CHAPTER 2

Social Sciences and the Scientific Method

TRUE/FALSE

1. The scientific method develops and tests theories about how observable facts or events are related in order to explain them.

   ANS: True REF: 20 NOT: Factual

2. Hypotheses are tentative statements about a relationship between facts or events that should be derived from the theory and should be testable.

   ANS: True REF: 21 NOT: Factual

3. A relationship that is likely to have occurred by chance is said to be significant.

   ANS: False REF: 21 NOT: Factual

4. Causation is a significant relationship wherein the presence of one variable (the dependent variable) causes changes in another variable (the independent variable).

   ANS: False REF: 21 NOT: Factual

5. A correlation is a significant statistical relationship found in data.

   ANS: True REF: 21 NOT: Factual

6. The scientific method is descriptive, explanatory, and normative.

   ANS: False REF: 27 NOT: Factual

7. The scientific method cannot test the validity of values, norms, or feelings.

   ANS: True REF: 27 NOT: Factual

8. A theory is a set of interrelated concepts at a low level of generality.

   ANS: False REF: 28 NOT: Factual

9. The control group does not undergo the treatment and is used for comparison.

   ANS: True REF: 29 NOT: Factual

10. A probabilistic is a fact, just like a universal statement.

    ANS: True REF: 29 NOT: Factual

11. A fact in the social sciences is always considered absolute.

    ANS: False REF: 29 NOT: Factual

12. If people are allowed to volunteer for the experiment, then the experimental and control groups might not be representative of the population as a whole.

    ANS: True REF: 30 NOT: Factual

13. A null hypothesis is the statement that the program or treatment had no effect.

    ANS: True REF: 30 NOT: Factual

14. The sample is chosen in a way that ensures that the group is representative of the universe. The universe is the partial group about whom the information is desired.

    ANS: False REF: 32 NOT: Factual

15. Random sampling reduces the likelihood that the responses obtained from the sample would be the same as those obtained from the universe if everyone were questioned.

    ANS: False REF: 33 NOT: Factual

16. Salient issues are those that people think about most and about which they hold weak and changeable opinions.

    ANS: False REF: 35 NOT: Factual

17. The halo effect is the tendency of respondents to give "good-citizen" responses to pollsters, whether they are truthful or not.

    ANS: True REF: 36 NOT: Factual

18. Ethnography is the systematic description of a society's customary behaviors, beliefs, and attitudes.

    ANS: True REF: 38 NOT: Factual

19. Field research often involves participant observation, during which the researcher both observes and participates in the society being studied.

    ANS: True REF: 38 NOT: Factual

20. A case study is a cursory investigation of a particular event in order to gain limited understanding of the event.

    ANS: False REF: 39 NOT: Factual

MULTIPLE CHOICE

1. A method of explanation that develops and tests theories about how observable facts or events are related is
   a. a laboratory experiment
   b. the scientific method.
   c. field work.
   d. case study.

   ANS: B REF: 20 NOT: Factual

2. The social sciences seek to develop theories to explain why human beings
   a. think as they do.
   b. live as they do.
   c. feel as they do.
   d. behave as they do.

   ANS: D REF: 21 NOT: Conceptual

3. A relationship that is not likely to have occurred by chance is said to be significant. After observing a significant relationship, social scientist next ask whether there is
   a. a causal relationship between the phenomena.
   b. an undetermined relationship among the phenomena.
   c. an error in the hypothesis.
   d. a correlation in the data.

   ANS: A REF: 22 NOT: Conceptual

4. A significant relationship is one that is NOT likely to have occurred
   a. due to causation.
   b. by chance.
   c. on purpose.
   d. because the timing was right.

   ANS: B REF: 22 NOT: Factual

5. Deductive and inductive reasoning are parts of the process of using logic and observing the phenomena around us. Inductive reasoning goes from
   a. illogical to logical.
   b. specific to general.
   c. general to specific.
   d. unreasonable to reasonable.

   ANS: B REF: 22 NOT: Conceptual

6. The scientific method is descriptive and explanatory, but NOT
   a. normative.
   b. reliable.
   c. informative.
   d. real science.

   ANS: A REF: 27 NOT: Factual

7. The scientific method strives to develop a systematic body of

a. facts.
b. rules.
c. theory.
d. literature.

ANS: C REF: 25 NOT: Factual

8. The scientific method represents all of the following EXCEPT
   a. an attitude of doubt or skepticism.
   b. an attempt to develop a systematic body of theory.
   c. a method that deals with what should be.
   d. an attempt to develop statements about how events or behavior might be related and then to carefully test their validity.

   ANS: C REF: 27 NOT: Applied

9. Theories are developed at different levels of generality. Theories with low levels of generality will explain only a small or narrow range of behaviors. Which of the following is an example of theory with a low level of generality?
   a. Religious differences cause political conflict.
   b. Christian voters tend to vote Republican.
   c. Voting preferences determine elections.
   d. None of these

   ANS: B REF: 28 NOT: Applied

10. The scientific method is recognition that any explanation is tentative and may be modified or disproved by careful investigation. Even the scientific theories that constitute the core knowledge in any discipline are not regarded as absolutes. They are regarded as
    a. probabilities or generalizations based on what is yet to be learned.
    b. probabilities or generalizations based on what is known so far.
    c. possibilities based on historical analysis.
    d. certainties based on reliable data.

    ANS: B REF: 28 NOT: Conceptual

11. Theories are typically a set of interrelated concepts that can be considered
    a. unique.
    b. helpful.
    c. facts.
    d. generalizable.

    ANS: D REF: 28 NOT: Factual

12. Personal bias is a controversial issue in social science. Researchers are part of what they investigate, and they study what they think is important. Which of the following is an area where the researcher's values might be reflected?
    a. Perceptions of the data
    b. Statement of the hypothesis
    c. Interpretations of the findings
    d. All of these

    ANS: D REF: 28 NOT: Applied

13. The classic research design is not without problems. Social scientists must be aware of the more difficult problems in applying this research design to social science research and must be prepared on occasion to
    a. defend their designs and move forward.
    b. change their procedures accordingly.
    c. commit minor ethics violations.
    d. consider whether the study is worth dealing with the problems.

    ANS: B REF: 30 NOT: Conceptual

14. There is always the chance that the sample selected will NOT be representative of the universe. Survey researchers can estimate this sampling error through which of the following methods?
    a. the multiplication of likelihood
    b. the mathematics of likelihood
    c. the mathematics of multiplication
    d. the mathematics of probability

    ANS: D REF: 33 NOT: Applied

15. As part of their World Poll, the Gallup organization continuously polls individuals in more than 150 nations and seeks to represent the opinions of what percent of the worlds' population?
    a. 90 percent
    b. 100 percent
    c. 95 percent
    d. 98 percent

    ANS: D REF: 34 NOT: Factual

16. The aggregate of opinions of individuals on topics in survey research is called
    a. public opinion.
    b. the universe.
    c. a sample.
    d. the halo effect.

    ANS: A REF: 35 NOT: Factual

17. If a survey poll is constructed scientifically and thoughtfully, it can provide accurate information about the opinions of a population. Which of the following is NOT a problem of survey research?
    a. Uninformed opinions
    b. Weakly held opinions
    c. Random sampling
    d. Changing opinions

    ANS: C REF: 33, 36 NOT: Applied

18. Large samples are not much more accurate than small samples. A sample of a few thousand—even one thousand—is capable of reflecting the opinions of 1 million or 100 million voters fairly accurately. For example, a random sample of one thousand voters across the United States can produce a sampling error (plus or minus) of
    a. 95 percent.
    b. 85 percent.
    c. 3 percent.
    d. 6 percent.

    ANS: C REF: 35 NOT: Conceptual

19. Issues about which people think the most and about which they hold strong and stable opinions are called
    a. public issues.
    b. social issues.
    c. salient issues.
    d. aggregate issues.

    ANS: C REF: 35 NOT: Factual

20. Public opinion in democracies is given a great deal of attention. Survey results on hot-button issues command the attention of which of the following?
    a. Politicians
    b. News media
    c. Social scientists
    d. all of these

    ANS: D REF: 35 NOT: Applied

21. A push poll really constitutes more of a campaign tactic than a scientific public opinion survey. Which of the following is a tactic used during push polls to sway opinion for a particular candidate or position?
    a. Paying the respondent
    b. Educating the respondent
    c. Asking leading or loaded questions
    d. Making substantiated claims about the other candidate's record

    ANS: C REF: 35, 36 NOT: Applied

22. Few people are willing to admit that they know nothing about the topic or that they really have "no opinion." They believe they should provide an answer even if they have little interest in the topic itself. The result is that polls often seem to
    a. create public opinion.
    b. change public opinion.
    c. undermine public opinion.
    d. have no effect on public opinion.

    ANS: A REF: 36 NOT: Conceptual

23. Careful reports from field research can provide qualitative information that is often missing from experimental and survey research. Field researchers can observe and report on which of the following?
    a. attitudes
    b. myths
    c. symbols
    d. all of these

    ANS: D REF: 37 NOT: Conceptual

24. Field research often involves participant observation, during which the researcher both observes and participates in the society being studied. Which of the following is an ethical issue of the participant researcher?
    a. Observing, taking notes, and reporting on the society being studied
    b. Living in the society being studied
    c. Deciding whether or not to identify himself or herself as a researcher
    d. Participating in the society being studied

    ANS: C REF: 38 NOT: Applied

25. Ethnography is the systematic description of a society's
    a. customary behaviors, beliefs, and attitudes.
    b. built environment.
    c. potential for development.
    d. history of social change.

    ANS: A REF: 38 NOT: Factual

26. Ethnographic studies are usually produced by social scientists from which discipline?
    a. Sociology
    b. Anthropology
    c. Philosophy
    d. Psychology

    ANS: B REF: 38 NOT: Conceptual

27. Participant observation in field research most often leads to which of the following?
    a. More experimental control than is possible in laboratories
    b. Occasional ethical dilemmas
    c. Greater reliability in data
    d. Less validity and confidence in observations

    ANS: B REF: 38 NOT: Applied

28. In the social sciences, case studies sometimes help future researchers analyze similar situations to
    a. prevent war.
    b. promote social change.
    c. inform the future.
    d. end a social problem.

    ANS: C REF: 39 NOT: Factual

29. A case study is an in-depth investigation of a particular event in order to understand it as fully as possible. Which of the following would NOT be the focus of a case study?
    a. A single government decision
    b. A single town
    c. A single society
    d. All businesses in a single town

    ANS: D REF: 39 NOT: Conceptual

FILL IN THE BLANK

1. The scientific method of explanation develops and tests theories about how _____ facts or events are related.

   ANS: observable REF: 22 NOT: Factual

2. Doubt or skepticism about theories until they have been scientifically tested is known as a _____.

   ANS: scientific attitude REF: 28 NOT: Factual

3. A(n) _____ applies to every circumstance.

   ANS: universal statement REF: 28 NOT: Factual

4. Each person in the universe having an equal chance of being selected in the sample for interviewing occurs in a _____.

   ANS: random sample REF: 33 NOT: Factual

5. _____ reflects the range of responses in which a 95 percent chance exists that the sample reflects the universe.

   ANS: Sampling error REF: 33 NOT: Factual

6. Ethnographic studies are usually produced by _____ who have spent time living with, interviewing, and observing the people of a society.

   ANS: anthropologists REF: 38 NOT: Factual

SHORT ANSWER

1. Explain the scientific method.

   ANS: Answers may vary.

2. Why does the scientific method deal only with empirical facts and events?

   ANS: Answers may vary.

3. What is the difference between a universal statement and a probabilistic statement?

   ANS: Answers may vary.

4. Explain why the classic scientific research design uses both an experimental group and a control group.

   ANS: Answers may vary.

5. Explain the relationship between the sample and the universe?

   ANS: Answers may vary.

6. Describe the obstacle posed to the data collection process because there are so many people who have only cell phones.

   ANS: Answers may vary.

7. How might a case study be part of an historical analysis used to inform the future?

   ANS: Answers may vary.

8. Under what circumstances might a social science researcher's methods include analysis of secondary source data?

   ANS: Answers may vary.

9. Describe the methods used by field researchers.

   ANS: Answers may vary.

10. What is the role of the hypothesis in the scientific method's search for relationships?

    ANS: Answers may vary.

ESSAY

1. Write an essay that compares the use of the scientific method in the social sciences to the methods used in biology or any other non-social science.

   ANS: Answers may vary.

2. Fully explain the classic research design. Describe the conditions under which this design is appropriately used. How might the potential problems associated with the classic research design affect the study's outcome?

   ANS: Answers may vary.

3. Compare and contrast any three of the methods of data collection used in the social sciences. In your response, include examples of the types of questions that might best be answered by each of the three methods selected for analysis. Discuss both the utility and potential problems associated with these three data collection methods.

   ANS: Answers may vary.

4. Considering the methods used in the process of field research, critically evaluate the potential for researcher bias in the ethnographic study.

   ANS: Answers may vary.

5. Using the guidelines for survey research, evaluate the obstacles to collecting the data for any two nations listed in the Gallup Worldwide Research Data Collected table on page 34 of the text.

   ANS: Answers may vary.

6. Compare and contrast the ways that responses from push polls and the result of the halo effect can lead to the creation of public opinion.

   ANS: Answers may vary.

7. Analyze the potential differences in attitudes between social scientists and the people whose behaviors they are studying.

   ANS: Answers may vary.