QUESTIONS
Answers and text page references for test questions can be found in Appendix C.

Multiple Choice

1. If all the values of one variable are about the same, and the values of a second variable are very different, then the correlation coefficient will approach
    a. 1.0
    b. zero
    c. -1.0
    d. either 1.0 or -1.0

    ANS: C
    A-Head: The Relational Approach

2   The validity of scientific observations is threatened by
    a. reactivity.
    b. errors of observation.
    c. delimiting the choice of behaviors to observe.
    d. all of the these.

    ANS: D
    A-Head:Naturalistic Observation

3. In naturalistic observation, the observer's presence may make the measures
    a. comparative
    b. error free
    c. correlational
    d. reactive

    ANS: D
    A-Head: Naturalistic Observation

4. Looking for a relationship between two variables involves the _____ technique.
    a. naturalistic
    b. authoritative
    c. a priori
    d. correlational

    ANS: D
    A-Head:Introduction

5. Correlation coefficients vary from
    a. 0.0 to 1.0.
    b. -1.0 to 0.0.
    c. -1.0 to 1.0
    d. -10.0 to 10.0

    ANS: C
    A-Head: The Relational Approach

6. Deviant-case analysis attempts to minimize
    a. errors of observation.
    b. the difficulties of making inferences.
    c. reactivity.

d. statistical bias.

ANS: B
A-Head: Naturalistic Observation

7. Which of the following is an example of a negative correlation?
   a. Body weight increases as children get older.
   b. The rate of heart attacks is directly proportional to yearly income.
   c. Shoe size increases as height increases.
   d. The likelihood of owning a baseball card collection decreases with age.

ANS: D
A-Head: The Relational Approach

8. _____ occurs when a third factor varies along with one of the variables of interest, making the interpretation of the correlation between the two main variables difficult.
   a. Confounding
   b. Correlation
   c. Confliction
   d. Truncation

ANS: A
A-Head: The Relational Approach

9. In making scientific observations, pure objectivity
   a. is only possible with naturalistic observation.
   b. is only possible with experimentation.
   c. is only possible with deviant-case analysis.
   d. is never possible.

ANS: D
A-Head: Naturalistic Observation

10. Low correlations
    a. imply that the two variables are causally related.
    b. are found only with Pearson coefficients.
    c. may be produced by a restricted range of one of the variables.
    d. are seldom observed in psychological research.

ANS: C
A-Head: The Relational Approach

11. The correlation coefficient does not indicate
    a. the association between two variables.
    b. the direction of the relationship between two variables.
    c. the effect of one variable on another.
    d. how one factor varies with another.

ANS: C
A-Head: The Relational Approach

12. An experimenter computing the correlation between age and memory span would
    a. be able to show that old age produces a decrease in memory span.
    b. be able to determine that a third variable was involved.
    c. make an error because age and memory span are measured on different scales.
    d. be able to determine whether there is a relationship between age and memory span.

ANS: D
A-Head: The Relational Approach

13. Assessing the relation between two variables in correlational studies is usually made ex post facto, or
   a. a priori.
   b. before the data are collected.
   c. after the data are collected.
   d. independently of data collection.

   ANS: C
   A-Head: The Relational Approach

14. Before calculating a Pearson correlation coefficient, it is advisable to plot the data because
   a. one must be sure that the underlying relationship between the two variables is linear.
   b. the diagram is more informative than the correlation coefficient regarding causality.
   c. one must make sure that the data are from a truncated range.
   d. the correlation coefficient cannot show the direction of the relationship.

   ANS: A
   A-Head: The Relational Approach

15. Using a cross-lagged-panel correlational procedure, Eron, Huesmann, Letkowitz, and Walder (1972) found evidence which suggests that
   a. watching violent TV programs may produce later aggression.
   b. aggressive people tend to watch nonviolent TV programs.
   c. people who watch violent TV programs when they are young continue to do so all of their lives.
   d. aggressive third graders watch violent TV programs when they grow up.

   ANS: A
   A-Head: The Relational Approach

16. In naturalistic observations, one can guard against reactivity by
   a. making unobtrusive observations.
   b. giving unobtrusive instructions.
   c. making obtrusive measures.
   d. eliminating confounding variables.

   ANS: A
   A-Head: Naturalistic Observation

17. _____ is inherent in correlational research and leads to interpretational difficulties.
   a. Participant observation
   b. Reactivity
   c. Delimiting observation
   d. Confounding

   ANS:D
   A-Head: The Relational Approach

18. A potential problem threatening the validity of naturalistic observations is that
   a. the observations are never reliable.
   b. the observer is unable to predict the participant's reaction.
   c. the participant may react to being observed.
   d. the observer can not statistically analyze the findings.

ANS:C
A-Head: Naturalistic Observation

19. Naturalistic observation is a valuable procedure in that
    a. it allows for extensive experimental control.
    b. it is easily replicated.
    c. it is primarily descriptive.
    d. it can define a problem area and raise further questions.

    ANS: D
    A-Head: Naturalistic Observation

20. Which of the following is true?
    a. We can rule out the possible effects of mediating variables in correlational research.
    b. As a correlation coefficient increases, we can be more sure that a causal relationship exists between the two variables.
    c. It is not possible to correlate two variables that have different scales of measurement.
    d. Correlational research cannot demonstrate a causal relationship between two variables.

    ANS: D
    A-Head: The Relational Approach

21. Stating that a kitten is sad because it has been separated from its mother is an example of
    a. naturalistic observation.
    b. confounding.
    c. anthropomorphizing.
    d. a correlation.

    ANS: C
    A-Head: Naturalistic Observation

22. In a study of the social interactions of the homeless in a busy railroad station, the researcher poses as a homeless woman and keeps a daily record of all of her interactions with other people, including the homeless, commuters, public officials (e.g., police officers), and those who work in the station. This is an example of
    a. survey research
    b. participant observation
    c. an experiment
    d. archival research

    ANS: B
    A-Head: Naturalistic Observation

23. A researcher studying productivity among factory workers finds that productivity declines as the outside temperature increases. This is an example of
    a. a negative correlation
    b. a zero correlation
    c. a positive correlation
    d. a confound

    ANS: A
    A-Head: The Relational Approach

24. A researcher performing a cross-lagged procedure would
    a. avoid collecting any correlations
    b. obtain several correlations at one point in time

c. obtain several correlations over time.
d. refrain from determining which factors lead to other factors.

ANS: C
A-Head:The Relational Approach

25. 1A researcher measures the number of birds belonging to each of 5 different species sighted in a
particular nature preserve over a three month period. What kind of research is this?
a. correlational
b. experimental
c. relational.
d. observational

ANS: D
A-Head: Introduction

26. Which of the following correlation coefficients most likely corresponds to the pattern of data shown
in the graph below?
a. 1.00
b. 0.60
c. -0.60
d. 0.10
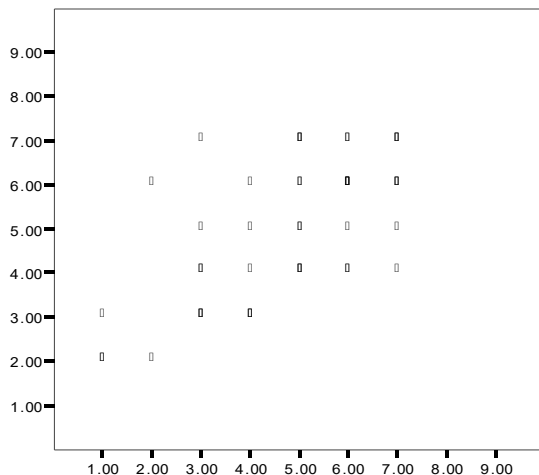
ANS: D
A-Head: The Relational Approach

27. 1In a contingency table, the number in each cell of the table is
a. the number of categories used to classify the participants.
b. the number of individuals in the sample who are classified in a particular category.
c. the total number of individuals in the sample.
d. the number of individuals who would be expected to belong to a particular category by chance.

ANS: B
A-Head: The Relational Approach

28. A case study
a. is an intensive study of a single individual or group.

b. is a form of observational research.
c. cannot be used to test a causal hypothesis.
d. all of the these.

ANS: D
A-Head:Introduction

29. Which of the following is not true of survey research?
    a. It eliminates the problem of reactivity.
    b. It is a form of observational research.
    c. It provides descriptive data about a population based on a random sample.
    d. It can suggest hypotheses that can be tested under more controlled conditions.

ANS: A
A-Head:

30. Where there is a restricted range of values for one of two variables being measured
    a. the correlation coefficient will be close to +/- 1.0.
    b. the correlation coefficient may be close to zero even if the two variables are related.
    c. the correlation coefficient will be negative.
    d. the correlation coefficient will be positive.

ANS: B
A-Head: The Relational Approach

31. A scatterplot showing the relationship between two variables
    a. provides information about the data that is not reflected in the correlation coefficient.
    b. can reveal problems with the data that may result in spuriously high or low correlation coefficients.
    c. illustrates graphically both the strength and the direction of the relationship between them.
    d. all of these

ANS: D
A-Head: The Relational Approach

True-False

1. T / F   The X^2 test for independence is a statistical test often used to determine the significance of the relationship between the variables in contingency research.
   ANS:T

2. T / F   The correlational method provides for better understanding of events than any other scientific method.
   ANS:F

3. T / F   Naturalistic observation occurs mostly in laboratory settings.
   ANS:F

4. T/F   A case study may involve the comparison of a few individuals.
   ANS: T

5. T / F   One difficulty associated with naturalistic observation of animals is that researchers may anthropomorphize animal behaviors.
   ANS:T

6. T / F   A positive correlation is observed if the values of one variable decrease as the values of another variable decrease.
   ANS:T

7. T / F   If two variables are correlated, one may predict the value of one variable given the value of the other variable.
   ANS:T

8. T / F   Possible mediation effects prevent the inference of causation from correlation.
   ANS:T

9. T / F   Confounding is a greater problem in experimental than in correlational research.
   ANS:F

10. T / F   An assumption underlying the Pearson r is that the relationship between two variables is linear.
    ANS:T

11. T / F   Correlation allows for more control of extraneous factors than does the experimental method.
    ANS:F

12. T/F   It is important to delimit the choice of behaviors to observe because of confounding factors.
        ANS: F

13. T / F   In participant observation, the researcher remains totally uninvolved in the lives of the participants.
    ANS:F

14. T / F   Contingency research is a relational research design in which the frequencies of all combinations of two variables are assessed to determine the relationship between the variables.
    ANS:T

15. T / F   In correlational studies, a number of factors may vary together, so that the results are confounded.
    ANS:T

16. T / F   In participant observation, a research participant observes other participants so that the experimenter's preconceived notions do not contribute to observation error.
    ANS:F

17. T / F   Unobtrusive measures are indirect observations of behavior conducted ex post facto.

    ANS:T

18. T / F   Relational research attempts to determine how two or more variables are related to each other.
    ANS:T

19. T / F   A negative correlation occurs when the increase in the value of one variable is associated with a corresponding decrease in another variable.
    ANS:T

20. T / F   A Pearson *r* can have a value of -.99.
ANS:T

21. T / F   The validity of scientific observations can be threatened by reactivity.
ANS:T

22. T / F   When making scientific observations, pure objectivity is possible only with deviant-case analysis.
ANS:F

23. T / F   The Pearson correlation coefficient is useful only for nonlinear data.
ANS:F

24. T / F   Naturalistic observation is a valuable procedure in that it can help to define a problem area and raise further research questions.
ANS:T

25. T / F   A variable can be manipulated but not measured.
ANS:F

Essay Questions

1. Describe a real life situation where two variables are related nonlinearly.

2. Describe three different research techniques and outline the advantages and disadvantages of each of them.

3. Describe a real life problem that is difficult or impossible to examine with the experimental method. What method would you use to investigate this problem?

4. A scientist is interested in investigating the claim that talking on a cell phone while driving increases the risk of having an accident. 1Describe how this study might be done using an observational method, a correlational method, and an experimental method. Which method do you think is best and why?

5. Set up a hypothetical contingency table that describes the relationship between young and older adults in some domain of interest. Try to make your table reflect what you think is the true state of affairs. Describe the relationship shown in your contingency table.

6. Describe a situation where naturalistic observation would be an ideal method to use. What are the positives and negatives of using this method for the situation you describe?

7. Give an example of a situation in which the cross-lagged-panel correlational procedure would be appropriate.

8. A researcher is interested in seeing whether early exposure to certain FDA approved food preservatives has a negative impact on the cognitive development of children. Clearly a controlled laboratory experiment would be difficult, if not impossible, to do and raises some ethical issues as well. What kind of study could be done that might provide evidence for a possible causal relationship between ingestion of food preservatives and cognition. Describe briefly how this study might be done.

9. A psychologist finds a significant negative correlation between Body Mass Index (BMI) and self esteem among adolescents in the US. Can we conclude that a high BMI is damaging to self esteem? Why? Offer two alternative interpretations for this correlation.