

Chapter 2

Sociological Investigation

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Author's Note for Chapter 2

Sociology is defined by its perspective, or point of view. Applying that perspective to the task of gathering knowledge about the social world brings us to sociological investigation. Chapter 1 has explained that sociology is a multi-paradigmatic discipline in terms of theory. It is also true that there are many ways to approach sociological investigation. In part, sociology is a social science. Therefore, the chapter begins with an explanation of scientific inquiry. But some sociologists, aware of the limitation of focusing on observable action and quantitative data, support a more qualitative inquiry that focuses on interpretation and meaning. In addition, some sociologists, aware of the limitation of science imposed by its struggle to claim objectivity, embrace a more critical and activist vision of research in pursuit of social change.

In short, scientific sociology, qualitative sociology, and activist or critical sociology all fall within the "big tent" of our discipline. Many sociologists favor one methodological approach; many blend them in various ways. Notice, too, that these approaches roughly correspond to the differences in theoretical orientations: scientific sociology is consistent with structural-function theory, interpretive sociology shows commonality with symbolic-interaction theory, and critical sociology shares traits with various social-conflict and feminist theories.

Keep students focused on the reason we study the social world in the first place—there is much to learn and this knowledge can help us live richer lives and improve our society. Consider the Power of Society figure on page 28, which shows how race doubles the odds for some (white) young men to earn a college degree just as it increases the odds six-fold for other young men (African American) of ending up in jail. To shape our world, first we must understand it.

Chapter 2 also explains and illustrates four major methods of doing research:

- Experimental research, which is heavily used in the sciences such as psychology and is occasionally used in sociology, is illustrated with the classic research of Philip Zimbardo about the effects of prison life on people who live or work there.
- Survey research, which is widely used in sociology, is illustrated by the research of Lois Benjamin into the power of race and racism as experienced by highly successful African American women and men.
- Fieldwork research, used by both sociologists and anthropologists, is illustrated by the participant observation research carried out by Joseph Ewoodzie, investigating the lives of homeless people in Jackson, Mississippi.
- Use of available data, which is done by sociologists, historians, and others, is illustrated by the historical study of culture and achievement in Puritan Boston and Quaker Philadelphia carried out by E. Digby Baltzell.

Additional Content in REVEL

REVEL is the electronic version of this text that provides interactive learning, student learning assessment, and additional readings and engaging video—at remarkably low cost. All of the REVEL content has been developed by John Macionis and is seamlessly integrated into the text. For each chapter, REVEL expands and deepens student learning with rich content including:

In Greater Depth—This interactive graphic allows students to go deeper into the Power of Society figure at the beginning of the chapter, in this case showing how race is linked to average income for young males.

Video—Many of the REVEL videos explain the value of sociological training to the world of work. In this chapter, students can access “Sociology on the Job: Sociological Theory and Research,” in which the director of institutional research at a major university explains how she relies on her sociological training to perform her job. A second video explores how sociologists study inequality.

Journals—In this chapter’s short writing exercise, students look for various types of “truth” in their own lives, think of fieldwork experiences in their own lives, and consider the place of science in sociology.

Boxed Features—One special feature, not found in the printed book, asks “Is What We Read in the Popular Press True? The Case of Premarital Sex.” A second special boxed feature explores how people can mislead with statistics.

Surveys—These interactive exercises ask students to assess their own attitudes and behavior and compare themselves to others in the United States or to population in other countries. This chapter’s survey asks students to assess their critical thinking skills.

Social Explorer—An interactive exercise that uses social mapping to explore societal dynamics across the United States. This chapter’s exercise leads students through an exploration of minority populations across the United States and in their own local communities.

In Review—These interactive “drag and drop” exercises allow students to assess their learning. In this chapter, In Review exercises focus on understanding sociology’s three major research orientations.

Read the Document—These primary readings allow students to read important sociologists in their own words. All readings have been carefully chosen and edited to provide rich learning accessible to all students. This chapter’s reading is Kim Price-Glynn’s field study, “Strip Club: Gender, Power, and Sex Work.”

Interactive Comparison Maps—These interactive graphics allows students to manipulate social maps to link variables. In this chapter, students examine a possible link between U.S. Census participation rates and average income.

Learning Objectives

- 2.1: Explain how scientific evidence often challenges common sense.
 - 2.2: Describe sociology’s three research orientations.
 - 2.3: Identify the importance of gender and ethics in sociological research.
 - 2.4: Explain why a researcher might choose each of sociology’s research methods.
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Detailed Chapter Outline

I. The Basics of Sociological Investigation

L.O. 2.1: Explain how scientific evidence often challenges common sense.

A. Sociological investigation begins with two key requirements:

1. Apply the sociological perspective.
2. Be curious and ask questions.

B. *Sociology on the Job: What Is Sociology?* In this video, Professor Tracy Xavia Karner, PhD, explores the ways in which graduates use sociology in their employment. She explains the different fields of sociology and how understanding sociology more in-depth can help in all aspects of everyday life.

C. Sociology is a type of **science**, *a logical system that bases knowledge on direct, systematic observation*. Science is one form of *truth*. Scientific knowledge is based on **empirical evidence**, *or information we can verify with our senses*.

D. Scientific evidence sometimes contradicts common sense explanations of social behavior.

1. SEEING SOCIOLOGY IN EVERYDAY LIFE: *Is What We Read in the Popular Press True? The Case of Extramarital Sex*. Each day we see stories

in newspapers and magazines that tell us what people think and how they behave. But a lot of what we read turns out to be misleading or even untrue. Take the issue of extramarital sex. A look at the cover of many of the so-called women's magazines you find in the checkout aisle at the supermarket or a quick reading of the advice column in your local newspaper might lead you to think that extramarital sex is a major issue facing married couples.

II. Three Ways to Do Sociology

L.O. 2.2: Describe sociology's three research orientations.

There are three ways to do research in sociology: *positivist sociology*, *interpretive sociology*, and *critical sociology*.

A. Positivist sociology.

1. **Positivist sociology** is *the study of society based on systematic observation of social behavior*. The scientific orientation to knowing, called *positivism*, assumes that an objective reality exists.
2. **Concepts** are *mental constructs that represent some part of the world in a simplified form*.
3. **Variables** are *concepts whose value changes from case to case*.
4. **Measurement** is *the procedure for determining the value of a variable in a specific case*.
 - a. Statistical measures are frequently used to describe populations as a whole.
 - b. This requires that researchers **operationalize variables**, which means *specifying exactly what is to be measured before assigning a value to a variable*.
5. SEEING SOCIOLOGY IN EVERYDAY LIFE BOX (p. 32): *Three Useful (and Simple) Descriptive Statistics*.
 - a. The **mode** is the value that occurs most often in a series of numbers.
 - b. The **mean** refers to the arithmetic average of a series of numbers.
 - c. The **median** is the value that occurs midway in a series of numbers arranged from lowest to highest.
6. For a measurement to be useful, it must be reliable and valid.
 - a. **Reliability** refers to *consistency in measurement*.
 - b. **Validity** means *precision in measuring exactly what one intends to measure*.
7. Relationships among variables.
 - a. **Cause and effect** is *a relationship in which change in one variable causes change in another*.
 - i. The **independent variable** is *the variable that causes the change*.
 - ii. The **dependent variable** is *the variable that changes*.
 - b. Cause-and-effect relationships allow us to predict how one pattern of behavior will produce another.
 - c. **Correlation** exists *when two (or more) variables change together*.

- i. **Spurious correlation** means *an apparent, although false, association between two (or more) variables caused by some other variable.*
 - ii. Spurious correlations can be discovered through scientific **control**, *the ability to neutralize the effect of one variable in order to assess relationships among other variables.*
8. Sociologists strive for **objectivity**, *personal neutrality in conducting research*, whenever possible, following Max Weber's model of value-free research.
 - a. One way to limit distortion caused by personal values is through **replication**, or *repetition of research by others in order to assess its accuracy.*
9. Some limitations of scientific sociology:
 - a. Human behavior is too complex to allow sociologists to predict precisely any individual's actions.
 - b. Because humans respond to their surroundings, the mere presence of a researcher may affect the behavior being studied.
 - c. Social patterns vary; what is true in one time or place may not hold true in another.
 - d. Because sociologists are part of the social world they study, being value-free when conducting social research is difficult.
- B. Interpretive sociology.
 1. Max Weber, who pioneered this framework, argued that the focus of sociology is interpretation. **Interpretive sociology** is *the study of society that focuses on the meanings people attach to their social world.*
 2. The interpretive sociologist's job is not just to observe what people do but to share in their world of meaning and come to appreciate why they act as they do.
- C. Critical sociology.
 1. Karl Marx, who founded critical sociology, rejected the idea that society exists as a "natural" system with a fixed order. **Critical sociology** is *the study of society that focuses on the need for social change.*
 2. The point is not merely to study the world as it is, but to change it.
- D. Research orientations and theory.
 1. Is there a link between research orientations and sociological theory?
 2. The positivist orientation and the structural-functional approach are both concerned with understanding society as it is.
 3. Interpretive sociology and the symbolic-interaction approach focus on the meanings people attach to their social world.
 4. Critical sociology and the social-conflict approach both seek to reduce social inequality.

III. Gender and Research

L.O. 2.3: Identify the importance of gender and ethics in sociological research.

- A. Research is affected by **gender**, *the personal traits and social positions that members of a society attach to being female and male*, in five ways:
 1. Androcentricity, or approaching an issue from the male perspective only.
 2. Overgeneralizing, or using data drawn from studying only one sex to support conclusions about human behavior in general.
 3. Gender blindness, or not considering the variable of gender at all.
 4. Double standards, or judging men and women differently.
 5. Interference because a subject reacts to the sex of the researcher.
- B. The American Sociological Association has established formal guidelines for conducting research.

IV. Research Ethics

L.O. 2.4: Explain why a researcher might choose each of sociology's research methods.

- A. Like all researchers, sociologists must be aware that research can harm as well as help subjects or communities. For this reason, the American Sociological Association (ASA)—the major professional association of sociologists in North America—has established formal guidelines for conducting research (1997).

V. Research Methods

L.O. 2.4: Explain why a researcher might choose each of sociology's research methods.

A **research method** is *a systematic plan for conducting research*. Four commonly used research methods are:

- A. An **experiment** is *a research method for investigating cause and effect under highly controlled conditions*. Experimental research is explanatory, meaning that it asks not just what happens but why. Typically, researchers conduct experiments to test hypotheses, unverified statements of a relationship between variables. Most experiments are conducted in laboratories and employ experimental and control groups.
 1. **THINKING ABOUT DIVERSITY: RACE, CLASS, AND GENDER BOX** (p. 40)—*Studying the Lives of Hispanics*. Gerardo and Barbara Marin (1991) have identified five areas of concern in conducting research with Hispanics:
 - a. Be careful with terms.
 - b. Realize that cultural values may differ.
 - c. Realize that family dynamics may vary.
 - d. Be aware that attitudes toward time and efficiency may vary.
 - e. Realize that attitudes toward personal space may vary.
 2. *The Basics: Sociological Theory and Research*. This video explores sociological theory and research. It focuses on three perspectives: structural functionalism, social conflict theory, and symbolic interactionism. Scientists use these three perspectives to conduct research to further understand our social world.
 3. The **Hawthorne effect** is *a change in a subject's behavior caused by the awareness of being studied*.

4. The Stanford County Prison study was an experiment conducted by Philip Zimbardo (1972) that supported the notion that the character of prison itself and not the personalities of prisoners and guards, causes prison violence.
- B. A **survey** is a research method in which subjects respond to a series of statements or questions in a questionnaire or an interview. Survey research is usually descriptive rather than explanatory.
1. Surveys are directed at **populations**, the people who are the focus of research. Usually we study a **sample**, a part of a population that represents the whole. Random sampling is commonly used to be sure that the sample is actually representative of the entire population.
 2. Surveys may involve **questionnaires**, a series of written questions a researcher presents to subjects. Questionnaires may be closed-ended or open-ended. Most surveys are self-administered and must be carefully pretested.
 3. Surveys may also take the form of **interviews**, a series of questions administered in person by a researcher to respondents.
 4. THINKING ABOUT DIVERSITY: RACE, CLASS, & GENDER BOX (p. 46): Lois Benjamin's *African American Elite: Using Tables in Research*. A table provides a lot of information in a small amount of space, so learning to read tables can increase your reading efficiency.
 - a. Lois Benjamin (1991) used interviews and snowball sampling to study 100 elite African Americans. Benjamin concluded that, despite the improving social standing of African Americans, Blacks in the United States still experience racial hostility.
- C. **Participant observation** is a method by which researchers systematically observe people while joining in their routine activities. Participant observation research is descriptive and often exploratory. It is normally qualitative research, inquiry based on subjective impressions.
1. *Strip Club: Gender, Power, and Sex Work*, by Kim Price-Glynn. Author Kim Price-Glynn spent fourteen months working as a cocktail waitress at a strip club. Her participant-observation research offers an intimate look at the working lives of the club's strippers, bartenders, owner, bouncers, cocktail waitresses, and patrons. Students will understand how gender inequalities are reproduced in such a setting through the everyday interactions of customers and workers.
 2. William Whyte (1943) utilized this approach to study social life in a poor neighborhood in Boston. His research, published in the book *Street Corner Society*, illustrates the value of using a key informant in field research.
- D. Using available data: Existing sources.
1. Sometimes, sociologists analyze existing sources, data collection by others.
 2. *Where in the United States Do You Find the Largest Minority Populations?* In this activity, students perform a sociological investigation on their own to explore minority populations across the United States.
 3. E. Digby Baltzell's (1979b) *Puritan Boston and Quaker Philadelphia* explored reasons for the prominence of New Englanders in national life. This

study exemplifies a researcher's power to analyze the past and better understand the present by using historical sources.

I. The Interplay of Theory and Method

Illustrate the use of inductive and deductive logical thought.

- A. **Inductive logical thought** is *reasoning that builds specific observations into general theory*.
- B. **Deductive logical thought** is *reasoning that transforms general ideas into specific hypotheses suitable for scientific testing*.
- C. Most sociological research uses both types of logical thought.

VII. Putting It All Together: Ten Steps in Sociological Investigation

Recall the ten important steps in carrying out sociological research.

- A. **There are ten steps in the process of carrying out sociological investigation.**
 1. What is your topic?
 2. What have others already learned?
 3. What, exactly, are your questions?
 4. What will you need to carry out research?
 5. Are there ethical concerns?
 6. What method will you use?
 7. How will you record the data?
 8. What do the data tell you?
 9. What are your conclusions?
 10. How can you share what you've learned?
- B. *Social Inequalities: Sociological Theory and Research*. This video discusses what theory is and how sociologists use theory. Theories allow sociologists to make the complexities of the world comprehensible.
- C. **CONTROVERSY & DEBATE: *Can People Lie with Statistics?*** The best way not to fall prey to statistical manipulation is to understand how people can mislead with statistics:
 1. People select their data, choosing what variables to display, the time frame, and the scale of the measurement.
 2. People interpret their data.
 3. People use graphs to "spin" the truth.

VIII. Seeing Sociology in Everyday Life photo essay (pp. 54–55). Use this essay to spark discussion of how research can give us a deeper understand of our everyday lives (in this case, the importance of friendship).

REVEL Media

IN GREATER DEPTH [*graphic*] The Power of Society to Influence Our Life Chances: Average Income, Males 25–34, by Race, found in Module 2.1.

VIDEO Sociology on the Job: Sociological Theory and Research *A director of institutional research at a major university explains how she relies on her sociology training as she oversees the collection and reporting of various types of data to the government and to other research organizations*, found in Module 2.2.

JOURNAL Different Types of Truth, found in Module 2.3.

SURVEY The Relative Importance of Science and Religion: Rate Yourself, found in Module 2.4.

SEEING SOCIOLOGY IN EVERY DAY LIFE [boxed feature] Is What We Read in the Popular Press True? The Case of Extramarital Sex, found in Module 2.5.

SURVEY Critical Thinking about Information: Rate Yourself, found in Module 2.6.

IN REVIEW Three Research Orientations, found in Module 2.7.

VIDEO The Basics: Sociological Theory and Research *This video explains how sociologists use the major theoretical approaches when they conduct research and explores the historical context in which each of these theoretical approaches developed, specifically in the work of Emile Durkheim, Karl Marx, and Max Weber*, found in Module 2.8.

READ THE DOCUMENT *Strip Club: Gender, Power, and Sex Work* by Kim Price-Glynn *The author's participant observation research—fourteen months spent working as a cocktail waitress at a strip club—offers an intimate look at the working lives of the club's strippers, bartenders, owner, bouncers, waitresses, and patrons and demonstrates how gender inequalities are reproduced in such a setting through the everyday interactions of customers and workers*, found in Module 2.9.

JOURNAL Understanding Participant Observation, found in Module 2.10.

COMPARISON MAP Census Participation Rates/Median Household Income across the United States, found in Module 2.11.

SOCIAL EXPLORER Explore minority populations in your local community and in counties across the United States, found in Module 2.12.

IN REVIEW Research Methods, found in Module 2.13.

VIDEO Social Inequalities: Sociological Theory and Research *This video looks at how sociologists study inequality—specifically, how using a quantitative measure called the Gini coefficient allows them to study inequality over time and from one population to another, and how using qualitative methods such as participant observation and interviews allows in-depth study of communities and social groups*, found in Module 2.14.

CONTROVERSY AND DEBATE [boxed feature] Can People Lie with Statistics? found in Module 2.15.

SHARED WRITING Sociology and Science, found in Module 2.16.

SEEING SOCIOLOGY IN EVERYDAY LIFE [photo gallery] What are friends for? found in Module 2.17.

John's Chapter Close-Up: The Census Bureau Paints a Picture of the United States

The Census Bureau has been collecting data about the population of the United States for more than 200 years. Throughout this text, you will find data gathered, processed, and presented by the Census Bureau (and other government agencies) dealing with family income, poverty rates, the

various languages spoken in this country, the share of the population living in families, and hundreds of other social measures.

The people of the United States participate in this grand data project. As shown in National Map 2–1 on page 50 of the text, about three-fourths of U.S. households returned a census form in 2010. That’s pretty remarkable, and that share beats the return rate typically achieved by sociologists. Of course, the Census Bureau benefits from one factor that no other researchers can claim—the power of government. This is because returning your census form is mandated by law. (Not that anyone, to my knowledge, has ever been prosecuted for failing to do so.)

But collecting numbers is only one step on the path to understanding. Ask the class to look at National Map 2–1 in the text. It is clear that census tracts differ in terms of participation rate. Generally, we see higher return rates in the upper Midwest and the Plains States. Relatively high rates of participation are also found along both coasts. We also see lower return rates in much of the Southwest. The reasons for this pattern are far from obvious and, no doubt, any factors are involved. People with higher education have the skills that make them more likely to participate in the census work. On the other hand, people with less schooling or those who are challenged by lower levels of verbal and numerical literacy are less likely to participate.

Most social patterns have multiple causes, and sociological research typically deals with *one* or *some* of them. I also mention to students that what sociologists consider to be significant correlations are almost always below 0.5, which means that the independent variable in question explains just $(0.5)^2$ or one-fourth of the variation in the dependent variable. In short, social life is the interplay of many, relatively weak variables and almost every social pattern has many, many social causes.

John’s Personal Video Suggestion

One of the largest and most widely used sources of research data about the world is the Population Reference Bureau. This organization collects, analyzes, and issues reports about all sorts of patterns and trends, mostly having to do with population. To give the class some idea of the challenges faced by extending the reach of research around the world, use this eight minute video featuring Carl Haub, a senior researcher and demographer at PRB. Use a search engine and look for “Distilled Demographics: Where Do Population Data Come From?”

Research for a Cutting-Edge Classroom

For each chapter of the text, I am happy to share a short, Power-Point based presentation informed by very recent research. These presentations deal with highly current and typically controversial issues that are in the news and are part of the country’s political dialogue. Each presentation provides a clear statement of the issue, several slides that present recent research findings from organizations including Pew, Gallup, or other organizations, notes that help instructors develop the importance of the data, and questions for class discussion.

To access these PowerPoint presentations from REVEL, after creating a course with either *Sociology 16/e* or *Society: The Basics 14/e*, enter the course and hover over the left-hand navigation menu. The PowerPoints (as well as the Test Item File, Instructor's Manual, and other resources) can be found in the "Resources" tab.

From outside of REVEL, please go to www.pearsonhigerhed.com and navigate/search for *Sociology 16/e* or *Society: The Basics 14/e*. The PowerPoints can be found under the "Resources" tab.

In this chapter, the cutting edge classroom presentation is a close-up look at today's General Social Survey, which has been tracking important social trends for more than forty years. The GSS also operates a webpage that provides data that can be accessed and used by students.

Supplemental Lecture Material

Academic Freedom and "Political Correctness"

James S. Coleman, a highly distinguished scholar and past president of the American Sociological Association, published an intensely controversial article arguing that what conservatives derisively call the "political correctness" movement poses a real threat to academic freedom.

Traditionally, professors have viewed university administrators as the principal enemies of academic freedom. But Coleman sees a new and more serious threat resulting from collegial pressure. He writes, "The greatest enemy of academic freedom is the norms that exist about what kinds of questions may be raised in research (and in teaching as well) and what kinds of questions may not be raised.... The taboos that a sociologist is most likely to encounter are those concerning questions of differences between genders or differences among races which might be genetic in origin" (p. 28).

Such taboos are primarily designed to prevent attacks on what Coleman terms "the policies of conspicuous benevolence." "There are certain policies, certain public activities, that have the property that they stem from benevolent intentions toward others less fortunate or in some way oppressed—policies intended to aid the poor, or to aid blacks or Hispanics or women. Any research that would hinder these policies is subject to much disapproval and attack" (p. 34).

For example, Coleman's widely reported research into educational opportunity among the races discovered, among other things, that "....teachers' scores on vocabulary tests were related to the verbal achievements of students...." (p. 30). It is widely known that African-American teachers, "....themselves products of segregated school systems... (are) on the whole less well prepared, less qualified, with lower verbal skills, than their white counterparts" (pp. 30–31).

These observations lead to the disturbing conclusion that African-American students "....would do less well, on average, under black teachers than under white teachers. But the role-modeling or cultural-difference hypotheses implicit in much current theorizing would lead to the opposite conjecture, that they would be doing better, on average, under black teachers. If the first conjecture were right, it would have some disturbing implications. One would be that a major source of inequality of educational opportunity for black students was the fact that they were

being taught by black teachers. Another, directly relevant to the policy issue, would be that both black and white students would have greater educational opportunity if they were not taught by these teachers. This potential implication was the cause of our not asking the question that followed naturally from our research” (p. 31). And this, according to Coleman, is the real problem: pressure for “political correctness” muzzles the impulse to ask the crucial questions. Researchers who are afraid to challenge the policies of conspicuous benevolence for fear of censure by their colleagues will be unable to investigate possible negative latent consequences of these policies, with the end result being failure to achieve the very goals promoted by their supporters.

There are several ways out of this dilemma. Coleman suggests an alteration in the hierarchy of values held within the academic community: “If, in the hierarchy of values held by the academic community of which one is a part, the value of freedom of inquiry is higher than the value of equality (the value that gives rise to conspicuous benevolence), then such constraints, such self-suppression of research into inconvenient questions, will no longer be effective” (p. 34).

Source:

Coleman, James S. “A Quiet Threat to Academic Freedom.” *National Review* XLII, 2 (March 18, 1991), pp. 28–34.

Discussion Questions

1. Do you feel pressure to ask certain questions in research, and *not* to ask other questions? What are some other examples of research topics that might prompt disapproval from colleagues?
2. How would sociologists who disagreed with Coleman defend their position?

Supplemental Lecture Material

The False God of Numbers

Many articles have been written about how statistics can be misused in order to accomplish various political goals. In other words, numbers may be employed to support oversimplified conclusions. For example, consider this statement:

“New air quality standards must be enacted because they will prevent precisely 15,000 deaths a year from respiration ailments.” Sounds simple, doesn’t it? Yet the problem is a thorny one. One might ask whether all those respiratory deaths are due only to air pollution. And what about the cost of new standards to industry? How will these affect the economy in the long run?

Here are a few other examples begging alternate explanations or further exploration:

- U.S. quality of life is diminishing since, according to one study, the average one-way commute now takes forty seconds longer than it did a decade earlier.
- High divorce rates are seen as evidence of the breakdown of the family and poorer conditions for children.
- Because corporations seek to save money by laying off full-time employees, the number of people working part-time or on a contract basis has increased.

All in all, these questions are complex and multidimensional. It is not likely that one answer alone is sufficient. Yet politicians and the media often make reality sound simpler and more straightforward than it really is.

Source

“Keeping Score: Big Social Changes Revive the False God of Numbers.” *The New York Times* (August 17, 1997), pp. 1 and 4.

Discussion Questions:

1. What rules of research are these statements violating?
2. Why are politicians so willing to simplify statistics? How do social researchers handle statistics more carefully? In what way does their responsibility to society differ from that of politicians?
3. Name several alternative conclusions that might be drawn from some of the statements presented above.

Activity: Look through several newspaper stories that provide statistical data in support of some claim. Assess the extent to which the data are valid. Does the article present variables that appear to be correlated? Are any claims made about cause-and-effect? Is there a sample used? If so, what population does the sample appear to represent?

Supplemental Lecture Material

Separating the Wheat and the Chaff: Spurious Correlations

Researchers commonly encounter behaviors that seem to be related to one another in some way. In the case of the number of miles a car is driven and its gas consumption, there is an obvious and genuine connection. But simply because two behaviors share a significant statistical correlation does not always prove that there is a real relationship between the two variables.

With complex systems, it may be difficult to determine if a statistical correlation is genuine or completely coincidental and spurious. While the continental drift of the West Coast of North America may be highly correlated with the growth of the federal deficit in recent decades, it is unlikely that there is a meaningful connection between the two. Apparently, there is also a strong negative correlation between the number of PhDs and the number of mules in a state. As one commentator remarked, “Are the PhDs created when mules die?” Similarly, a positive correlation exists between ice cream sales and deaths by drowning. The same researcher humorously asked if “people buy more ice cream when they hear of a drowning?” Even when a connection exists, it may be trivial or misleading. In the end, correlation is worthless without interpretation, and that interpretation should be as well-grounded as possible. Consider the following examples:

- My favorite spurious correlation is between shoe size and the ability to solve mathematical equations (or any other task requiring schooling). The students usually express a lot of

puzzlement over that one, until you point out that children's feet tend to grow as they go through school. (Wuensch, p. 3)

- One . . . [example of a spurious connection] is the strong positive correlation between places of worship in a locale and the number of bars in the same vicinity. The explanation is obvious: Religion drives people to drink. (Beins, p. 3)

In most research problems, however, the spurious nature of the correlation may not be immediately clear, requiring additional information and careful interpretation to establish the real nature of the connection between the variables. Indeed, important issues may be riding on correctly evaluating and understanding the correlation.

[A] story I sometimes use is based on a *Nova* television show from a few years back. Chinese medical researchers had found a correlation between incidence of human esophageal cancer and the incidence of tumors in chickens. Were the chickens the source of the human cancers? Were the humans giving the chickens their tumors? What they eventually found was that regional preferences for a fermented cabbage dish and minerals in the soil in which the cabbage was grown gave both the humans, who ate the cabbage, and the chickens, who ate the scraps, their tumors. (Street, p. 3)

Source:

Staff. 1993. "Examples of Spuriousness," in *Teaching Methods*. Fall (2).

Discussion Questions:

1. What steps can individual researchers adopt to prevent spurious correlations? What can the community of researchers do?
2. What spurious correlations have you come across in your own thinking?
3. Can you think of spurious correlations that have had important effects upon history?

Using the ASA Journal *Teaching Sociology* in Your Classroom

Realistically, a small proportion of students who enroll in the introductory course will major in sociology. At the same time, one of the goals of any introductory sociology class is to help students to become "critical thinkers." Norma J. Shepelak, Anita Curry-Jackson, and Vernon L. Moore have engineered an interesting format for teaching critical thinking skills in the college classroom ("Critical Thinking in Introductory Sociology Classes: A Program of Implementation and Evaluation," *Teaching Sociology*, 20, January 1992, pp. 18–27). The authors believe that the introductory sociology course should encourage students to "...respect divergent viewpoints, to review relevant evidence, and to value intellectual honesty. Because the student is a partner in the entire learning enterprise, he or she must have a 'spirit' and a willingness for acquiring, developing, and using critical reasoning skills." Shepelak and her coauthors discuss how they conceptualize critical thinking for the sociology curriculum and also offer a strategy for assessing students' developing abilities as "critical thinkers."

Essay Topics

1. What are the advantages and disadvantages of each of sociology's main approaches to doing research: scientific sociology, interpretative sociology, and critical sociology? How does each position offer a critique of the others?
2. The text discusses how sociologists operationalize the concept of social class. How would you operationalize important concepts such as intelligence, aggressiveness, femininity, or level of commitment to religion?
3. Discuss the links between the three methodological approaches to sociology and the three theoretical approaches?
4. Suppose you are a sociologist studying alleged police brutality. Construct two arguments, one proposing that you ought to be as objective as possible in your work and let others use your results as they may choose, and the other suggesting that, while striving for accuracy, you should take a stand against any injustices which your research may uncover. Which position do you find more convincing? Why?
5. What are ways that gender can shape sociological research?
6. To a young researcher, what are the advantages of using the method of participant observation? What are the disadvantages?
7. Do you think Zimbardo's Stanford County Prison experiment was ethical, or should he have been prevented from conducting this study? Defend your position.
8. Explain how you would develop a representative sample of students on your campus in order to conduct some survey research.
9. What are the advantages and disadvantages of both open-ended and closed-ended questions in survey research?
10. Develop several criticisms of the research methods employed in Lois Benjamin's study of elite African Americans.
11. What are major steps that together make up the ideal experiment? What type of question leads a research to choose this method? Point to several limitations of experimental research.