Test Bank for Statistics Tool for Social Research CDN 4th Healey

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Name:_____ Class:_____ Date:_____

CHAPTER 1 - Introduction

1. Which sentence describes the role of theory in the research process?
   a. develops generalizations based on patterns
   b. provides a specific, exact relationship among variables
   c. attempts to explain the relationship between phenomena
   d. measures social reality

ANSWER: c

2. According to the "wheel of science," which of these factors generates a hypothesis?
   a. observation b. statistics
   c. empirical generalizations d. theory

ANSWER: d

3. On the "wheel of science," at what point are statistics central to the research process?
   a. only between the hypothesis stage and the observation stage
   b. only between the observation stage and the empirical generalization stage
   c. only between the empirical generalization stage and the theory stage
   d. only between the theory stage and the hypothesis stage

ANSWER: b

4. A theory stipulates that economic recessions produce more crimes in a country. What is the dependent variable in this explanation?
   a. economic recessions b. countries
   c. crime d. the observations

ANSWER: c

5. A hypothesis states that being a dog owner makes people empathetic toward animals. What is "dog ownership" in this statement?
   a. the independent variable b. the dependent variable
   c. the secondary variable d. the hypothetical variable

ANSWER: a

6. A researcher conducts a survey of 90 men and women aged 65. The purpose of the survey is to determine attitudes toward work and retirement. Why can "age" not represent a variable in the researcher's analysis?
   a. Age probably has little to do with attitudes about work and retirement.
   b. Age does not differ from case to case (person to person).
   c. Gender is actually the independent variable in this example, and attitudes are a dependent variable.
   d. There are not enough cases to conduct an appropriate survey.

ANSWER: b

7. What is the general symbol used to represent a dependent variable in a theoretical explanation?
   a. X b. Y
   c. Z d. →

ANSWER: b

8. Which of these statements is the *best* example of a hypothesis?

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a. Gender is associated with political views.
b. Sex hormones influence political views.
c. Women are more likely than men to favour government policies intended to help the homeless.
d. Men and women likely differ in their attitudes toward housing and homelessness policies.

ANSWER: d

9. Which of these statements illustrates the limitations of statistics in social scientific inquiry?
a. Statistical analysis cannot help generate empirical generalizations.
b. Theories can be developed only prior to statistical analysis.
c. Sophisticated statistical analyses cannot fix poorly conceived study designs.
d. Statistical analysis is useless if we want to summarize ordinal-level variables.

ANSWER: c

10. Which of these statements applies to statistics?
a. If sophisticated, they can make up for poor conceptualization.
b. The use of such analyses negates the need for theory.
c. Such procedures take place at all stages of the research process.
d. They make quantitative research possible.

ANSWER: d

11. "Among employees at a software company, having a post-graduate degree was associated with level of seniority." Which of the following is this statement an example of?
a. inductive statistics b. inferential statistics
c. bivariate descriptive statistics d. univariate descriptive statistics

ANSWER: c

12. A researcher produces a graph that summarizes the scores of a single variable. What type of statistical analysis is the researcher conducting?
a. bivariate inferential statistics b. univariate inferential statistics
c. univariate descriptive statistics d. multivariate descriptive statistics

ANSWER: c

13. Why is data reduction an important part of descriptive statistics?
a. It helps us make generalizations about a population.
b. It allows us to develop a sample or subset of a larger population.
c. It tells us the strength of the relationship between two variables.
d. It can help us quickly make sense of many data points gained from a given population.

ANSWER: d

14. Which of the following is an example of data reduction?
a. a graph representing the musical preferences of 500 university students
b. a list of students' grade levels from a 100-student university class
c. a sample of 50 residents drawn from a 250-resident neighbourhood
d. a decision to reduce the size of a study from a 100-person sample to a 25-person sample

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ANSWER: a

15. What are measures of association used for?
    a. They provide clues as to whether one variable causes another.
    b. They allow us to predict with perfect accuracy how one variable causes another.
    c. They tell us whether we can generalize from our sample to the larger population.
    d. They tell us which variable should be the dependent variable in our theory.

ANSWER: a

16. Suppose a researcher wants to understand public attitudes about drug legalization in Canada, but it is not feasible for her to interview every person living in the country. Which of the following should she do?
    a. find and interview a large number of drug users
    b. use discrete measurement techniques to find the ideal number of Canadians to interview
    c. carefully employ bivariate descriptive statistics to show how drug users' attitudes differ from those of non-users
    d. devise a representative sample from the population and use inferential statistics to make generalizations about the Canadian public

ANSWER: d

17. Which of these factors is a discrete variable?
    a. cars owned b. blood pressure
    c. home square footage d. currency exchange rate

ANSWER: a

18. Which of these factors is a continuous variable?
    a. number of children
    b. time spent watching TV
    c. number of meals you consumed yesterday
    d. number of times you have changed residences within the past five years

ANSWER: b

19. Which of these factors is NOT a nominal-level variable?
    a. religious denomination b. political affiliation
    c. frequency of yoga or mediation practice d. sexual preference

ANSWER: c

20. What do interval-ratio and ordinal variables have in common?
    a. Scores can be ranked from least to greatest.
    b. They have the ability to precisely quantify the difference between two scores.
    c. They cannot be used for descriptive statistics.
    d. They do not use discrete forms of measurement.

ANSWER: a

21. Variables measured at the ordinal level are limited to one mathematical operation. Which one is it?
    a. multiplication

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b. addition
c. ranking cases as higher or lower, more or less
d. counting the number of cases per category

ANSWER: c

22. Which of these terms applies to a variable measuring how many times a person has voted in local elections over their lifetime?
a. ordinal measurement b. interval-ratio measurement
c. inferential measurement d. nominal measurement

ANSWER: b

23. What should a researcher do if he or she fears that a nominal variable's categories are not sufficiently homogeneous?
a. convert the variable to interval-ratio form
b. revert to descriptive analysis
c. delete some of the categories for the variable
d. generate extra categories so that cases are classified with enough specificity for the researcher's purposes

ANSWER: d

24. A researcher is conducting a survey on Canadian immigration. She develops a three-category nominal variable to measure the homeland of newcomers to Canada with the following options: (a) originally from Southern Europe; (b) originally from South America; (c) originally from Southeast Asia. What is most clearly wrong with this scale?
a. The categories are not mutually exclusive.
b. The categories are not exhaustive.
c. The categories are not homogeneous.
d. This is actually an adequate scale.

ANSWER: b

25. Which of these variables can be measured at the interval-ratio level?
a. number of children in a family b. emotional stability
c. different types of crimes d. attractiveness of a person

ANSWER: a

26. Which of the following is among the functions of the ordinal level of measurement?
a. to allow distances between categories to be exactly defined
b. to allow distance to be measured between high and low
c. to allow analysts to say that one case is twice as large as another
d. to allow categories to be ordered from high to low

ANSWER: d

27. Which of these types of variable permits the broadest range of mathematical operations?
a. interval-ratio b. nominal
c. inferential d. discrete

ANSWER: a

28. Which of these statements describes the distance between scores when using interval-ratio data?

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a. It is two units. b. It is not always clear.
c. It is unequal. d. It is exactly defined.

ANSWER: d

29. Which of the following can be treated as an interval-ratio variable?
a. a social insurance number b. a postal code
c. age d. gender

ANSWER: c

30. When are addition and subtraction completely justified?
a. only when variables are ordinal b. only when variables are nominal
c. only when variables are interval-ratio d. only when variables are discrete

ANSWER: c

31. Which of these series *best* demonstrates the level of sophistication for levels of measurement, from *least to greatest*?
a. interval-ratio → nominal → ordinal b. nominal → ordinal → interval-ratio
c. interval-ratio → ordinal → nominal d. ordinal → nominal → interval-ratio

ANSWER: b

32. **Briefly describe how a theory differs from a hypothesis in social science research.**

· A theory explains how phenomena are related. It uses the terminology of "variables," specifying that an independent variable has an effect on a dependent variable.

· Scientific theories are general and abstract explanations, so hypotheses must be devised.
· A hypothesis is a statement about the relationship between variables, and while logically derived from the theory, it is much more specific and exact.

ANSWER: Answers will vary.

33. Some research situations are summarized below. For each situation, which variable is the independent variable and which is the dependent variable? Indicate what level of measurement is being used for each variable.
a. A university's office of academic excellence examines whether high-school grade point averages predict university grade point averages.
b. A manufacturing company explores whether temperature affects orders of its products by retail stores.
c. A professor of a large writing composition class assesses whether students' academic field (engineering, science, humanities, social sciences) predicts how many times they miss class during the semester.

ANSWER: a. The independent variable is high-school grade point average, and the dependent variable is university grade point average. Both variables are interval-ratio.
b. The independent variable is temperature, and the dependent variable is product orders. Both variables are interval-ratio.
c. The independent variable is academic field, and the dependent variable is absences. Academic field is nominal, and absence is interval-ratio.

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