Statistics for Criminology and Criminal Justice 4th edition Bachman Test Bank

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Chapter 2: Levels of Measurement and Aggregation

Test Bank

1. Age in years would be an example of what type of variable?
a. Categorical
b. Qualitative
*c. Quantitative
d. Alphanumerica
@ Answer Location: Level of Measurement; Cognitive Domain: Knowledge; Question Type: MC

2. Which of the following is an example of a categorical variable?
a. Age in years
b. Number of crimes committed in the past year
c. Number of children living in the home
*d. Country of origin
@ Answer Location: Level of Measurement; Cognitive Domain: Application; Question Type: MC

3. The state in which you were born would be an example of which type of variable.
*a. Nominal
b. Ordinal
c. Interval
d. Ration
@ Answer Location: Nominal Level of Measurement; Cognitive Domain: Comprehension; Question Type: MC

4. On a survey, individuals are asked how fearful of crime they are in their neighborhood. The answer choices are 1 = very fearful; 2 = somewhat fearful; 3 = not very fearful; 4 = not fearful at all. This is an example of which type of variable.
a. Nominal
*b. Ordinal
c. Interval
d. Ration
@ Answer Location: Ordinal Levels of Measurement; Cognitive Domain: Application; Question Type: MC

5. To be classified as a(n) _____ variable the difference between adjacent values along the measurement scale must be the same at every two points.
a. nominal-level
b. ordinal-level
*c. interval-level
d. ratio-level
@ Answer Location: Interval Level of Measurement; Cognitive Domain: Knowledge; Question Type: MC

6. If a city had a population of 200,000 and had 82 homicides in the prior year, what would the homicide rate per 1,000 be?
a. .041
*b. .41
c. 4.1
d. 41.0
@ Answer Location: Counts and Rates; Cognitive Domain: Application; Question Type: MC

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7. Given the hypothetical table below, which age group has the highest rate of committing violent crimes?

Age Group	*Number of Violent Crimes Committed (f)*	*Population Count*
12–17	2,300	545,370
18–24	8,900	527,410
25–34	11,850	604,500
35–49	10,900	684,150
50–64	6,300	566,990
65 and over	1,090	112,760

a. 18–24
*b. 25–34
c. 35–49
d. 50–64
@ Answer Location: Counts and Rates; Cognitive Domain: Analysis; Question Type: MC

8. _____ are special kinds of ratios obtained by dividing the number of observations from a subset of your sample by the total number in your sample.
a. Odds
b. Distribution
c. Percentages
*d. Proportions
@Answer Location: Proportions and Percentages; Cognitive Domain: Knowledge; Question Type: MC

9. In a sample there are 90 females and 80 males. What is the percentage of females in the sample?
a. 47.1
b. .47
*c. 52.94
d. .53
@Answer Location: Proportions and Percentages; Cognitive Domain: Application; Question Type: MC

10. If a researcher wanted to analyze how many homicides were committed by individuals in cities across the Midwest, what would the unit of analysis be?
a. Individuals
*b. Cities
c. States
d. Homicides
@Answer Location: Unit of Analysis; Cognitive Domain: Analysis; Question Type: MC

11. A distribution is any element to which different values can be attributed.
a. True
*b. False
@ Answer Location: Introduction; Cognitive Domain: Knowledge; Question Type: TF

12. A nominal level variable can also be a dichotomous variable.

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*a. True
b. False
@ Answer Location: The Case of Dichotomies; Cognitive Domain: Comprehension; Question Type: TF

13. Country of origin would be considered an ordinal level variable.
a. True
*b. False
@ Answer Location: Nominal Level of Measurement; Cognitive Domain: Application; Question Type: TF

14. Interval and ratio level variables are considered continuous measures.
*a. True
b. False
@ Answer Location: Ratio Level of Measurement; Cognitive Domain: Knowledge; Question Type: TF

15. All four levels of measurement allow the researcher to rank cases in order.
a. True
*b. False
@ Answer Location: Comparing Levels of Measurement; Cognitive Domain: Comprehension; Question Type: TF

16. A count is the number of times an even occurs in the data.
*a. True
b. False
@ Answer Location: Counts and Rates; Cognitive Domain: Knowledge; Question Type: TF

17. The rate is calculated by dividing the frequency of the event by the total number in the sample and then multiplying by 100.
a. True
*b. False
@ Answer Location: Counts and Rates; Cognitive Domain: Comprehension; Question Type: TF

18. Proportions are also referred to as relative frequencies.
*a. True
b. False
@ Answer Location: Proportions and Percentages; Cognitive Domain: Knowledge; Question Type: TF

19. If a researcher were surveying individuals on their levels of perceived safety the unit of analysis would be the household.
a. True
*b. False
@ Answer Location: Unit of Analysis; Cognitive Domain: Application; Question Type: TF

20. The NCVS uses the individual as the unit analysis while the FBI uses the city or state as the unit of analysis.
*a. True
b. False
@ Answer Location: Unit of Analysis; Cognitive Domain: Comprehension; Question Type: TF

21. Discuss the different levels of measurement and give an example for each.
*Answers may vary
Nominal Level variables convey classification or categorization information only. Examples include gender, race, religion, political party, city born in, etc.
Ordinal level variables are categorical but the categories have some type of relationship to each other. The categories can be ordered from high to low or low to high but there is no exact quantity between the

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categories. We know a category is more or less but do not know exactly how much more or less. Examples would include income or age categories, likert type items, etc.
Interval level variables allow us to quantify the numeric relationship among the categories. The difference between the adjacent values must be the same at every two points. Examples would be age, temperature on the Farenheit scale, etc.
Ratio level variables have all the qualities of interval level variable and a true-zero point. A true zero indicates that the phenomenon is absent. Examples would include number of crimes committed, number of times a person was victimized, number of hours worked, etc.
@Answer Location: Levels of Measurement; Cognitive Domain: Comprehension; Question Type: SA

22. Calculate the rate of crime per 10,000.

Gender	*Number of Crimes*	*Total Population*	*Rate per 10,000*
Male	730,300	600,000	
Female	24,500	615,000	

*a. Male rate = 12,171.67; Female rate = 398.37
@Answer Location: Count and Rates; Cognitive Domain: Application; Question Type: SA

23. Complete the frequencies and percents for the following table.

Age of Respondent	*f*	%
Under 18	15	_____
18–30	29	_____
31–50	_____	22.1
50 and older	_____	_____
Total	86	100.0

*% for under 18 is 17.4; % for 18–30 is 33.7; frequency for 31–50 is 19; *f* for 50 and older is 23; % for 50 and older is 26.7.
@Answer Location: Proportions and Percentages; Cognitive Domain: Application; Question Type: SA

24. On the first day of class, students are asked to indicate how many crimes they have been a victim of. Their responses have been organized into the following frequency distribution table. Fill in the missing frequency and percentages.

# of victimizations	*f*	%
0	20	____
1–2	9	____
3–5	6	____
5 or more	____	____
Total	40	100.0

a. *f* = 5; % for 0 = 50; % for 1–2 = 22.5; % for 3–5 = 15; and % for 5 or more= 12.5.
@Answer Location: Proportions and Percentages; Cognitive Domain: Application; Question Type: SA

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25. Why should a researcher use rates, percentages, or proportions over simple counts and frequencies?
*Answers may vary
Students should include the following: Simple counts and frequencies do not take into consideration the size of the total at-risk population within each category. They allow a standardization to compare across groups of unequal sizes. Simple frequencies can lead to misleading conclusions.
@Answer Location: Validity in Criminological Research; Cognitive Domain: Application; Question Type: SA

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