Social Statistics for a Diverse Society 10th edition Frankfort-Nachmias Test Bank

SKU: 9781071910511-TEST-BANK

Social Statistics for a Diverse Society (10th)

ISBN 9781071910511 | Chapter 1: The What and the Why of Statistics

Total Questions: 50

Easy

Multiple Choice (12)

Q1. *[Multiple Choice]*

A set of assumptions and propositions that serve to explain, predict, and understand phenomena is called a _____.

a) law
b) theory ✓ correct
c) hypothesis
d) variable

Q2. *[Multiple Choice]*

Procedures that help organize and describe data collected from a sample or a population are called _____.

a) descriptive statistics ✓ correct
b) analytical variables
c) inferential statistics
d) dependent variables

Q3. *[Multiple Choice]*

The object a social scientist chooses to focus their research on, such as an individual characteristic, is the _____.

a) measure of central tendency
b) dependent variable
c) independent variable
d) unit of analysis ✓ correct

Q4. *[Multiple Choice]*

A(n) _____ is a tentative prediction about how empirical events or attributes will be related or patterned.

a) theory
b) estimate
c) law
d) hypothesis ✓ correct

Q5. *[Multiple Choice]*

The total set of cases, objects, groups, or events in which the researcher is interested is called the _____.

a) population ✓ correct
b) sample
c) entity
d) variable

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Q6. *[Multiple Choice]*

A subset of cases selected from the total set of cases is referred to as the _____.

a) population
b) sample ✓ correct
c) unit of analysis
d) variable

Q7. *[Multiple Choice]*

A(n) _____ is a property of people or objects that takes on two or more values.

a) unit of analysis
b) variable ✓ correct
c) level of measurement
d) hypothesis

Q8. *[Multiple Choice]*

The variable the researcher wants to explain ("the effect") is called the _____ variable.

a) explanatory
b) independent
c) theoretical
d) dependent ✓ correct

Q9. *[Multiple Choice]*

What is the first step in most research?

a) collecting data
b) selecting an interesting question ✓ correct
c) calculating statistics
d) choosing a theoretical framework

Q10. *[Multiple Choice]*

Which component of a research study is expected to "cause" or account for the "effect."

a) nominal variable
b) independent variable ✓ correct
c) dependent variable
d) ordinal variable

Q11. *[Multiple Choice]*

The extent to which measures indicate what they are intended to measure is referred to as _____.

a) reliability
b) statistical analysis
c) validity ✓ correct
d) standard error

Q12. *[Multiple Choice]*

Social class is an example of a(n) _____ variable.

a) data
b) sample
c) ordinal ✓ correct
d) population

True/False (3)

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Q13. *[True/False]*

In the cause-and-effect relationship of variables, the cause has to precede the effect in time.

a) True ✓ correct
b) False

Correct answer: True

Q14. *[True/False]*

Statistical procedure can be divided into two major categories: descriptive statistics and inferential statistics.

a) True ✓ correct
b) False

Correct answer: True

Q15. *[True/False]*

Research examining human diversity is limited to the use of descriptive statistics.

a) True
b) False ✓ correct

Correct answer: False

Medium

Multiple Choice (8)

Q16. *[Multiple Choice]*

A defining characteristic of empirical research is that it _____.

a) establishes causality
b) has multiple units of analysis
c) can be independently verified ✓ correct
d) is derived directly from a theory

Q17. *[Multiple Choice]*

The level of measurement must be determined prior to which of the following steps in the research process?

a) collecting data ✓ correct
b) formulating the hypothesis
c) evaluating the hypothesis
d) asking the research question

Q18. *[Multiple Choice]*

Religion is a _____ and _____ variable.

a) dichotomous; quantitative
b) statistical; quantitative
c) nominal; qualitative ✓ correct
d) dependent; qualitative

Q19. *[Multiple Choice]*

Which statement illustrates the cumulative property of levels of measurement?

a) Nominal-level variables can be measured at interval-ratio levels.
b) Interval-ratio-level variables can be measured at ordinal levels. ✓ correct
c) Ordinal-level variables can be measured at interval-ratio levels.
d) Nominal-level variables can be measured at ordinal levels.

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Q20. *[Multiple Choice]*

Why is a dichotomous variable so powerful?

a) It can be measured at three levels. ✓ correct
b) It cannot be ordered.
c) It has several intervals.
d) It has myriad values.

Q21. *[Multiple Choice]*

A person's age is an example of what type of variable?

a) continuous ✓ correct
b) selective
c) discrete
d) dichotomous

Q22. *[Multiple Choice]*

What is true of a dependent variable in a research study?

a) It can be defined only at the conclusion of the study.
b) It directly or indirectly affects the independent variable.
c) It is the object of the research. ✓ correct
d) It can have two or more states in a single study.

Q23. *[Multiple Choice]*

The results derived from a statistical analysis are most likely to be used for which of the following purposes?

a) deciding whether the correct statistical test was used
b) evaluating research hypotheses ✓ correct
c) proving that a particular belief was correct
d) making guesses about the interpretation of previous studies

True/False (6)

Q24. *[True/False]*

All hypotheses are derived from theories.

a) True
b) False ✓ correct

Correct answer: False

Q25. *[True/False]*

The research question of "Does crime rate increase during periods of inflation" is an example of a question that can be answered by conducting empirical research.

a) True ✓ correct
b) False

Correct answer: True

Q26. *[True/False]*

The category of variables "Letters: Alphabets and Consonants" is mutually exclusive and exhaustive.

a) True
b) False ✓ correct

Correct answer: False

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Q27. *[True/False]*

Dichotomous variables must have at least two possible values.

a) True

b) False ✓ correct

Correct answer: False

Q28. *[True/False]*

If the population of a study is defined as all humans older than 18 years of age who have diagnosed high blood pressure, females older than 18 years of age with one or more high blood pressure readings would be considered a sample of the population.

a) True

b) False ✓ correct

Correct answer: False

Q29. *[True/False]*

For the hypothesis, “In the United States, men statistically have a higher rate of violent crime than women,” the dependent variable is gender.

a) True

b) False ✓ correct

Correct answer: False

Essay (10)

Q30. *[Essay]*

Identify the independent variable, dependent variable, and unit of analysis in the following hypothesis: Interstate migration in the United States lowers state poverty levels.

Suggested answer: *Sample response: The independent variable is interstate migration. The dependent variable is state poverty level. The unit of analysis is U.S. states.*

Q31. *[Essay]*

Identify the independent variable, dependent variable, and unit of analysis in the following hypothesis: On average, the annual household income of female-headed households is about 25% less than the annual household income of married couple households.

Suggested answer: *Sample response: The independent variable is household type. The dependent variable is annual income. The unit of analysis is households.*

Q32. *[Essay]*

Provide at least one advantage of using an interval-ratio level of measurement over other levels of measurement.

Suggested answer: *Sample response: One advantage is that interval-ratio levels of measurement preserve information about the quantitative magnitude of measurements since the difference between numbers reflect equal units. In addition, some statistical tests can only be used when variables are measured using interval-ratio levels of measurement.*

Q33. *[Essay]*

A researcher who is interested in knowing whether there is a difference in the age at first marriage between women and men hypothesizes that women tend to marry earlier than men. Which variable would be the independent variable?

Suggested answer: *Sample response: The independent variable for this study is gender.*

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Q34. *[Essay]*

A researcher is interested in studying the work habits of young adults and hypothesizes that persons first married in their twenties tend to work an average of 5 hours more per week than persons not first married in their twenties. What are the independent and dependent variables?

> ***Suggested answer:*** *Sample response: The independent variable is age at first marriage. The dependent variable is hours worked per week*

Q35. *[Essay]*

Why is the average of the sample not equal to the average of the population as a whole?

> ***Suggested answer:*** *Sample response: Because the data are based on a sample rather than on the entire population.*

Q36. *[Essay]*

Given the following research area, develop the set of activities on how the research process should be followed. Research area: Bullying is a national problem, particularly among children of various ethnic/racial backgrounds.

> ***Suggested answer:*** *Sample response: Student answers will vary, but must identify the five steps in the research process (i.e., asking the research question, formulating the hypotheses, collecting data, analyzing data, and evaluating the hypotheses).*

Q37. *[Essay]*

Explain the similarities and differences between the three levels of measurement.

> ***Suggested answer:*** *Sample response: All levels of measurement represent measurements of variables using numbers. However, each level of measurement uses numbers differently. For nominal variables, numbers represent category designations, much like category names. For example, a nominal variable likemarital statusmight represent 'married' with 1, 'divorced' with 2, 'single, never married' with 3, and so on. The assignment of numbers to categories is essentially arbitrary. When numbers are used to designate different categories of an ordinal variable, the categories can be meaningfully ordered according to subjective magnitude. For example, the variablemarital satisfactioncan be represented as 'very dissatisfied' with 1, 'dissatisfied' with 2, up to 'very satisfied' with 5. Numbers reflect a difference in magnitude, but the difference does not represent equal units. Interval-ratio levels of measurement is the only level in which numbers reflect equal units of measurement. For example, the variable age when married is an interval-ratio variable because the units of measure are essentially equal (e.g., years, months, days, hours,). So if one person was 30 years old when they got married, and another person was 20 years old when they got married, one can say there was a 10 year difference in age.*

Q38. *[Essay]*

Explain how hypothesis testing is an integral part of theory development.

> ***Suggested answer:*** *Sample response: A theory is a set of assumptions and propositions that are used by scientists to explain, predict, and understand the phenomena they study. It can be understood as a framework that organizes and explains previous scientific observations and guides future research. The predictive value of a theory is linked to how well it can generate testable hypotheses. For example, a theory has a set of propositions that are translated to a hypothesis that can be evaluated using observation and measurement. If a statistical analysis shows that the data do not support a hypothesis, then this suggests that the theory needs revision, reevaluation, or rejection. If the results from a study support the hypothesis, then this usually makes the theory stronger. However, theories are strengthened further when they can account for a growing body of evidence compared to competing theories. Occasionally, the results from a research study may point to factors that are not part of the original theory. In these instances, the theory may need to be modified.*

Q39. *[Essay]*

Compare the advantages and disadvantages of studying samples instead of entire populations when their goal of research is to learn about populations.

> ***Suggested answer:*** *Sample response: Researchers are usually interested in understanding something about the characteristics of a population of interest. Since populations can be quite large, it is impractical and unnecessary to collect data from all elements that make up a population. Rather, researchers typically study samples to learn about populations. Samples are a subset of elements that collectively represent the entire population of interest to the researcher. Samples are smaller than the population from which it is taken. If a researcher studies a sample that closely resembles the population of interest, then they can be reasonably confident that the data will resemble what would have been taken from the entire population. However, samples will never be perfectly identical to the population, which means that there will always be some discrepancy between the two. If this discrepancy is large, then the information derived from the sample will not reflect that of the population.*

Hard

Multiple Choice (5)

Q40. *[Multiple Choice]*

A research study examining employee health in the workplace is likely using _____ as the unit of analysis.

a) gender
b) health status ✓ correct
c) employment status
d) the organization

Q41. *[Multiple Choice]*

An example of an interval-ratio level of measurement is _____.

a) social class
b) gender
c) political party
d) income ✓ correct

Q42. *[Multiple Choice]*

Which factor is a dichotomous variable?

a) length
b) gym membership status ✓ correct
c) annual income
d) SAT score

Q43. *[Multiple Choice]*

The variety of research questions, hypotheses, and theories that are chosen for study is most likely to be influenced by _____.

a) having more powerful statistical tools
b) enabling access to a wider variety of databases
c) better understanding of how data are collected
d) perspectives that are shaped by human diversity ✓ correct

Q44. *[Multiple Choice]*

Which example best shows how statistical techniques can be used to study human diversity?

a) using graphs to examine how religious affiliations differ among geographic locations ✓ correct
b) using transcripts from interviews to document the experiences of immigrants
c) using archival records to trace the genealogy of a Native American tribal group
d) using satellite data to study how population changes affect water quality

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True/False (1)

Q45. *[True/False]*

If a researcher is interested in knowing whether or not a person was vaccinated for smallpox, they should use an interval-ratio level of measurement?

a) True

b) False ✓ correct

Correct answer: False

Essay (5)

Q46. *[Essay]*

A researcher hypothesizes that persons first married in their twenties tend to work an average of 5 hours more per week than persons not first married in their twenties. Their research finds a link between age at first marriage and hours worked per week. What three conditions must be satisfied for a causal connection to be have established?

Suggested answer: *Sample response: The cause has to precede the effect in time, there has to be an empirical relationship between the cause and the effect, and this relationship cannot be explained by other factors.*

Q47. *[Essay]*

A researcher wants to test the hypothesis that health disparities among different geographic regions within a city are caused by differential exposure to environmental toxins. Discuss the three criteria for demonstrating a cause-effect relationship and explain why it would be difficult for the researcher to demonstrate a causal link between these variables.

Suggested answer: *Sample response: To demonstrate a cause-effect relationship between two variables, the following criteria must be met. First, the cause must precede the effect. Second there must be an observable and measurable relationship between the variable that is the cause and the variable that is the effect. Lastly, the relationship between the two variables cannot be explained by other factors, such as other probable causes that were not addressed in the study. In this example, it is difficult to demonstrate that the cause (e.g., exposure to environmental toxins) preceded the effect (e.g., health disparities across geographic regions). People with health problems may tend to live in environments that have greater toxins than people who live in other areas. It may be possible to show an empirical relationship between the two variables, but it is difficult to rule out other potential causes. For example, economic factors such as income, insurance coverage, occupational hazards, housing, and others, could potentially account for the observed relationship between these variables.*

Q48. *[Essay]*

According to the following table, what is the variable of interest? Is this variable nominal, ordinal, or interval–ratio?

PersonHighest Grade of School Completed
Person 112
Person 214
Person 314
Person 410
Person 514
Person 616
Person 715
Person 812
Person 916
Person 1014

Suggested answer: *Sample response: The variable of interest is education. It is an interval-ratio level of measurement.*

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Q49. *[Essay]*

Imagine you were interested in constructing a measure of education where education was measured in terms of high, medium, and low. Based on the information in the table, which level of measurement should you use?

PersonHighest Grade of School Completed
Person 112
Person 214
Person 314
Person 410
Person 514
Person 616
Person 715
Person 812
Person 916
Person 1014

Suggested answer: *Sample response: If constructing a measure of education where education was measured in terms of high, medium, and low, an ordinal level of measurement would be appropriate.*

Q50. *[Essay]*

Imagine that you were interested in whether or not individuals had a high school education. Based on the information in the table, which level of measurement should you use?

PersonHighest Grade of School Completed
Person 112
Person 214
Person 314
Person 410
Person 514
Person 616
Person 715
Person 812
Person 916
Person 1014

Suggested answer: *Sample response: In this instance, a nominal level of measurement is appropriate.*