# THE PRACTICE OF Social Research LITTERT FOITHS EARL BABBIE

# **CHAPTER 1: HUMAN INQUIRY AND SCIENCE**

### **OUTLINE**

- I. Introduction
- II. Looking For Reality
  - A. Ordinary human inquiry
  - B. Tradition
  - C. Authority
  - D. Errors in inquiry and some solutions
    - 1. Inaccurate observations
    - 2. Overgeneralization
    - 3. Selective observation
    - 4. Illogical reasoning
  - E. What's really real?
    - 1. The premodern view
    - 2. The modern view
    - 3. The postmodern view
- III. The Foundations of Social Science
  - A. Theory, not philosophy or belief
  - B. Social regularities
    - 1. The charge of triviality
    - 2. What about exceptions?
    - 3. People could interfere
  - C. Aggregates, not individuals
  - D. A variable language
- IV. Some Dialectics of Social Research
  - A. Idiographic and nomothetic explanation
  - B. Inductive and deductive theory
  - C. Qualitative and quantitative data
  - D. Pure and applied research
- V. The Ethics of Social Research
  - A. Voluntary participation
  - B. No harm to subjects

### **BEHAVIORAL OBJECTIVES**

Upon completion of this chapter, the student should be able to:

1. Define and illustrate agreement reality.

- 2. Define and illustrate experiential reality.
- 3. Identify the two criteria for scientists to accept the reality of something they have not personally experienced.
- 4. Differentiate epistemology from methodology.
- 5. Define and illustrate causal reasoning and probabilistic reasoning.
- 6. Differentiate the scientific approach from the ordinary human inquiry approach to causal and probabilistic reasoning.
- 7. Differentiate prediction from understanding.
- 8. Describe the roles of tradition and authority as sources of secondhand knowledge.
- 9. Define and illustrate each of the following errors in inquiry: inaccurate observation, overgeneralization, selective observation, and illogical reasoning.
- 10. Show how a scientific approach attempts to provide safeguards against each one of these errors.
- 11. Compare premodern, modern and postmodern views of reality.
- 12. Describe what is meant by science being logico-empirical.
- 13. Describe the three major aspects of the overall scientific enterprise.
- 14. Define theory and indicate how it differs from philosophy or belief.
- 15. Give three examples of social regularities.
- 16. Respond to the three objections commonly raised regarding social regularities.
- 17. Define aggregate and present a rationale for why social scientists examine aggregates.
- 18. Give four examples of variables and their respective attributes.
- 19. Differentiate independent and dependent variables by definition and example, and show how they contribute to understanding causality.
- 20. Define and compare idiographic and nomothetic explanations.
- 21. Define and compare induction and deduction as ways of developing theories.
- 22. Define and give examples of quantitative data and qualitative data.

- 23. Define and compare pure and applied research.
- 24. Identify two basic ethical rules in doing social research.

### TEACHING SUGGESTIONS AND RESOURCES

1. The following "True-False" questions can be used to illustrate two points. First, it illustrates that the social sciences do not simply document trivial "common sense" ideas. Second, it illustrates how we know the things we know.

Ask students to answer whether the following statements are true or false. In addition, ask them to write down how they knew whether the statements were true or false.

After students complete the "quiz" pick one of the items for discussion. Ask who answered "true" and who said "false." Ask those who said "true" how they **knew** that the statement was true and those who said "false" how they **knew** it was false. It will become clear to the students that how we/they "knew the answer" was from reading, something they heard, or their experience. All statements are false.

## A. Births to teenagers continues to increase in the United States

False: http://www.cdc.gov/nchs/fastats/teenbrth.htm

Ask students to access the CDC (Center for Disease Control) and NCHS (National Center for Health Statistics) site. To access the September 8, 2005 National Vital Statistics Report, Volume 54, #2 tell students to click on the source link entitled "Births, Final Data for 2003." An examination of Figure 1 in this report clearly shows the decline in births for women aged 15-19 years from 61.8 in 1991 to 41.6 in 2003.

B. The typical family structure in the United States is comprised of a married couple with their children.

False: http://www.census.gov/prod/2001pubs/p20-537.pdf

This Census Bureau site presents the June 2001 report on America's Families and Living Arrangements. Figure 1 of the report shows that married couples with children constituted 24.1% of households in 2000 (it had been 40.3% in 1970). The modal category was married couples without children (28.7%).

C. In comparison to other age groups, the elderly are more likely to be in poverty.

False: http://www.census.gov/hhes/www/poverty/trends.html

Ask students to go to the above noted Census site to read about trends in poverty for selected groups. Then tell them to click on graphs of poverty rates by age over time or go to:

http://www.census.gov/hhes/www/poverty/poverty04/pov04fig04.pdf

The data presented in this graph illustrate that people age 65 and older had higher poverty rates than children until 1975. Beginning in 1975 children experienced higher poverty rates than other age groups.

2. To help students think about the process of doing research and how we as a society are constantly bombarded with research findings, bring in (or have students bring in) research reported in the media. I have found that studies reported in *Glamour Magazine*, *Esquire*, or *Cosmopolitan* seem to capture their attention as do articles from newspapers. One report that I heard while listening to *NPR* is "Would *one thousand young American women rather increase the size of their income, political power, or breasts.*" 1994 (February) *Esquire*. The survey results raise questions about question construction, sampling, generalizability, etc.

### 3. FILMS

Inventing Reality 60 min. PBS Video MILL-108-CR94 ISBN 0-7936-0674-8

In Western society, science and magic are seen as opposing views of reality. Is there in fact a balance to strike? Travel to the Huichol Indian villages of Central Mexico to witness a Mexican doctor and a tribal shaman battling an epidemic of a rare strain of deadly measles. Then visit a cancer treatment center in Canada.

# Perception

28 min. Color. 1979. Penn State Univ.

Shows how we perceive situations differently.

### The Cave

10 min. Color. Bosustow Productions.

To lead into a discussion of the question "How do we know?" show this film. Based on Book VI of Plato's *The Republic*, the film depicts four men viewing the reflections on the wall as truth. One escapes to see reality. This film was reviewed in the ASA's "Using Films in Sociology Courses: Guidelines and Reviews." See the Preface for the ASA Teaching Resource Center address.

The Eye of the Beholder

25 min. 1954. Indiana Univ.

To illustrate the errors we make in observation, show this film. It develops the idea that no two people see the same thing or situation in the same way.

See chapter 3 for a listing of films that involve the ethics of social research.

### POSSIBLE ANSWERS TO STUDY GUIDE EXERCISES

Exercise 1.6: SPSS Computer Printout

### **INCOME3**

			RESPONDENT'S  1 MALE	SEX 2 FEMALE	Total
INCOME IN THIRDS	1 LOW	Count	639	1028	1667
	Ç	% within SEX	27.7%	36.6%	32.6%
2 M	ODERATE	Count	745	848	1593
	Ç	% within SEX	32.3%	30.2%	31.1%
	3 HIGH	Count	923	935	1858
	Ç	% within SEX	40.0%	33.3%	36.3%
Total	Ç	Count % within SEX	2307 100.0%	2811 100.0%	5118 100.0%

These data indicate that females are more likely than males to be in the lower third of income (36.6% of females as compared to 27.7% of males). Furthermore, males are more likely than females to earn both moderate and high incomes. Consequently, the data indicate that men earn more than women.

### INFOTRAC EXERCISES

- 1. The future of the behavioral and social sciences. Philip M. Smith, Barbara Boyle Torrey. *Science*, Feb 2, 1996 v271 n5249 p611(2). What do the authors feel are the five main ways of meeting the needs of social research in the future?
- 2. Research misconduct. (Fraud in research.) Marcel C. LaFollette. *Society*, March-April 1994 v31 n3 p6(5). How does the author feel a social scientist should address the issue of scientific fraud?
- 3. Analysing qualitative data. (Qualitative Research in Health Care, part 2: Education and Debate). Catherine Pope; Sue Ziebland; Nicholas Mays. *British Medical Journal*, Jan 8, 2000 v320 i7227 p114. What do the authors think are some of the pros and cons of doing qualitative analysis? What do the authors think of using software packages for analysis?
- 4. Use the keyword option to look up quantitative research/data and qualitative research/data. How many "hits" did you get using each term? Read and summarize one social science article that focuses on qualitative research and one social science article that focuses on quantitative research.

5. Use the keyword option to locate articles on pure research and articles on applied research. Select one article that focuses on pure research within the social sciences and one that focuses on applied research within the social sciences. Provide a brief summary of each article.

### **INTERNET EXERCISES**

If you used the "common sense quiz" noted in the Teaching Suggestions and Resources section, ask students to verify the information using the websites. If you did not use the "common sense quiz," ask students to examine whether these common sense beliefs are true or false using the previously noted websites.

# **MULTIPLE-CHOICE QUESTIONS**

- 1. Methodology could best be described as
  - a. the science of knowing
  - b. the science of finding out
  - c. the discovery of reality through agreement
  - d. the discovery of reality through personal experience
  - e. the logical aspect of science

ANS: C PG: 6 TYPE: Factual SOURCE: Pickup

- 2. Our attempts to learn about the world we live in come from
  - a. direct experience
  - b. tradition
  - c. direct, personal inquiry
  - d. authority
  - e. all of these choices are true

ANS: E PG: 5 TYPE: Factual SOURCE: Pickup

- 3. Pregnant at age 15, Tammy decided to have the baby. Her parents were upset with her decision and threatened to "cut her off" if she did not complete high school. A difficult pregnancy and embarrassment resulted in her dropping out of school. After the baby was born her parents said that they would raise the baby but that she would have to leave the house. At age 16 Tammy was on her own and without any money or job market skills. She began to work as a prostitute. This explanation of Tammy's prostitution is:
  - a. Idiographic
  - b. Nomothetic
  - c. Probabilistic
  - d. Quantitative
  - e. Based on agreements

ANS: A PG: 19 TYPE: Applied SOURCE: Pickup

- 4. Which of the following is FALSE concerning the use of tradition in inquiry?
  - a. It helps avoid the task of starting from scratch in our search for regularities
  - b. It demonstrates that knowledge is cumulative
  - c. The jumping off part for the development of knowledge is often the inherited body of information
  - d. It enables us to seek a different understanding of what we all know to be true
  - e. All of these choices are TRUE

ANS: D PG: 5 TYPE: Conceptual SOURCE: New

- 5. Today, social scientific theory addresses
  - a. what should be
  - b. what is
  - c. why things are as they are
  - d. what is and why
  - e. what should be and why

ANS: B PGS: 10-11 TYPE: Factual SOURCE: Modified

- 6. Which of the following would a sociologist be LEAST likely to study?
  - a. why crime rates are increasing in rural areas
  - b. the incidence of child abuse in middle-income families
  - c. why Mr. Smith quit his job
  - d. the incidence of employment among white collar workers
  - e. why unemployment rates are higher for black teens than white teens

ANS: C PG:13 TYPE: Conceptual SOURCE: Modified

- 7. Using data collected between 1957 and 1978, from 15 samples of adults, Professor Rodgers (1982 *Social Forces*) found that (1) the average level of happiness reported by people under 65 years of age declined from 1957 to 1970. For this same group, the average level of happiness increased slightly from 1970 to 1978. (2) The average level of happiness reported by people age 65 and older increased from 1957 to 1978. A(the) variable(s) in this study is(are)
  - a. aged 65 and older
  - b. less than age 65
  - c. age
  - d. age 65
  - e. all of these choices are variables

ANS: C PG:15 TYPE: Conceptual SOURCE: Pickup

- 8. Assume that Professor Rodgers from the previous question had studied only three people aged 65 or older. Suppose he concluded that people under 65 years of age also experienced increasing levels of happiness from 1957 to 1970. He would have committed
  - a. the error of overgeneralization
  - b. the error of inaccurate observation
  - c. the error of illogical reasoning
  - d. the error of selective observation
  - e. no error

ANS: A PG: 6 TYPE: Applied SOURCE: Pickup

- 9. The statement "Knowledge for knowledge's sake" describes:
  - a. Pure research
  - b. Applied research
  - c. Inductive logic
  - d. Deductive logic
  - e. Probabilistic thinking

ANS: A PG: 25 TYPE: Factual SOURCE: Pickup

- 10. A study reported in *American Sociological Review* (1994) was entitled "Race Differences in Sexual Activity Among Adolescent Women." The independent variable was probably
  - a. Sexual activity
  - b. Adolescence
  - c. There is no independent variable
  - d. Women
  - e. Race

ANS: E PG: 18 TYPE: Conceptual SOURCE: Modified

- 11. Which of the following does NOT suggest the misuse of authority?
  - a. Popular athletes who discuss the nutritional value of cereals on TV commercials
  - b. Movie stars who are paid to evaluate the taste of different coffee brands at supermarket openings.
  - c. Social scientists who discuss inequality in their classrooms
  - d. Political figures who argue that marijuana can "fry your brain" without any medical expertise
  - e. All of these answers suggest the misuse of authority

ANS: C PG: 6 TYPE: Applied SOURCE: New

- 12. One of your friends scored in the 90s on her last ten exams. Although she has been studying for this exam and feels prepared, she told you, "I know I'm going to flunk this exam. I've been doing too well on exams." Your friend is committing the error of
  - a. illogical reasoning
  - b. theory
  - c. inaccurate observation
  - d. selective observation
  - e. overgeneralization

ANS: A PG: 7 TYPE: Applied SOURCE: Pickup

- 13. Some people claim that social scientists merely document the obvious. How might a social scientist respond to this claim?
  - a. What appears obvious may be incorrect.
  - b. What appears obvious may not have been, before the findings of the social scientist were reported.
  - c. People may know something is so, without knowing why it is so—social science aims at both tasks.
  - d. It is important to test things that everyone already knew they could be wrong
  - e. All of these answers are responses to the claim.

ANS: E PG: 12 TYPE: Conceptual SOURCE: Modified

- 14. After examining divorce court records, Jenny concludes that Moms are more likely than Dads to obtain custody of their children. This statement is:
  - a. Nomothetic.
  - b. Idiographic
  - c. Probabilistic
  - d. Nomothetic and probabilistic
  - e. Idiographic and probabilistic

ANS: D PG: 21 TYPE: Conceptual SOURCE: Modified

- 15. Which of the following is NOT an aim of social science?
  - a. judging social values
  - b. predicting social phenomena
  - c. understanding social regularities
  - d. explaining social regularities
  - e. all of these choices are aims of social science

ANS: A PG: 11 TYPE: Factual SOURCE: Pickup

- 16. Sally begins to think about the grades she receives for class participation. Recalling her prior semester she writes down that she received a 10/10 from Ms. Smith and a 9/10 from Ms. Baxter, 4/10 from Mr. Cagney, 3/10 from Mr. Wiley and 10/10 from Ms. Dona. Examining the list she realizes that she spoke a lot in classes with Smith, Baxter and Dona and very little in her other two classes. She also notices that the classes in which she spoke have female instructors and that she rarely spoke in the two classes with male instructors. She then begins to list all her college courses, the gender of the professor and whether or not she spoke in class. She notices that she tends to speak in classes where the instructor is female and rarely speaks when the instructor is male and that her class participation grades are higher when she speaks more. Sally is using
  - a. Inductive reasoning
  - b. Qualitative analysis
  - c. Deductive reasoning
  - d. Ordinary human inquiry
  - e. Nomothetic reasoning

ANS: A PG: 22 TYPE: Conceptual SOURCE: Modified

- 17. Safeguards against error in social research include
  - a. making observations more deliberate
  - b. replications under slightly varying circumstances
  - c. the use of simple and complex measurement devices
  - d. totally independent replications by other researchers
  - e. all of these choices are safeguards against error

ANS: E PG: 6 TYPE: Factual SOURCE: Pickup

- 18. In comparison to nonscientific inquiry, scientific inquiry
  - a. takes special precaution to avoid error
  - b. is a semiconscious activity
  - c. is an activity where we are less concerned about making mistakes
  - d. guards against all errors
  - e. none of these choices are true

ANS: A PG: 7 TYPE: Factual SOURCE: Pickup

- 19. An independent variable is a
  - a. theoretical concept
  - b. variable influencing other variables
  - c. variable influenced by other variables
  - d. set of attributes
  - e. none of these choices are correct

ANS: B PG: 18 TYPE: Factual SOURCE: Modified

- 20. Which of the following is most clearly a list of variables?
  - a. female, Jewish, educational level
  - b. plumber, professor, dentist
  - c. occupation, political party preference, birthrate
  - d. 21, violent, social class
  - e. dishonest, conservative, farmer

ANS: C PG: 15 TYPE: Application SOURCE: Modified

- 21. Samantha agreed to participate in a study about use of health care facilities. After completing a questionnaire on her use of various medical facilities she declined to participate in an interview session. The researchers insisted that since she agreed to participate she had to participate in the interview session. Which of the following ethical considerations were the researchers most clearly violating?
  - a. No harm to subjects
  - b. Voluntary participation
  - c. The unfairness of revealing damaging information
  - d. Samantha's right to a nomothetic explanation
  - e. Samantha's right to an idiographic explanation

ANS: B PG: 26 TYPE: Conceptual SOURCE: Pickup

- 22. Which of the following views of reality does the statement "Beauty is in the eyes of the beholder" best reflect?
  - a. The postmodern view
  - b. The premodern view
  - c. The modern view
  - d. The ultramodern view
  - e. All of these choices are correct

ANS: C PG: 8 TYPE: Conceptual SOURCE: Pickup

- 23. Which of the following is TRUE of quantification?
  - a. It often makes our observations more explicit
  - b. It can make it easier to aggregate data
  - c. It can make it easier to summarize data
  - d. It opens up the possibility of statistical analysis
  - e. All of these choices are TRUE

ANS: E PG: 23 TYPE: Factual SOURCE: Pickup

- 24. The two pillars of science are:
  - a. Qualitative and quantitative data
  - b. Logic and observation
  - c. Idiographic and nomothetic explanation
  - d. Variable and attributes
  - e. Tradition and authority

ANS: B PG: 10 TYPE: Factual SOURCE: Pickup

- 25. Nomothetic explanations
  - a. Enable us to fully understand the causes of a particular instance
  - b. Give us an exhaustive understanding of a particular instance
  - c. Seek to explain a class or situations or events
  - d. Are not useful in everyday life
  - e. Are less useful than probabilistic explanations

ANS: C PG: 21 TYPE: Applied SOURCE: Modified

- 26. Which of the following statements is TRUE?
  - a. The qualitative approach tends to align with idiographic explanations
  - b. The qualitative approach tends to align with nomothetic explanations
  - c. The qualitative approach must align with an idiographic explanation
  - d. The qualitative approach must align with a nomothetic explanation
  - e. There is no relationship between the qualitative approach and the type of explanation

ANS: A PG: 25 TYPE: Factual SOURCE: New

- 27. Which view acknowledges that there is no objective reality only subjective views?
  - a. naïve realism
  - b. postmodernism
  - c. the modern view
  - d. traditionalism
  - e. all of these choices are correct

ANS: B PG: 10 TYPE: Factual SOURCE: New

# TRUE-FALSE QUESTIONS

1. If an exception is found to a social pattern, the pattern is invalid.

ANS: F PG: 12 TYPE: Conceptual SOURCE: Modified

2. Theory that is logically inconsistent is acceptable as long as it is empirically accurate.

ANS: F PG: 4 TYPE: Factual SOURCE: Pickup

3.	Agreement reality hinders our attempts to find out for ourselves.						
	ANS: T	PG: 5	TYPE:	Factual	SOURCE: New		
	4. Data collection deals with the logical aspect of science.						
	ANS: F	PG: 10	TYPE:	Factual	SOURCE: New		
5.	We study people for the purpose of seeing how variables are related to one another.						
	ANS: T	PGS: 14-15	TYPE:	Factual	SOURCE: Pickup		
6.	The variable <i>plumber</i> has the attribute of occupation.						
	ANS: F	PGS: 14-15	TYPE:	Conceptual	SOURCE: Pickup		
7.	The misuse of authority refers to experts who discuss their area of expertise in public.						
	ANS: F	PG: 6	TYPE:	Factual	SOURCE: Pickup		
8.	Social scientific theory aims at the determination of logical and persistent patterns of regularities in social life.						
	ANS: T	PGS: 13-14	TYPE:	Factual	SOURCE: Pickup		
9.	We can predict without understanding.						
	ANS: T	PG: 5	TYPE:	Factual	SOURCE: Pickup		
10.	The premodern view assumes that we see things as they really are.						
	ANS: T	PG: 8	TYPE:	Factual	SOURCE: Pickup		
11.	Every obs	ervation is quantita	tive at th	ne outset.			
	ANS: F	PG: 23	TYPE:	Factual	SOURCE: Pickup		
12.	Theories of	describe the relation	nship we	might logical	ly expect between variables.		
	ANS: T	PG:17	TYPE:	Factual	SOURCE: Pickup		
13.	Idiograph	ic explanations pro	vide part	ial explanation	ns of a particular instance.		
	ANS: F	PG: 19	TYPE:	Factual	SOURCE: Pickup		

14.	Deductive reasoning refers to movement from a set of specific observations to the
	discovery of a pattern.

ANS: F PG: 22 TYPE: Factual SOURCE: Pickup

15. Nomothetic explanations are more easily achieved through quantification.

ANS: T PG: 21 TYPE: Factual SOURCE: Pickup

16. Nomothetic explanations are more useful than idiographic reasoning.

ANS: F PG: 21 TYPE: Factual SOURCE: New

17. Qualitative data tends to be richer in meaning that quantified data.

ANS: T PG: 24 TYPE: Factual SOURCE: New

18. There is only one correct way to do social research.

ANS: F PG: 19 TYPE: Factual SOURCE: New

19. Social regularities are probabilistic patterns.

ANS: T PG: 12 TYPE: Factual SOURCE: New

20. Social theory focuses on "how things should be."

ANS: F PG: 10 TYPE: Factual SOURCE: New

### **ESSAYS**

- 1. Describe how scientific inquiry differs from nonscientific inquiry.
- 2. Discuss how scientific inquiry tries to avoid the common pitfalls that produce error in nonscientific inquiry.
- 3. Name five sociological variables and their attributes.
- 4. Explain what is meant by the statement "Tradition and authority are the two-edged swords in the search for knowledge about the world."