Test Bank for Statistics and Data Analysis for Social Science 2nd Krieg

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Chapter 1: Concepts, Variables, and Measurement

Test Bank

Multiple Choice

1. Anomie is an example of a _____.
A. statistic
B. sociological concept
C. level of measurement
D. unit of analysis
Ans: B
Cognitive Domain: Knowledge
Answer Location: Emile Durkheim, Structural Strain, Suicide, and Anomie
Difficulty Level: Easy

2. A(n) _____ is defined as anything that may vary from one case to the next.
A. variable
B. concept
C. anomaly
D. level of measurement
Ans: A
Cognitive Domain: Knowledge
Answer Location: Conceptual Definitions of Variables
Difficulty Level: Easy

3. A logical set of characteristics for a variable _____.
A. concepts
B. variables
C. attributes
D. units of analysis
Ans: C
Cognitive Domain: Knowledge
Answer Location: Conceptual Definitions of Variables
Difficulty Level: Easy

4. Suppose a researcher asks the following question on a survey, choose one, male or female, this is an example of a(n) _____ variable.
A. nominal
B. ordinal
C. interval/ratio
D. demography
Ans: A
Cognitive Domain: Knowledge

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Answer Location: Levels of Measurement
Difficulty Level: Easy

5. The statement, I like chocolate a lot, is an example of a(n) _____ variable.
A. nominal
B. ordinal
C. interval/ratio
D. frequency
Ans: B
Cognitive Domain: Knowledge
Answer Location: Levels of Measurement
Difficulty Level: Easy

6. _____ is a term used to analyze how social class affects people's ability to access resources.
A. Operationalization
B. Standardization
C. Social resources
D. Life chances
Ans: D
Cognitive Domain: Knowledge
Answer Location: Introduction
Difficulty Level: Medium

7. The process of defining what we mean by a concept is called _____.
A. conceptualization
B. operationalization
C. alienation
D. variability
Ans: A
Cognitive Domain: Knowledge
Answer Location: Operational Definitions of Concepts
Difficulty Level: Easy

8. The process of developing a variable that measures a concept is called _____.
A. conceptualization
B. operationalization
C. alienation
D. variability
Ans: B
Cognitive Domain: Knowledge
Answer Location: Operational Definitions of Concepts
Difficulty Level: Easy

9. A variable is not correctly operationalized if it is not considered _____.
A. mutually exclusive

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B. collectively exhaustive
C. independent
D. dependent
Ans: B
Cognitive Domain: Knowledge
Answer Location: Operational Definitions of Concepts
Difficulty Level: Easy

10. When the attributes of a variable include every possible response that attributes are said to be _____.
A. mutually exclusive
B. conceptualized
C. collectively exhaustive
D. dependent
Ans: C
Cognitive Domain: Knowledge
Answer Location: Operational Definitions of Concepts
Difficulty Level: Easy

11. Attributes are _____ when the categories do not overlap.
A. mutually exclusive
B. conceptualized
C. collectively exhaustive
D. dependent
Ans: A
Cognitive Domain: Knowledge
Answer Location: Operational Definitions of Concepts
Difficulty Level: Easy

12. Race is measured at the _____ level of measurement.
A. nominal
B. ordinal
C. interval/ratio
D. organizational
Ans: B
Cognitive Domain: Application
Answer Location: Individual Data
Difficulty Level: Medium

13. Years of education is measured at the _____ level of measurement.
A. nominal
B. ordinal
C. interval/ratio
D. organizational
Ans: C
Cognitive Domain: Application

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Answer Location: Individual Data
Difficulty Level: Medium

14. The categories used in the General Social Survey for the variables' highest degree include Lt. High School, High School, Junior College, Bachelor, Graduate, DK, NA. They are considered to be _____ level of measurement.
A. nominal
B. ordinal
C. interval
D. ratio
Ans: B
Cognitive Domain: Application
Answer Location: Individual Data
Difficulty Level: Easy

15. Which of the following is a nominal variable?
A. years of education
B. political party affiliation
C. highest degree earned
D. age
Ans: B
Cognitive Domain: Application
Answer Location: Individual Data
Difficulty Level: Easy

16. Pie charts are common ways of presenting data for _____.
A. nominal variables
B. ordinal variables
C. interval/ratio variables
D. independent variables
Ans: A
Cognitive Domain: Comprehension
Answer Location: Graphical Representation of Data (What Data "Look" Like)
Difficulty Level: Easy

17. Bar charts are common ways of presenting data for _____.
A. nominal variables
B. ordinal variables
C. interval/ratio variables
D. independent variables
Ans: B
Cognitive Domain: Comprehension
Answer Location: Graphical Representation of Data (What Data "Look" Like)
Difficulty Level: Easy

18. Which type of chart is used to represent interval/ratio data?

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A. pie charts
B. bar charts
C. histograms
D. frequency charts
Ans: C
Cognitive Domain: Comprehension
Answer Location: Graphical Representation of Data (What Data “Look” Like)
Difficulty Level: Easy

19. Which of the following is most appropriate to present data on years of education?
A. pie charts
B. bar charts
C. histograms
D. frequency charts
Ans: C
Cognitive Domain: Comprehension
Answer Location: Graphical Representation of Data (What Data “Look” Like)
Difficulty Level: Medium

20. _____ refers to the ability of a measure to accurately reflect the concept it is intended to measure.
A. Validity
B. Reliability
C. Conceptualization
D. Operationalization
Ans: A
Cognitive Domain: Knowledge
Answer Location: Ecological Data
Difficulty Level: Easy

Multiple Response

1. SELECT ALL THAT APPLY. Which of the following are considered levels of measurement?
A. nominal
B. ordinal
C. cardinal
D. interval/ratio
Ans: A, B, D
Cognitive Domain: Knowledge
Answer Location: Levels of Measurement
Difficulty Level: Easy

2. SELECT ALL THAT APPLY. Which of the following are charts used in statistics?
A. pie chart

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B. bar chart
C. histogram
D. statistical charts
Ans: A, B, C
Cognitive Domain: Knowledge
Answer Location: Graphical Representation of Data (What Data "Look" Like)
Difficulty Level: Medium

3. SELECT ALL THAT APPLY. Two components that must be met for statistical analysis to be met to accurately measure outcome are _____.
A. customization
B. validity
C. operationalization
D. reliability
Ans: B, D
Cognitive Domain: Comprehension
Answer Location: Validity and Reliability
Difficulty Level: Easy

4. SELECT ALL THAT APPLY. Measurement can be done at the following levels: _____.
A. nominal
B. ordinal
C. interval/ratio
D. frequency
Ans: A, B, C
Cognitive Domain: Knowledge
Answer Location: Chapter Summary
Difficulty Level: Medium

5. SELECT ALL THAT APPLY. Which of the following are considered to be ordinal variables?
A. how often do you study (some, non, a lot)
B. the frequency of skipping class (sometimes, never, often)
C. someone's age (0–5, 5–10, 10–15, etc.)
D. number of classes skipped (1, 2, 3, etc.)
Ans: A, B
Cognitive Domain: Knowledge
Answer Location: Ecological Data
Difficulty Level: Medium

True/False

1. In the following statement, education is the independent variable: "If education increases, then income increases."

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Ans: True
Cognitive Domain: Comprehension
Answer Location: Independent and Dependent Variables
Difficulty Level: Medium

2. Conceptualization is the process of defining what we mean by a concept.
Ans: True
Cognitive Domain: Comprehension
Answer Location: Operational Definitions of Concepts
Difficulty Level: Easy

3. Attributes are collectively exhaustive when the attributes do not overlap.
Ans: False
Cognitive Domain: Comprehension
Answer Location: Operational Definitions of Concepts
Difficulty Level: Easy

4. Ordinal variables have attributes based on relative numeric values.
Ans: False
Cognitive Domain: Comprehension
Answer Location: Levels of Measurement
Difficulty Level: Easy

5. Interval/ratio is considered the highest level of measurement.
Ans: True
Cognitive Domain: Comprehension
Answer Location: Levels of Measurement
Difficulty Level: Easy

6. Pie charts should be used to present data for nominal or ordinal variables.
Ans: True
Cognitive Domain: Comprehension
Answer Location: Graphical Representation of Data (What Data “Look” Like)
Difficulty Level: Easy

7. Histograms are used to display data for nominal variables.
Ans: False
Cognitive Domain: Comprehension
Answer Location: Graphical Representation of Data (What Data “Look” Like)
Difficulty Level: Easy

8. Bar charts are only used for interval/ratio variables.
Ans: False
Cognitive Domain: Comprehension
Answer Location: Graphical Representation of Data (What Data “Look” Like)
Difficulty Level: Easy

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9. Survey questions are not reliable if respondents interpret the questions in different ways.
Ans: True
Cognitive Domain: Comprehension
Answer Location: Validity and Reliability
Difficulty Level: Easy

10. When working with data that represent individuals, you do not need to be concerned with individualistic fallacy.
Ans: False
Cognitive Domain: Comprehension
Answer Location: Ecological Data
Difficulty Level: Medium

Short Answer

1. Explain Kuhn's process of accumulating knowledge.
Ans: Kuhn argues that people tend to think of science as a slow accumulation of knowledge over time. This gradual accumulation of knowledge is incorporated into increasingly sophisticated models of how the world works that are then used to pursue a more informed knowledge of reality.
Cognitive Domain: Analysis
Answer Location: Scientific Revolutions
Difficulty Level: Medium

2. Discuss two factors that must be considered when operationalizing a variable.
Ans: Variables must be collectively exhaustive--attributes include every possible response--and mutually exclusive--each case can be applied to only one attribute of a variable.
Cognitive Domain: Analysis
Answer Location: Operational Definitions of Concepts
Difficulty Level: Medium

3. Identify the independent and the dependent variable, as well as the unit of analysis, in the following hypothesis: Urban residents are more likely than rural residents to be overweight.
Ans: Dependent variable: weight; independent variable: place of residence; unit of analysis: individual.
Cognitive Domain: Analysis
Answer Location: Variables
Difficulty Level: Medium

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4. While studying suicide, Durkheim found another trend he called “social facts” to be important in analyzing social situations. Explain how social facts affect other social characteristics.
Ans: Social forces exist externally from individuals and these forces “push” and “pull” individuals into predictable patterns of behavior.
Cognitive Domain: Comprehension
Answer Location: Emile Durkheim, Structural Strain, Suicide, and Anomie
Difficulty Level: Hard

5. Provide two examples of nominal variables.
Ans: Gender (male or female), year in high school (freshman, sophomore, junior, senior).
Cognitive Domain: Comprehension
Answer Location: Levels of Measurement
Difficulty Level: Medium

6. Give two examples of ordinal variables.
Ans: Somewhat/maybe/a lot and always/never/sometimes.
Cognitive Domain: Comprehension
Answer Location: Levels of Measurement
Difficulty Level: Medium

7. Give two examples of interval/ratio variables.
Ans: On a scale of 1–10, how satisfied are you with the service? And rank your pain on a level of 1–5.
Cognitive Domain: Comprehension
Answer Location: Levels of Measurement
Difficulty Level: Medium

8. Explain the purpose for making variables mutually exclusive.
Ans: When variables are not mutually exclusive that suggests they are not operationalized and therefore cannot be accurately measured.
Cognitive Domain: Comprehension
Answer Location: Mutually Exclusive
Difficulty Level: Medium

9. Interval/ratio variables are based on real or relative numeric values. What does this suggest about the variables?
Ans: It suggests that they are attributes that can be ranked and used to conduct mathematical calculations.
Cognitive Domain: Comprehension
Answer Location: Levels of Measurement
Difficulty Level: Medium

10. Explain why the question *Does racism exist?* is an improper research question.
Ans: The question is not operationally defined.

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Cognitive Domain: Analysis
Answer Location: Introduction
Difficulty Level: Medium

11. Explain the purpose of scientific revolutions.
Ans: Scientific revolutions allow the emergence of new explanations for how the social and physical world work. When new explanations arise then individuals have the ability to ask more nuanced questions about society and offer more solutions.
Cognitive Domain: Analysis
Answer Location: Scientific Revolutions
Difficulty Level: Hard

12. Explain the purpose of statistics.
Ans: Statistics are numerical representations of reality; they are used to describe conditions, communicate more effectively, predict outcomes, and develop policy.
Cognitive Domain: Comprehension
Answer Location: Why Statistics?
Difficulty Level: Medium

13. Describe a critical consumer.
Ans: They are people who understand that every statistic is a complex way of conveying information.
Cognitive Domain: Comprehension
Answer Location: Why Statistics?
Difficulty Level: Medium

14. Explain the three components of scientific analysis.
Ans: Describing how cases are distributed, describing how variables interact, and making predictions.
Cognitive Domain: Comprehension
Answer Location: Conceptual Definitions of Variables
Difficulty Level: Medium

15. Name the three criteria that must be met in order to argue successfully that two variables are associated.
Ans: The cause must precede the effect, changes in the dependent must result of a change in the independent variable, and the association must be present “often enough.”
Cognitive Domain: Comprehension
Answer Location: Independent and Dependent Variables
Difficulty Level: Medium

16. Explain why it is more difficult to measure “hate” than weight.
Ans: Hate is a concept rather than a physical attribute; it has to be operationalized before it can be measured.
Cognitive Domain: Comprehension

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Answer Location: Conceptual Definitions of Variables
Difficulty Level: Medium

17. Explain the difference between conceptualization and operationalization.
Ans: Conceptualization is defining what we mean by a concept whereas operationalization is the process of developing variables so that the concept may be measured.
Cognitive Domain: Comprehension
Answer Location: Operational Definitions of Concepts
Difficulty Level: Medium

18. Explain the purpose of “other” as a respondent choice.
Ans: Other allows the variable to be collectively exhaustive.
Cognitive Domain: Comprehension
Answer Location: Levels of Measurement
Difficulty Level: Medium

19. Explain how the question wording affects level of measurement.
Ans: The way the question is worded dictates which level of measurement is used. For example, if a question is asked nominally--did you do your homework? Then the answer choice has to be nominal as well, yes or no.
Cognitive Domain: Comprehension
Answer Location: Levels of Measurement
Difficulty Level: Medium

20. Describe the relationship between data recording and levels of measurement.
Ans: Data can only be recoded from higher order levels of measurement to lower order levels of measurement.
Cognitive Domain: Comprehension
Answer Location: Recording Data
Difficulty Level: Medium

Essay

1. What are statistics, and why are they important?
Ans: Statistics are numeric representations of reality that facilitate our ability to describe, communicate, predict, and act. Statistics are important for a number of reasons. Namely, statistics provides a range of analytical tools that we have to approach and live in the world with which we are confronted. Statistics help us to think critically and reflectively about what others tell us about the world so that we can come to our own, well-informed, conclusions.
Cognitive Domain: Analysis
Answer Location: Why Statistics?
Difficulty Level: Medium

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2. The following is an empirical research question: Does a person's sexual orientation have an effect on annual income? Consider this research question and answer the following:
A. State a suitable research hypothesis.
B. What is the independent variable?
C. What is the level of measurement for the independent variable?
D. What is the dependent variable?
E. What is the level of measurement for the dependent variable?
F. What is the unit of analysis for the research question?
Ans:
A. Example: Homosexuals have higher income than heterosexuals.
B. sexual orientation
C. nominal
D. income
E. interval/ratio
F. individual
Cognitive Domain: Application
Answer Location: Variables
Difficulty Level: Medium

3. Construct a questionnaire with questions decided for nominal, ordinal, and interval/ratio variables. Defend why your questions are aligned with their associated variables.
Ans: Varies based on students' questionnaire construction and choices.
Cognitive Domain: Application
Answer Location: Variables
Difficulty Level: Medium

4. Your friend made an ecological fallacy about a group of students in your class. Write an e-mail to your friend stating the ecological fallacy, why it is a fallacy, and how you would gather data to prove that it is a fallacy.
Ans: Varies based on students' choice of fallacy and explanations.
Cognitive Domain: Application
Answer Location: Statistical Uses and Misuses
Difficulty Level: Medium

5. Distinguish between the individualistic and ecological fallacy.
Ans: The individualistic fallacy is a type of error that occurs when the characteristics of an individual are imposed upon all of the members of a group to which that individual belongs, whereas the ecological fallacy results from drawing conclusions about individuals based on the characteristics of a group.
Cognitive Domain: Analysis
Answer Location: Ecological Data
Difficulty Level: Medium

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