
    c. naturalistic observation.
    d. psychological testing.

    ANS: C

89. One advantage of naturalistic observation is that it
    a. approximates the experimental method.
    b. allows for cause-and-effect conclusions to be drawn.
    c. allows behaviour to be studied in realistic settings.
    d. involves random assignment.

    ANS: C

90. Which research method involves an in-depth investigation of an individual subject?
    a. an experiment
    b. a case study
    c. a survey
    d. a naturalistic observation

    ANS: B

91. Dr Khoza was interested in the topic of autistic savants (individuals with limited abilities in many areas, but with an exceptional talent in one specific area). In the initial part of the investigation Dr Khoza carefully observed and compiled detailed files on three individuals who were autistic savants. Dr Khoza is conducting
    a. case study research.
    b. survey research.
    c. correlational research.
    d. experimental research.

    ANS: A

92. Which of the following techniques is most likely to prove useful in determining why one <u>particular</u> child is afraid to go to school?
    a. experiment
    b. descriptive study
    c. naturalistic observation
    d. case study

    ANS: D

93. One of your friends is writing a research paper and wants to obtain information about the depth of personal information people typically reveal during a first date. Directly observing a large number of people during a first date will be difficult, so your friend asks for your advice on the best way to collect this type of data. The best suggestion would be for your friend to use
    a. the case study approach.
    b. archival research.

c. a double-blind observational study.
d. a survey.

ANS: D

94. Ziyad received a questionnaire in the mail asking about his general buying habits. He was asked to identify the specific products that he typically buys, and the amount of each product that he typically uses. If Ziyad completes the questionnaire and returns it, he will have taken part in research that incorporates
a. the survey method.
b. naturalistic observation.
c. a case study approach.
d. archival research.

ANS: A

95. When studying a research question where it would be impractical to manipulate the variables of interest, a researcher would use a(n)
a. logical method.
b. common sense method.
c. experimental method.
d. descriptive/correlational method.

ANS: D

96. Which of the following is NOT a descriptive/correlational research method?
a. survey
b. experiment
c. case study
d. naturalistic observation

ANS: B

97. The research method that is often used to obtain information concerning individuals' behaviours, attitudes, and/or opinions is the
a. case study method.
b. naturalistic observation method.
c. correlation method.
d. survey method.

ANS: D

98. A researcher interested in studying individuals' attitudes toward "animal rights issues" would MOST likely conduct
a. a case study.
b. a survey.
c. a correlation.
d. a naturalistic observation.

ANS: B

99. Broadening the scope of phenomena that psychologists are able to study is associated with
a. descriptive research methods.
b. introspective research methods.

c. hypothetical deductive research methods.
d. functional research methods.

ANS: A

100. Trevor plans to study the relationship between people's responses to highly stressful situations and their overall health. He decides he must use correlational research, rather than experimental research, to investigate this problem. Trevor most likely chose a correlational method because correlational studies
a. tend to be more accurate than experiments.
b. have higher internal validity than experiments when there are two dependent variables.
c. can be used to study either positive or negative relationships, whereas experiments can only be used to study positive relationships.
d. can be used to investigate factors that would be unethical to manipulate in an experimental study.

ANS: D

101. A researcher plans to study the relationship between people's smoking behaviour and their tendency to have minor physical illnesses (such as colds or the flu). Most likely she will use correlational research for the study because
a. correlational studies are always the "first choice" of researchers.
b. it is not practical or ethical to manipulate people's smoking behaviour.
c. correlational studies allow the researcher to draw strong cause and effect conclusions.
d. the university does not allow smoking in the psychology building.

ANS: B

102. The principal disadvantage of the descriptive/correlational research method is
a. because of practical or ethical reasons they cannot be used to study some research questions.
b. since researchers cannot control variables of interest, conclusions concerning cause and effect relationships are not appropriate.
c. they do not allow the researcher to describe behaviour.
d. they frequently observe behaviour in artificial situations.

ANS: B

103. The primary reason descriptive/correlational research cannot determine conclusively that variables have a cause and effect relationship is because in conducting the research
a. the researcher cannot control events or manipulate variables.
b. only an experimental group is used.
c. the data collected frequently comes from direct observations or statements made by subjects.
d. the researcher observes behaviour under artificial situations.

ANS: A

104. The use of mathematics to organise, summarise, and interpret numerical information is referred to as
a. calculus.
b. functional analysis.
c. statistics.
d. algebra.

ANS: C

105. Statistics can be used to do all of the below EXCEPT
a. summarise observations.
b. organise observations.
c. interpret observations.
d. prove observations.

ANS: D

106. The two basic types of statistics are
a. descriptive and inferential.
b. central tendency and variability.
c. sampling and correlative.
d. parametric and nonparametric.

ANS: A

107. Statistics that are used to summarise and organise data are called
a. descriptive statistics.
b. numerical statistics.
c. inferential statistics.
d. computational statistics.

ANS: A

108. The score that falls exactly in the center of a distribution of scores, such that half the scores fall below that score and half the scores fall above it, is the
a. mean.
b. standard deviation.
c. range.
d. median.

ANS: D

109. Your grade point average is an example of which measure of central tendency?
a. median
b. mean
c. mode
d. midpoint

ANS: B

110. The mode in a group of scores describes the ____ for that group of scores.
a. central tendency
b. association with another group of scores
c. halfway point
d. variability

ANS: A

111. Charlie tells you that 17 out of the 30 students enrolled in his English class scored exactly 62 points on the last exam. Conceptually, this is the same as saying
a. the mean for that particular English exam was 62 points.

b. the median for that particular English exam was 62 points.
c. the standard deviation for that particular English exam was 62 points.
d. the mode for that particular English exam was 62 points.

ANS: D

112. When the scores for a recent Chemistry exam were calculated, the mean was 60 and the median was 65. Later the lecturer discovered that one score had been recorded incorrectly; it had been entered into the computer as a 5, instead of as a 50. When this correction is made,
a. the median for the exam will change, but the mean will stay the same.
b. both the mean and the median for the exam will change.
c. the mean for the exam will change, but the median will stay the same.
d. neither the mean nor the median for the exam will be affected.

ANS: C

113. Basetsana earned 78 points on her statistics exam. Ten of the students in her class earned higher scores than she did, and ten students earned lower scores than she did. Based on this information, you can conclude that Basetsana's score of 78 points is
a. the standardised score for her class.
b. the median for her class.
c. the mean for her class.
d. the mode for her class.

ANS: B

114. In Emma's sociology discussion group 4 of the 5 students are between the ages of 19 and 23; the fifth student is 54 years old. If Emma wants to report the statistic that best represents the "average" age for her discussion group, she should report either
a. the mean or the median, because these numbers are typically the same.
b. the mean or the mode, because these number are not affected by extreme scores.
c. the median or the mode, because these numbers will be more representative.
d. the mean or the standard deviation, so additional statistics can be calculated.

ANS: C

115. When variability in a data set is large, the standard deviation will be ____; when variability is small, the standard deviation will be ____.
a. large; small
b. large; large
c. small; large
d. small; small

ANS: A

116. Fatima calculated descriptive statistics for the age of residents in a nursing home. She reported the mean age as 75 years, with a standard deviation of 10 years. Later she found that she had made an error in her calculations. One resident's age was entered as 27 when it should have been 72. When this correction is made
a. the standard deviation for the data set will decrease.
b. the standard deviation for the data set will not change.
c. the standard deviation for the data set will increase.
d. the correlation coefficient for the data set will become negative.

ANS: A

117. Gugu is in a class where the scores on the second midterm exam ranged from 75 to 85 points. Shaun is taking the same course, but in his section the scores ranged from 50 to 98 points. In this example the standard deviation in Gugu's class should be
a. negatively correlated with the standard deviation in Shaun's class.
b. lower than the standard deviation in Shaun's class.
c. higher than the standard deviation in Shaun's class.
d. the same as the standard deviation in Shaun's class.

ANS: B

118. Which of the following is NOT a measure of central tendency?
a. mode
b. mean
c. median
d. variability

ANS: D

119. The median of the following distribution of scores 1, 2, 3, 7, 7 is
a. 3.
b. 4.
c. 5.
d. 7.

ANS: A

120. The measure of central tendency that is MOST sensitive to (or most influenced by) extreme scores in a distribution is the
a. standard deviation.
b. mean.
c. median.
d. mode.

ANS: B

121. How much the scores in a data set vary from each other and from the mean refers to the concept of
a. correlation.
b. central tendency.
c. variability.
d. standard deviation.

ANS: C

122. The ____ is an index of the amount of variability in a set of data.
a. statistical significance
b. central tendency
c. standard deviation
d. correlation coefficient

ANS: C

123. The correlation coefficient is a measure of

a. central tendency.
b. the amount of variability in a data set.
c. the degree of relationship between two variables.
d. the difference between the largest and smallest scores in a data set.

ANS: C

124. If we were to measure the height and weight of 100 adult women, we would find that these two measures are
a. uncorrelated.
b. increasingly correlated.
c. negatively correlated.
d. positively correlated.

ANS: D

125. Suppose a researcher discovered a +.87 correlation between the length of a person's toes and the number of shoes the person owns. In general, people who own the fewest number of shoes would have
a. small toes.
b. large toes.
c. medium-sized toes.
d. either very large or very small toes.

ANS: A

126. Dr Ahmed predicts that people will act more aggressively during the heat waves of summer than they will during the cold spells of winter. This suggests that Dr Ahmed believes that temperature and level of aggression are
a. negatively correlated.
b. independent variables.
c. uncorrelated.
d. positively correlated.

ANS: D

127. As interest rates increase, house sales decline, indicating
a. a direct correlation between the two variables.
b. a negative correlation between the two variables.
c. a positive correlation between the two variables.
d. no correlation between the two variables.

ANS: B

128. The FDA found that people who used a particular diet drug combination had more heart valve defects than people who had not taken the diet drug combination. This suggests that the use of the diet drug combination and heart valve defects are
a. negatively correlated.
b. independent variables.
c. positively correlated.
d. interactive variables.

ANS: C

129. Dr Abrahams has found that students who score higher than 85% on the first midterm tend to earn scores of 75% or better on the final exam, while students who score less than 60% on the first midterm often end up with a failing grade on the final exam. This suggests that
a. the scores on the first midterm and the final exam are positively correlated.
b. the scores on the first midterm and the final exam are negatively correlated.
c. students who do poorly on the first midterm give up and study less for the final.
d. Dr Abrahams should change the final so it is more fair to students who are not doing well in the course.

ANS: A

130. Suppose a researcher discovered a strong negative correlation between the length of people's hair and the amount of money they paid for their automobile. In general, people who paid the least amount of money for their automobile also had
a. the longest hair.
b. mid-length hair.
c. the shortest hair.
d. either extremely long or extremely short hair.

ANS: A

131. As the number of bystanders' increases, people are less likely to help someone who is in distress. This suggests that the size of a crowd and helping behaviour are
a. negatively correlated.
b. uncorrelated.
c. positively correlated.
d. dependent variables.

ANS: A

132. A correlation between two variables exists when scores on one variable
a. are different from the scores on the second variable.
b. cause or determine the scores on the second variable.
c. are related to scores on the second variable.
d. are unrelated to scores on the second variable.

ANS: C

133. If two variables have a positive correlation, you would expect that ____ scores on one variable are generally associated with ____ scores on the second variable.
a. low; low
b. low; high
c. middle; a wide variety of
d. high; low

ANS: A

134. As an adult ages, his/her physical strength declines. The relationship between age and physical strength is a(n)
a. nonexistent correlation.
b. equal correlation.
c. positive correlation.
d. negative correlation.

ANS: D

135. A correlation coefficient will always have a value between
a. 0% and 100%.
b. -10.00 and +10.00.
c. -1.00 and +1.00.
d. 0 and +1.00.

ANS: C

136. A high correlation coefficient (either positive or negative) indicates that
a. there is a high level of consistency between the two variables.
b. the scores on the two variables are nearly identical.
c. a change in one variable causes a change in the second variable.
d. a third factor or variable is always responsible for the relationship between the two variables.

ANS: A

137. A correlation coefficient of zero describes
a. a positive relationship between two variables.
b. a negative relationship between two variables.
c. the lack of a relationship between two variables.
d. a perfect relationship between two variables.

ANS: C

138. Dr Reddy has found a correlation of +0.65 between snoring and weight. This indicates that
a. overweight individuals tend to snore less than underweight individuals.
b. there is no relationship between weight and snoring.
c. overweight individuals tend to snore more than underweight individuals.
d. individuals who go on a diet will most likely begin to snore.

ANS: C

139. Of the following, the correlation coefficient that indicates the strongest relationship between the two variables being measured is
a. +0.65.
b. -0.89.
c. 0.00.
d. +3.45.

ANS: B

140. Of the following, the correlation coefficient that indicates the weakest relationship between the two variables being measured is
a. +0.95.
b. -0.69.
c. +0.01.
d. -4.50.

ANS: C

141. Of the following correlation coefficients, the one that would allow the most accurate predictions of one variable based on the other variable would be
    a. 0.00.
    b. +1.24.
    c. +0.65.
    d. -0.79.

    ANS: D

142. Dr Molefe surveys 50 university students to discover the relationship between textbook price and ratings of readability. Dr Molefe finds that for these two variables the correlation coefficient is -0.70. This indicates that
    a. more expensive books tend to receive higher readability ratings than less expensive books.
    b. there is no relationship between textbook price and ratings of readability.
    c. increasing a textbooks price will cause a decrease in its readability rating.
    d. more expensive books tend to receive lower readability ratings than less expensive books.

    ANS: D

143. Which of the following statements about correlations is incorrect?
    a. A and B correlate +1.00; therefore, they are causally related.
    b. A and B correlate +1.00; if you know A you can predict B without error.
    c. A and B correlate -1.00; if you know A you can predict B without error.
    d. A correlation of +.90 gives better predictability than a correlation of +.60.

    ANS: A

144. As correlation coefficients ____, the ability to predict one variable based on knowledge of the second variable increases.
    a. become positive
    b. become negative
    c. increase in strength
    d. decrease in strength

    ANS: C

145. If A and B are highly correlated, which statement MOST accurately describes the relationship between A and B?
    a. the score on A causes the score on B
    b. the score on B causes the score on A
    c. both A and B are caused by a third variable
    d. the score on A can be used to predict the score on B

    ANS: D

146. Statistics that are used to interpret data and draw conclusions are called
    a. descriptive statistics.
    b. inferential statistics.
    c. numerical statistics.
    d. significant statistics.

    ANS: B

147. Inferential statistics help us determine whether ____ played a role in an experiment.
    a. chance
    b. a dependent variable
    c. a normal distribution
    d. genetics

    ANS: A

148. "Statistically significant" means that the results of an experiment most likely
    a. resulted from chance variations.
    b. were not due to chance.
    c. had practical significance.
    d. were important.

    ANS: B

149. Jeso tells you that he just completed an experiment in his botany class, and the results he obtained were statistically significant. This means that the results he obtained
    a. are important and will likely have an impact in the field of botany.
    b. were unlikely to be a result of chance variations in his sample.
    c. will be of interest to people, even if they are not botanists.
    d. were likely to be the result of chance variations in his sample.

    ANS: B

150. Helen conducted a study in which she measured the response time for males and females to complete a spatial task. She found that the mean response time was 1.48 minutes for males and 1.63 minutes for females. For Helen to be confident that an actual difference exists between the males and females in her study, she must
    a. calculate a correlation coefficient.
    b. redo the experiment.
    c. obtain a larger sample.
    d. calculate an inferential statistic.

    ANS: D

151. Researchers use ____ to determine whether the observed difference between the two groups in the study was large enough to support the hypothesis.
    a. mathematical statistics
    b. inferential statistics
    c. descriptive statistics
    d. correlational statistics

    ANS: B

152. When research results are said to be statistically significant it means that
    a. the probability that the observed findings are due to chance is very low.
    b. the observed findings are important.
    c. the observed findings are interesting.
    d. the observed findings and both important and interesting.

    ANS: A

153. A sample is representative if

a. only volunteer subjects are used.
b. it is as different from the population as possible.
c. all subjects are chosen from a single, unusual segment of the population.
d. its composition is similar to the composition of the population.

ANS: D

154. To determine whether students would like more courses scheduled in the late afternoon and evening hours, the Student Support department sends questionnaires to 50 students selected at random from the 5,000 who are registered at the campus. In this instance, the 5,000 students who are registered at the campus would be
a. a population.
b. a representative sample.
c. a biased sample.
d. the independent variable.

ANS: A

155. To discover whether residents of a city are in favor of building a new sports stadium, the team's owner randomly selected and interviewed 500 of the city's 500,000 residents. In this instance, the 500 people that the owner interviewed would be
a. a biased sample.
b. a population.
c. the dependent variable.
d. a representative sample.

ANS: D

156. A researcher who is conducting an opinion survey asks viewers who are watching a political debate to dial a 0-800 number and record their opinion to the "question of the day." In this case the researcher is likely to have
a. a representative sample.
b. a random sample.
c. a biased sample.
d. a random population.

ANS: C

157. The subjects who participate in an experiment should
a. all be chosen from the same geographical area and socioeconomic class.
b. be allowed to choose which group they would like to be in.
c. come from a wide range of different age groups.
d. be carefully chosen so they are a representative sample of the population.

ANS: D

158. Sampling bias is a problem because it
a. limits the generality of the findings.
b. makes it impossible to use inferential statistics.
c. makes it difficult to avoid a confounding of variables.
d. makes the effect of the independent variable appear to be bigger than it really is.

ANS: A

159. Dr Herbst is interested in people's reactions to a controversial court verdict. Dr Herbst calls people at their home between the hours of 1:00 p.m. and 3:30 p.m. on a Tuesday afternoon. In this example Dr Herbst has MOST likely selected
a. a representative sample.
b. a biased population.
c. a biased sample.
d. a statistically significant population.

ANS: C

160. Research involving the repetition of a study to see whether the earlier results can be duplicated are referred to as
a. verification studies.
b. replication studies.
c. clarification studies.
d. duplication studies.

ANS: B

161. While a(n) ____ is the group of individuals actually observed in a research study, the ____ is the group of individuals that researchers want to generalise or extend their findings to describe.
a. experimental group; control group
b. control group; experimental group
c. population; sample
d. sample; population

ANS: D

162. When, or if, a research project uses a sample that is NOT representative of the population from which it was drawn, the project would show the effect of
a. experimenter bias.
b. sampling bias.
c. placebo effect.
d. subject bias.

ANS: B

163. If a lecturer surveyed his students about their attitudes concerning the public pension system and concluded that young adults doubt that they will ever receive public pension benefits, his conclusion would be flawed because
a. his students were not a representative sample of young adults.
b. he did not survey the entire population of young adults.
c. he knew his subjects before he surveyed them.
d. his students were a random sample.

ANS: A

164. Placebos are used in research to control for
a. nontreatment effects.
b. the subjects' expectations about treatment.
c. secondary drug effects.
d. random fluctuations in the independent variable.

ANS: B

165. Sometimes a subject's expectations may lead to behaviour change in the absence of any effective treatment. This is referred to as an example of
    a. sampling bias.
    b. experimenter bias.
    c. socially desirable responding.
    d. the placebo effect.

    ANS: D

166. Dr Swartz is trying to win FDA approval for a new drug to treat anxiety. Dr Swartz claims that 14% of the people who took this new drug reported reduced anxiety; however other researchers claim that 14% of patients who receive no treatment also report reductions in their anxiety levels. It appears that the patients who improved after taking Dr Swartz's drug
    a. had a self-report bias.
    b. may have been experiencing placebo effects.
    c. were a non-representative sample.
    d. should have been placed in the control group, rather than the experimental group.

    ANS: B

167. In an investigation of the effects of caffeine on concentration, half the participants were given regular colas which contained caffeine and half were given decaffeinated colas. In this study, the decaffeinated colas are being used as
    a. a confounding variable.
    b. a random factor.
    c. the dependent variable.
    d. a placebo.

    ANS: D

168. Lindelani has sent out a survey in which she is asking people to provide information about their attitudes on a number of sensitive subjects. When the surveys are returned Lindelani needs to be aware that the responses may be distorted due to
    a. placebo effects.
    b. self-report biases.
    c. statistical artifacts.
    d. meta-analytic controls.

    ANS: B

169. The tendency for survey subjects to provide answers that place them in a favorable light is referred to as
    a. sampling bias.
    b. response stereotyping.
    c. a placebo effect.
    d. socially desirable responding.

    ANS: D

170. One is most likely to encounter problems with the social desirability bias when using
    a. self-reports.
    b. case studies.

c. naturalistic observations.
d. the experimental method.

ANS: A

171. Subjects' self-reports often indicate that they are healthier, happier, and less prejudiced than other types of evidence would suggest. The most likely explanation for this pattern is
a. experimenter bias.
b. faulty memory.
c. the social desirability bias.
d. a tendency to agree with almost every statement.

ANS: C

172. Donovan is filling out the Minnesota Multiphasic Personality Inventory (MMPI) and as he reads each question he thinks about the way most other people would probably respond. When he answers, he selects the alternative that he thinks will present the most favorable impression. Donovan's answers reflect
a. a social desirability bias.
b. a negative response set.
c. the placebo effect.
d. non-representative sampling.

ANS: A

173. In which of the scientific research methods are distortions in self-report MOST likely to be of concern to the researcher?
a. experimental method
b. correlational method
c. naturalistic observation method
d. survey method

ANS: D

174. The fact that many times researchers unintentionally influence the outcome of their studies implies the existence of
a. experimenter bias.
b. a placebo effect.
c. sampling bias.
d. social desirability.

ANS: A

175. Experimenter bias occurs when
a. experimenters explicitly instruct the subjects to behave in a way that will be consistent with the hypothesis.
b. experimenters desire to make a favorable impression on their subjects.
c. experimenters' beliefs in their own hypotheses affect either the subjects' behaviour or their observations of the subjects.
d. experimenters conduct their studies in a completely objective manner.

ANS: C

176. Melvin and Leigh are interviewing students at their campus to determine if the students agree or disagree with a proposed policy change. Melvin believes the proposed policy change is a good idea, but Leigh believes the change will be bad for students. Nearly all the students who Melvin interviewed supported the policy change, but nearly all the students who Leigh interviewed disapproved of the change. The differences in the results illustrate the potential impact of
a. the placebo effect.
b. double-blind research studies.
c. confounded dependent variables.
d. experimenter bias.

ANS: D

177. One method to control for experimenter bias effects in research is to use
a. a socially desirable procedure.
b. reverse control groups.
c. a double-blind procedure.
d. a non-representative sample.

ANS: C

178. The experimental procedure in which both the experimenter and subject are unaware of who is in the experimental and who is in the control group is referred to as the
a. placebo control procedure.
b. stereotaxic procedure.
c. single-blind procedure.
d. double-blind procedure.

ANS: D

179. Salma is a graduate student who is observing children playing together after watching a film. She knows that some children saw a film that contained graphic scenes of violence and some children saw a non-violent film, but she doesn't know which film each child she is observing watched. In this case, Salma is recording data for
a. a double-blind research study.
b. a study with two independent variables.
c. an unethical research study.
d. a correlational study with confounded variables.

ANS: A

180. Dr Alberts designs a research study in which neither the subjects nor the individuals who interact directly with the subjects know which is the control group and which is the experimental group in the study. Dr Alberts probably chose this type of research design in order to
a. avoid the need to obtain ethics approval for the study.
b. minimise the possibility of self-report bias.
c. ensure that her sample is not biased.
d. reduce the impact of experimenter bias.

ANS: D

181. When a researcher's expectations or preferences about the outcome of a study influence the results obtained it is referred to as
a. experimenter bias.

b. subject bias.
c. the sampling effect.
d. the placebo effect.

ANS: A

182. Which of the following statements concerning experimenter bias is false?
a. experimenter bias may influence the behaviour of the participants
b. experimenter bias is often intentional
c. experimenter bias may influence the researcher's observations or recording of participants responses
d. experimenter bias may influence the research project in subtle ways

ANS: B

183. The ____ is a research strategy that minimises the potential methodological problems associated with the placebo effect and experimenter bias.
a. neutral sample procedure
b. single blind procedure
c. double blind procedure
d. blind sample procedure

ANS: C

184. Deception is used in some research in order to
a. help control for placebo effects.
b. help aid in double-blind procedures.
c. prevent socially desirable responding.
d. encourage socially desirable responding.

ANS: A

185. The primary reason for the ethical dilemmas psychologists encounter regarding the use of deception in research reflects concerns
a. whether the deception affects all participants equally.
b. for the well-being of animals used in research.
c. about the possibility of inflicting harm on human subjects.
d. whether subjects believe the deception.

ANS: C

186. Which of the following is NOT a criticism of using animals in psychological research?
a. Many of the studies are trivial.
b. It is unethical to subject an animal to pain.
c. The studies cost too much for the limited amount of information they provide.
d. The studies are a waste of time, as the results often do not apply to humans.

ANS: C

187. Which of the following reasons for conducting psychological research with animals is MOST controversial?
a. animals can live in research labs 24 hours a day while that would not be practical for human subjects
b. animals can be exposed to treatments that would be unacceptable to expose humans to

c. psychologists desire to understand and explain the behaviour of certain species of animals
d. psychologists believe that the results of animal research can help identify general principles of behaviour that are relevant to humans

ANS: B

188. Which of the following statements regarding the use of animals in psychological research is MOST accurate?
a. animals are used as subjects in less than 10% of psychological research studies
b. psychologists, if given a choice, always prefer to conduct animal research instead of human research
c. most animal research involves exposing the animals to painful procedures
d. while ethical principles govern the treatment of humans in research, there are no ethical principles for conducting animal research

ANS: A

189. Which of the following is NOT included in the ethical guidelines for human participants in psychological research?
a. Participants should not be subjected to harmful or dangerous treatments.
b. Participants should be paid for their participation.
c. Participants' right to privacy should not be compromised.
d. Participants should volunteer to participate.

ANS: B

190. Mothusi Ramaphosa, Jr. took part in a study on sexual deviance last year. He was somewhat dismayed when he read an article in a weekly journal discussing sexual deviance in which one patient was referred to as MRJ. Although the article claimed all names had been disguised to protect personal identities, Mothusi is convinced he is the individual described in the article. In this case, it is possible that the researchers who conducted the study violated the ethical principle of
a. informed consent.
b. right to privacy.
c. full disclosure.
d. adequate debriefing.

ANS: B

191. Dr Jacobs is investigating the link between social support networks and grades in school. Students in his classes are required to complete survey forms related to this research; however they are never told about the purpose of the survey. In this case, some researchers might argue that Dr Jacobs's research violates the ethical principle of
a. right to privacy.
b. protection for harm.
c. full disclosure.
d. informed consent.

ANS: D

192. Dr Meintjies is investigating the link between social support networks and grades in school. Students in his classes are required to complete survey forms related to this research. If a survey form is not completed by the end of the semester a student's grade is reduced by 10 points. In this case, some researchers might argue that Dr Meintjies's research violates the ethical principle of
a. right to privacy.

b. full disclosure.
c. voluntary participation.
d. protection from harm.

ANS: C

193. Mthobeli took part in an experiment where she was told she would be required to sit alone in a darkened room for 30 minutes, after which she would be asked to complete a brief questionnaire about her future goals and plans. When she finished the questionnaire she was told the experiment was over. Mthobeli never really understood the purpose of the study, and she wasn't sure why she had to wait in the darkened room before filling out the short questionnaire. In this case, it would appear that the researchers who conducted the experiment
a. did not use an adequate debriefing procedure.
b. failed to obtain informed consent.
c. violated Mthobeli's right to privacy.
d. did not provide adequate protection from harm.

ANS: A

194. According to the ethical guidelines for psychological research with humans, if you agree to be a participant in a research study you would understand that you
a. will not be exposed to harmful or dangerous treatments.
b. will not be exposed to deception.
c. have to commit to participating in the entire research study.
d. do not have the right to privacy.

ANS: A

195. According to the ethical guidelines for conducting psychological research with animals, exposing animals to harmful or painful procedures
a. is justified if the research design requires the harmful or painful procedures.
b. is justified for lower animals but not for primates.
c. cannot be justified unless the potential benefits of the research are substantial.
d. is never justified.

ANS: C

196. The hypotheses for a research study are most likely to be found in the
a. methodology section of a journal article.
b. reference section of a journal article.
c. results section of a journal article.
d. introduction section of a journal article.

ANS: D

197. The correct sequencing of the sections of the main body of a journal article would be
a. introduction, method, results, discussion.
b. introduction, discussion, method, results.
c. discussion, introduction, method, results.
d. method, introduction, results, discussion.

ANS: A

198. Individuals who think critically do not rely on anecdotal evidence because this type of evidence

a. is too general and can be applied to too many unrelated situations.
b. is based on inferential statistical analysis, which is generally unreliable.
c. can be distorted by reporting biases.
d. involves only negative instances, and cannot be used to make an unbiased decision.

ANS: C

199. Imagine that a group of researchers conducted a single-blind study designed to test the effectiveness of subliminal-message weight-loss tapes. Suppose the researchers found that everyone lost weight during the study, even those who were given tapes without any subliminal messages. This type of result would
a. indicate that the independent and dependent variables are negatively correlated.
b. provide evidence that subliminal tapes are effective in promoting weight loss.
c. be evidence of a placebo effect.
d. be evidence that the study contained confounding variables.

ANS: C

200. Which of the following pairs of terms related to the goals of science are MOST clearly associated with the concept of correlation?
a. understanding and prediction
b. description and understanding
c. description and prediction
d. prediction and application

ANS: C

201. A researcher is conducting an experiment on the effect of alcohol consumption on reaction time and half of the subjects drink alcoholic drinks and half drink non-alcoholic versions of the same drinks. The subjects receiving the non-alcoholic drinks are the ____ group and are used in the study to minimise the influence of ____.
a. experimental; sampling bias
b. experimental; the placebo effect
c. control; sampling bias
d. control; the placebo effect

ANS: D

202. Which of the following is NOT a common methodological flaw to consider when evaluating scientific research?
a. distortions of self-report
b. sampling bias
c. subject effect
d. placebo effect

ANS: C

203. An experimenter tests the hypothesis that physical exercise improves people's mood. Subjects in the experimental group participate on Monday and Tuesday and those in the control group on Wednesday and Thursday. What is the *independent* variable?
a. the hypothesis
b. the day of the week
c. the exercise
d. the mood (degree of happiness)

ANS: C

204. An experimenter tests the hypothesis that physical exercise improves people's mood. Subjects in the experimental group participate on Monday and Tuesday and those in the control group on Wednesday and Thursday. What is the *dependent* variable?
a. the hypothesis
b. the day of the week
c. the exercise
d. the mood (degree of happiness)

ANS: D

205. An experimenter tests the hypothesis that physical exercise improves people's mood. Subjects in the experimental group participate on Monday and Tuesday and those in the control group on Wednesday and Thursday. What is the *extraneous* (confounding) variable?
a. the hypothesis
b. the day of the week
c. the exercise
d. the mood (degree of happiness)

ANS: B

206. What is the mode of the following data? 2, 3, 3, 3, 5, 5, 7, 12
a. 3
b. 4
c. 5
d. 6

ANS: A

207. What is the median of the following data? 1, 3, 4, 4, 5, 6, 9
a. 3
b. 4
c. 4.57
d. 6

ANS: B

208. Suppose researchers find a negative relationship between alcohol consumption and the number of correct responses on a skills test: the more alcohol consumed the lower the score. Which of the following fictitious statistics could possibly represent that correlation?
a. -4.57
b. -0.87
c. +0.91
d. +0.00

ANS: B

209. An instructor wishes to find out whether a new teaching method is superior to his usual procedures, so he conducts an experiment. Everyone in his classes is quite excited about the prospect of learning under the new procedure but of course he cannot administer the new teaching method to everyone. A random half of the students receive the new method and the remaining half receive the old. What is the most obvious flaw in this experiment?

a. Subjects should have been systematically assigned to groups.
b. The sample is not representative of the population.
c. Placebo effects or experimenter bias are likely to affect results.
d. Distortions in self-report will affect results.

ANS: C

210. A researcher is investigating the effects of caffeine consumption on student writing performance. Because the researcher will evaluate both the speed of assignment completion and the number of grammatical errors, she will need to include more than one _____ variable in her study
a. independent
b. dependent
c. confounding
d. extraneous

ANS: B

COMPLETION

1. As scientists, psychologists assume that behaviour is governed by some _____ order.

   ANS: lawful

2. A(n) _____ is a tentative statement about the relationship between two or more variables.

   ANS: hypothesis

3. Scientific theories must be subject to empirical scrutiny, that is to say they must be _____.

   ANS: testable

4. The first step in a research study is the formulation of a(n) _____.

   ANS: testable hypothesis

5. Collecting the data in a research study is the _____ step in any scientific investigation.

   ANS: third

6. The two major advantages of the scientific method are its _____, or the fact that it requires that people specify exactly what they are talking about and its intolerance of error.

   ANS: precision

7. A(n) _____ is a research method in which the researcher manipulates a variable under carefully controlled conditions and measures whether any changes occur in a second variable.

ANS: experiment

8. In an experiment the variable that is manipulated by the researcher is known as the _____ variable and the variable that is measured is known as the _____ variable.

ANS: independent; dependent

9. Variables, other than the independent variable, that are likely to influence the dependent variable are called _____ variables.

ANS: extraneous

10. Completing an in-depth study of 100 members from a cult that committed mass suicide would be one example of _____ research.

ANS: case study

11. The _____ is the measure of central tendency that is most affected by extreme scores in a set of data.

ANS: mean

12. The _____ is a measure of the amount of variability in a set of data.

ANS: standard deviation

13. If a researcher observed that there were more traffic accidents on cold days than on hot days, then temperature and traffic accidents would be _____ correlated.

ANS: negatively

14. The group of subjects selected for observation in an empirical study is known as the _____.

ANS: sample

15. When individuals in a research study experience some change even though they received an ineffectual treatment, they are displaying _____ effects.

ANS: placebo

16. A person who agreed with all the questions on a personality inventory, even when the questions contradicted each other, would be demonstrating a(n) _____.

ANS: response set

17. When a researcher's expectations or preferences about the outcome of a study influence the results obtained, _____ is said to have occurred.

ANS: experimenter bias

18. Placebo effects and experimenter bias both show that personal experience can be _____.

    ANS: subjective

TRUE/FALSE

1. Most scientists hope that ultimately the information they gather will be of some practical value to solve everyday problems.

   ANS T

2. The goals of the scientific enterprise in psychology are to describe, understand, predict and control behaviour.

   ANS: T PTS: 1
   OBJ: 2.1

3. A tentative statement about the relationship between two or more variables is called a theory.

   ANS: F

4. The second step in the research method is the making of the empirical observations and measurements.

   ANS: F

5. The greatest advantage that the scientific method has over logical reasoning or common sense is that it results in cause-and-effect explanations.

   ANS: F

6. In an experiment the investigator varies the dependent variable and measures the independent variable.

   ANS: F

7. The principle advantage of the experimental method is that the final conclusions can be extended to everyday behaviour that occurs outside the laboratory.

   ANS: F

8. When clinical psychologists do case studies of their clients for diagnostic purposes they are conducting empirical research.

   ANS: F

9. Descriptive/correlational research methods broaden the scope of phenomena that psychologists are able to study.

ANS: T

10. Because additional statistical manipulations can be performed on it, in general, the most useful measure of central tendency is the mean.

ANS: T

11. In psychology, the best research method to use to develop a cause-and-effect explanation is the correlational method.

ANS: F

12. Research findings that are statistically significant may have no theoretical or practical significance.

ANS: T

13. In order to generalise from a sample to the larger population, the sample must include at least 5% of the population under investigation.

ANS: F

14. Self-report methods can be problematic due to the tendency for people to give socially appropriate answers.

ANS: T

15. The best way to reduce the risk of experimenter bias is to use a double-blind research procedure.

ANS: T

16. The best type of evidence for psychological studies is anecdotal evidence.

ANS: F

SHORT ANSWER

1. Explain what makes psychology a science.

   ANS: Scientists assume that there are constancies or laws that can be uncovered through the use of the scientific enterprise. Psychologists use the scientific enterprise to make systematic observations. Psychologists rely on the use of formal, systematic observations to address their questions about behaviour; they use empirical methods just like scientists in all disciplines.

2. What are the three goals of scientific enterprise in psychology?

   ANS: The goals of science in psychology include:
   The measurement and description of behaviour;
   The understanding and prediction of behaviour; and
   The application of the knowledge to the task of controlling behaviour.

3. Briefly describe the steps involved in scientific psychological research.

   ANS: All scientific research follows a systematic pattern that includes five steps:
   Formulate a testable hypothesis
   Select the research method and design the study
   Collect the data
   Analyse the data and draw conclusions
   Report the findings.

4. Describe why scientific research methods are important to psychologists.

   ANS: The scientific approach offers two major advantages: clarity and precision, and intolerance of errors. Scientists use operational definitions to clarify what they are talking about and they scrutinise one another's findings with a critical eye and demand objective data and thorough documentation before they accept ideas leading to more accurate and dependable information.

5. Explain the difference between an independent variable and a dependent variable as used in the experimental method.

   ANS: Independent variables are conditions that an experimenter varies in order to see their impact on other variables. Dependent variables are the variables that are thought to be affected by the manipulation of the independent variable. Independent variables are manipulated; dependent variables are measured.

6. Explain the difference between a correlational and an experimental research study. Be sure to explain what type of conclusions can be drawn from each.

   ANS: Experimental research involves the manipulation of an independent variable to determine its effect on a dependent variable. Experimental research is a good research method for determination of cause-and-effect conclusions.

   Correlational methods allow researchers to explore research questions that cannot be examined with experimental procedures. However, they do not involve manipulation and thus cannot lead to determination of cause and effect.

7. Explain why "a correlation does not prove causation."

   ANS: A correlation suggests that two variables may be related and allows researchers to address the goal of prediction. However, the correlation does not tell us whether a cause-effect relationship exists because correlation does not address the third variable problem, in other words it does not tell HOW the variables are related. X may cause Y; Y may cause X, or Z may cause X and Y.

8. Describe how inferential statistics are used and explain statistical significance.

   ANS: Inferential statistics are used to interpret data and draw conclusions. Inferential statistics use the laws of probability to evaluate the possiblity that their results might be due to the fluctuations of chance. When the statistical calculations indicate that research results are not likely to be due to chance, the results are said to be statistically significant.

9. Describe some of the reasons for using animals in research.

   ANS: Animals may be used in psychological research for several reasons. These include:
   1) Sometimes researchers just want to know more about the behaviour of a specific type of animal.
   2) They might want to see if certain laws of behaviour apply to both humans and animals.
   3) The treatments used would be unacceptable to use on human subjects and yet the information obtained justifies the risks.

ESSAY

1. Pretend that you are in a discussion with friends and the topic is hard sciences versus soft sciences. It is argued that psychology is not a true science at all, as are sciences like chemistry and physics. How would you defend the proposition that psychology is a true science?

   ANS: Scientists assume that there are constancies or laws that can be uncovered through the use of the scientific enterprise. Psychologists use the scientific enterprise to make systematic observations. Psychologists rely on the use of formal, systematic observations to address their questions about behaviour; they use empirical methods just like scientists in all disciplines.

2. Design an experiment that will examine the question: "Who will learn more about psychology, those students enrolled in a traditional course or those enrolled in a distance learning course."
   - Be sure to identify:
     - The independent and dependent variables
     - Any confounding variables that might need to be controlled.
     - Your control and treatment groups
   - Also be sure to explain how you will measure the dependent variable

   ANS: There are numerous possible experimental designs. Make sure there is an explicit, testable hypothesis; that "traditional course" and "distance learning" are operationally defined; that subjects are randomly assigned to groups; that the control group is exposed to a traditional class setting rather than to no course at all.

3. What are the relative weaknesses and strengths of descriptive/correlational research as opposed to experimental research? Under what conditions would a psychologist choose one method as opposed to the other?

   ANS: Experimental research is the more powerful of the two methods, in that it allows precise control over the independent variable and therefore yields cause-and-effect conclusions. On the other hand, experiments may be somewhat artificial and often cannot be done for ethical reasons. Descriptive/correlational studies are conducted in the subjects' natural environment, they are easier and faster to do than experiments, and they can be done ethically in many circumstances in which experiments cannot. However, the researcher has little control over extraneous variables, so cause-and-effect conclusions cannot be drawn. The choice between the two methods is a function of practical and ethical considerations.

4. Design a simple descriptive/correlational study to investigate the relationship between television violence and children's aggressive behaviour.

   ANS: There are numerous possibilities. Make certain that both variables are operationally defined; that a specific descriptive/correlational method (such as naturalistic observation or survey) is selected; that causation is neither stated nor implied.

5. What is the difference between a positive correlation and a negative correlation? List some specific variables that you predict would be positively correlated, and variables that would be negatively correlated, with alcohol consumption by college students.

   ANS: Positive correlation: As scores on variable X increase, scores on variable Y tend to increase, too. Examples: alcohol consumption and body weight; alcohol consumption and number of missed classes.

   Negative correlation: As scores on variable X increase, scores on variable Y tend to decrease. Examples: alcohol consumption and coordination; alcohol consumption and grade point average.

6. A *correlational* research study was conducted that found that adults who ate oatmeal as children were four times more likely to develop cancer than those who did not. Can the authors of this correlational study conclude that oatmeal causes cancer? Why or why not?

   ANS: No, the authors cannot conclude causality from a correlational study. Correlations show relationships but cannot demonstrate cause and effect relationships. To draw a causal conclusion the researchers needed to conduct an experiment.

7. How do you feel about the use of animals as research subjects in psychological studies? Back up your position with evidence.

   ANS: Pro: Relatively few psychological studies involve animals, and of those that do, few expose animals to harm or pain; researchers can more precisely control the environment of animal subjects; animal research has generated important advances in the treatment of mental and physical disorders in humans; the knowledge gained justifies the risks.

   Con: Animals should have the same rights as human subjects; research animals are sometimes treated inhumanely; many psychological studies using animals are trivial; the results of animal studies may not generalise to humans.