Sociology (Canadian) 9th edition Macionis Solutions Manual

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Chapter 2
Sociological Investigation

Chapter Outline

I. Basics of Sociological Investigation.

A. Scientific evidence challenges common sense with:

1. The sociological perspective.
2. Curiosity and questions.

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

C. Scientific evidence represents a critique of common sense explanations of social behaviour.

II. Three Ways to Do Sociology.

Three ways to conduct sociological investigations are: *scientific sociology, interpretive sociology and critical sociology.*

A. Scientific Sociology.

1. **Scientific sociology** is *the study of society based on systematic observation of social behaviour.* Positivism is a scientific way of knowing that assumes that an objective reality exists.

2. **Concepts** are *mental constructs that represent some part of the world in a simplified form*. The value of a concept depends on how it is defined.

3. **Variables** are *values of a concept that change from case to case*.

4. **Measurement** is *the procedure for determining the value of a variable in a specific case.*
   a. Operationalizing a **variable** refers to *specifying exactly what is to be measured before assigning a value to a variable.*
   b. Statistical measures are used to describe population's characteristics.

5. Measures need to be reliable and valid.
   a. **Reliability** refers to *consistency in measurement*.
   b. **Validity** refers to precision or whether the measure measures what it is intended to measure.

6. Scientific sociology evaluates relationships among variables.
   a. **Cause and effect** refers to a relationship among variables in which changes in one variable produce changes in another.

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i. The **independent variable** is *the cause*.
ii. The **dependent variable** is *the effect.*

b. Cause-and-effect relationships enable sociologists to predict patterns of behaviour.

c. **Correlation** exists *when two (or more) variables change together*.

i. **Spurious correlation** means *an apparent but false relationship between two (or more) variables caused by some other variable*.

ii. **Control** reveals spurious relationships. Control involves *holding constant all variables except one, in order to see clearly the effect of that variable.*

d. A cause and effect relationship exists when there is:

i. A demonstrated correlation.
ii. An independent variable occurs before a dependent variable.
iii. No evidence of a third variable causing the relationship between an independent and dependent variable to be spurious.

7. The ideal of objectivity refers to value-free *personal neutrality in conducting research.*

a. Personal bias can be minimized through **replication** or *repetition of the research by other investigators*.

8. Some limitations of scientific sociology.
   a. Human behaviour is too complex for sociologists to predict any individual's actions precisely.
   b. Because humans respond to their surroundings, the mere presence of a researcher may affect the behaviour being studied.
   c. Social patterns change; 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, they can never be 100 percent value-free when conducting social research.

B. Interpretive Sociology.

1. Human beings engage in meaningful action. 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. Interpretive sociology contrasts scientific sociology in three ways:
   i. Scientific sociology focuses on action; interpretive sociology focuses on meaning.
   ii. Scientific sociology assumes objective reality. Interpretive sociology assumes that reality is constructed by people during the course of their everyday lives. There is no "out there" because people assign meaning to their social world.
   iii. Scientific sociology tends to be quantitative in nature because it asks questions about cause and effect. Interpretive sociology

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tends to focus on qualitative research that asks questions of meaning and process.

3. 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. Subjective thoughts and feelings which are dismissed in scientific sociology as 'bias' are the focus in interpretive sociology.
4. **Symbolic Interaction** is an important form of interpretive sociology. George Herbert Mead is associated with symbolic interactionism. He argued that *language* is central to the process by which people assign meaning to their social world.

C. Critical Sociology.

1. **Critical sociology** is *the study of society that focuses on the need for social change.*
2. Karl Marx is most closely associated with critical sociology. He rejected the idea that society exists as a "natural" system with a fixed order.
3. Similarly, Max Weber argued that social researchers should not be value-free, rather they should be social activists in pursuit of desirable change.
4. Critical sociology appeals to researchers with liberal or radical political orientations.

III. Issues Affecting Sociological Research

A. Gender and Research.

1. Gender refers to *the personal traits and social positions that members of a society attach to being female and male*. Gender affects the research process in five ways:

a. **Androcentricity** refers to approaching research exclusively from a male perspective.

b. **Gynocentricity** refers to approaching research exclusively from a female perspective.

c. **Overgeneralizing** refers to the application of research findings on one gender to all genders.

d. **Gender blindness** refers to a failure in research to observe the variable gender.

e. **Double standards** refers to judging genders differently for the same behavior.

B. Research Ethics.

1. Sociologists must be reflexive about the potential for harm that can come to research participants and communities that they study. There are several important ethical principles that sociologists must adhere to:

a. Research should not *harm* research participants. Harm can include physical, emotional, social or psychological harm. Researchers must take steps to minimize the risk of harm to research participants.

b. Researchers must ensure that participants have provided *consent* to participate in research studies and that the consent given is voluntary and informed.

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c. Other ethical concerns include protecting the identities of people involved in research studies and avoiding conflicts of interest with regard to project funding.

IV. Research Methods.

A. A **research method** is *a systematic plan for doing research*.

B. An experiment is *a research method for investigating cause and effect under highly controlled conditions*. Experiments test a hypothesis. A hypothesis is a statement of a possible relationship between two (or more) variables. Experimental research is *explanatory*. Most experiments are conducted in laboratories and employ experimental and control groups.

1. The **Hawthorne effect** is *a change in a subject's behaviour caused simply by the awareness of being studied*.
2. An example of the experimental method is The Stanford County Prison study conducted by Philip Zimbardo (1972). This study revealed the character of prison itself, as opposed to the personalities of prisoners and guards, causes prison violence.

C. 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. The **population** in a survey are *the people who are the focus of research.* Researchers conducting a survey will draw a **sample** or *a part of a population that represents the whole*. Random sampling can ensure that the sample drawn mirrors the distribution of characteristics found in the population. Collecting a sample that is random means that each element in the sample has an equal and independent chance of being selected for inclusion in the sample.
2. **Questionnaires** are a part of surveys that include *a series of written questions a researcher presents to subjects*. Questionnaires may be closed-ended or open-ended. Self-administered survey questionnaires should be carefully pre-tested by the researcher.
3. Interview surveys involve an interviewer posing *a series of questions respondents*. Interview surveys are standardized which means that the questions are asked the same way every time to each participant in the study.
4. Sniderman used the data from an existing survey to study Anti-Semitism in Quebec in order to illustrate the concept of *social desirability*. Sniderman's study provides an example of the use of random sampling, and the telephone administration of questionnaires.

D. **Participant observation** is a method that takes place in the field. Participant observation can be defined as *a method by which researchers systematically observe people while joining in their routine activities*. Participant observation and ethnographic research tends to be *descriptive* and *exploratory*. Unlike experiments and surveys, participant observation research tends to be qualitative in nature.

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1. 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.

E. Using available data: Existing sources.

Sometimes, sociologists analyze existing sources, data collection by others. Content analysis is a type of secondary analysis that entails the counting or coding of the content of written, aural, or visual materials such as television and radio programming, novels, magazines or any other content that delivers a message.

1. The classic study by Znaniecki used content analysis in a study entitled *The Polish Peasant in Europe and North America*. The study used diaries and letters by Polish immigrants to describe the adjustment process of new immigrants to America.

F. Technology and Research. Technology has fundamentally changed the way that sociologists conduct research.

G. The Interplay of Theory and Method. Empirical observations derived from research have a relationship to theoretical explanation.

a. *Inductive logical thought* is reasoning that transforms specific observations into general theory. Induction moves from observation to theory generation.

b. *Deductive logical thought* is reasoning *that transforms general theory to specific hypotheses suitable for testing*. Deduction moves from theory to theory testing by observation.

IV. Putting it all together: Ten steps in sociological investigation:

A. What is your topic?
B. What have others already learned?
C. What, exactly, are your questions?
D. What will you need to carry out research?
E. Are there ethical concerns?
F. What method will you use?
G. How will you record the data?
H. What do the data tell you?
I. What are your conclusions?
J. How can you share what you've learned?

V. Chapter Boxes.

A. FIGURE 2-1 CORRELATION AND CAUSE: AN EXAMPLE (p.37)

B. SOCIOLOGY IN FOCUS: – Feminist Research: Critical and Interpretive Examples (p.43)

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C. THINKING ABOUT DIVERSITY: RACE, CLASS, AND GENDER BOX (p. 45) — Conducting Research with Aboriginal Peoples offers some tips about how outsiders can effectively and sensitively study Aboriginal communities.

D. THINKING CRITICALLY: Reading Tables: Aboriginal Employment and Income in Canada (p. 53).

E. SOCIOLOGY AND THE MEDIA – From Card Punching to Cyberspace: Evolution in the Media of Research (p.49)

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Chapter Objectives

1) Explain how scientific evidence challenges common sense.

2) Distinguish between independent and dependent variables.

3) Define and explain reliability and validity in measurement.

4) Distinguish between cause and effect and correlation.

5) Identify and explain the three criteria a researcher must demonstrate to show a cause and effect relationship between variables.

6) Describe sociology's three research orientations.

7) Compare and contrast experimental and survey methodologies. Discuss the strengths and limitations of each method.

8) Identify the importance of gender and ethics in sociological research.

9) Critique the ideal of objectivity.

10) Summarize the three methodical approaches in sociology: scientific, interpretive, and critical.

11) Identify five ways in which gender-based issues may distort sociological research.

12) List ethical guidelines to follow in sociological research.

13) Distinguish between deductive and inductive logic.

14) Identify four ways that sociologists can conduct empirical research.

15) Outline 10 steps in the process of carrying out sociological investigation.

Essay Topics

1) Discuss the advantages and disadvantages of a scientific approach to inquiry. How can science help us to understand the nature of social reality? How does this approach contrast with critical and interpretive sociology?

2) Recall that operationalization refers to specifying exactly what is to be measured before assigning a value to a variable. Practice your skills by operationalizing the following concepts: intelligence, friendship, religiosity, violence, and happiness.

3) Compare and contrast interpretive sociology and scientific sociology. Identify the strengths and limitations of each approach. Discuss how each form of sociology address the following topics: gender pay inequality, racism on college campuses, racial profiling by police.

4) Imagine you are a sociologist studying the death penalty. Construct two arguments, one proposing that you ought to be as

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objective as possible in your work and the other suggesting that, while striving for accuracy, you should take a stand against any injustices that your research may uncover. Which position do you find more convincing? Why?

5) What are ways that gender can shape sociological research? Can you think of other ways that gender might shape the process of research?

6) Using your knowledge of research ethics, evaluate Zimbardo's Stanford Prison Experiment. Identify three ethical issues relevant to this research project. Do you think that there are ways that Zimbardo upheld standards of ethical research? Why or why not?

7) Imagine that you hear on the radio that eating junk food causes cancer. How would you evaluate this claim using science? What are the proposed independent and dependent variables? What criteria would you have to satisfy in order to say with some confidence that junk food consumption *causes* cancer?

8) Flip through the textbook to find a sociological topic that interests you. Think about a question that you have about your topic. Following the Ten Steps in Sociological Investigation and devise a plan to investigate your question. Trade your proposal with another student to gain feedback on your ideas.

Using the ASA Journal *Teaching Sociology* in Your Classroom

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. The authors argue that the introductory sociology course should encourage students to engage with empirical literatures, review evidence and develop an intellectual curiosity. The articles includes a number of tips that you might find useful in your sociology class.

Source:

Shepelak, N. J., Curry-Jackson, A., & Moore, V. L. (1992). Critical thinking in introductory sociology classes: A program of implementation and evaluation. *Teaching Sociology*, 18-27.

Student Exercises

1. Google search *The Web Center for Social Research Methods*. Click on the concept on each page that corresponds to the type of variable or statistics you are interested in for your research.

2. Locate a copy of the book *More Damned Lies and Statistics* by Joel Best. The author of this book argues that all statistics are social product and that one cannot understand a statistic unless something is known about the process through which it was constructed. Pick one of the book's chapters and write a two-page summary of the examples and insights found therein.

3. Learn about quantitative data analysis by searching the SPSS (Statistical Package for Social Sciences) website. Learn about qualitative and mixed methods data analysis by searching the NVivo website.

4. Find a newspaper article that makes a

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claim supported by statistical data. Does the article include any information on the methodology used to produce the statistic? Is there information on whether the sample is representative? In class, discuss with your group members what additional information you would need to have confidence in the newspaper's claim.

5. Develop a ten-question survey questionnaire concerning some specific topic regarding family life (discipline practices used by parents, amount and type of contact with extended family members, gender roles in the home, etc.) Next, get together with three other students in the class and select one of the questionnaires to work on further. Spend one hour as a group refining the questionnaire. Submit this questionnaire along with the first questionnaire each of you did to your professor.

Supplemental Lecture Material

Research Ethics in Social Science

In Canada, all research with human beings is subject to ethical guidelines detailed in the Tri-Council Policy Statement (TCPS2 2010). Researchers who wish to conduct research with human beings must adhere to a set of professional ethics that include: avoiding the risk of psychological, physical, social legal or financial harm to research participants; ensuring the participation in the research is voluntary; collecting informed consent from research participants and avoiding deception in the research process where possible.

The development of a formal body of ethical principles (as identified in the TCPS2) was preceded by concern over the abuses perpetrated by medical researchers during the Nazi holocaust that were revealed during the Nuremburg Trials as well as concern over a few iconic cases of ethically problematic research conducted by social scientists. One such study that is often cite in undergraduate textbooks is the Stanford Prison Experiment conducted by Philip Zimbardo in the 1970s. Zimbardo constructed a mock prison in the basement of Stanford University. A sample of university students was selected to enact the role of 'guard' or 'prisoner' and to live in the prison. The goal of the study was to evaluate the psychological effects of imprisonment. The participants enacted their respective roles beyond Zimbardo's expectations and within days the study had to be stopped after just six days due to the psychologically abusive relationships that developed between the 'prisoners' and 'guards'. Zimbardo's study has been critiqued on ethical grounds; particularly the undue level of harm that the participants experiences as a result of their participation in the study. In a recent book called *The Lucifer Effect* (2008), Philip Zimbardo considers the key findings of his Stanford Prison Experiment as it relates to Abu Ghraib. Several films based on the Stanford Prison Experiment have also been produced. Students might be interested in viewing the American film *The Stanford Prison Experiment* (2015) or the German film *The Experiment* (2001) which is based on similar themes.

Sources:

Canadian Institutes of Health Research, Natural Sciences, and Engineering Research Council of Canada and Social Sciences and Humanities Research Council of Canada, *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*, December 2010.

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Zimbardo, P. G. (2007). *Lucifer Effect*. Blackwell Publishing Ltd.

Discussion Questions

1) What is your view of the code of research ethics set out in the TCPS2?

2) Do you think that a single code of research ethics can apply to all forms sociological research of research with human beings?

3) Do you think that there would be different ethical issues relevant to a survey methodology versus a participant observation study?

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: Over ten thousand deaths result from respiration ailments, therefor new air quality standards ought to be enacted.
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 a 1996 study, the average one-way commute now takes 40 seconds longer than it did in 1986.

- High divorce rates attribute to 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 it sound simple and straightforward.

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

Discussion Questions

1) What various elements of science are these statements violating?

2) Why would politicians be tempted to simplify statistics? How should social scientists handle statistics differently? In what way does their responsibility to society differ from that of politicians?

3) Name several alternative conclusions that might be drawn from the numbers quoted above.

Activity: Look through several newspapers for the statistics quoted there. Analyze them using scientific standards. Keep in mind such issues as the difference between cause and effect and correlation, sample size and population, and the way the study was

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conducted. Also consider interpretations of the data.

Supplemental Lecture Material
The Day America Told the Truth

Public opinion polls have become increasingly common in recent decades. A 1991 best-selling book entitled *The Day America Told the Truth* is packed with examples of the tantalizing bits of information that can be uncovered using this research procedure. The authors, James Patterson and Peter Kim, both executives at the J. Walter Thompson advertising agency, found, among other things:

- People in New England cheat on their spouses, spy on their neighbours and give charitably.
- The vast majority of Americans support capital punishment and approximately one in three would volunteer to operate and electric chair switch.
- By the age of thirteen, 22% of males and 7% of females are sexually active.
- Americans have more trust in firefighters than any other occupation.
- Among adult Americans, 15% would rather watch television than have sex.
- One-third of married men and women in the sample report having had one or more affairs.
- One in seven people report a history of childhood sexual abuse.
- Sixty percent of people indicate that they have been the victim of a major crime. This is six hundred percent more than official estimates.
- Twenty percent of women surveyed reported a sexual assault in the context of a date.
- More than seventy percent of people do not have a hero.

The survey was given to two-thousand people living in fifty different locations. Respondents were guaranteed total anonymity and repeatedly urged to be completely honest.

The findings reported in *The Day America Told the Truth* are fascinating and could provide the impetus for more theoretically based research efforts by academic sociologists. These findings also suggest that the common suspicion that people answering questionnaires often fail to report unconventional attitudes and odd behaviour may not be true.

Source
Gelman, David. "The Moral Minority." *Newsweek* (May 6, 1991): 63.

Discussion Questions

1) Are you always completely honest when you answer questionnaires?

2) How can researchers increase the chances that their respondents will not withhold or distort information?

Supplemental Lecture Material
Separating the Wheat and the Chaff: Spurious Correlations

Researchers commonly encounter behaviours that seem to be related to one

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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 behaviours 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. Does this mean that mules grant PhDs? Similarly, a positive correlation exists between ice cream sales and deaths by drowning. Does this mean that people buy more ice cream when drowning deaths occur? 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. For example, there is a spurious correlation between shoe size and the ability to solve mathematical equations. The students usually express a lot of puzzlement over this until you point out that children's feet tend to grow as they go through school.

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.

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?

Supplemental Lecture Material:
Causal Relationships: Terminology and Logic

As discussed in the chapter, social researchers must satisfy a series of criteria in order to determine if there is a *cause and effect* relationship between an *independent variable* (or several independent variables) and a *dependent variable* (see Page 36-37). For example, suppose a researcher notices that there is a *correlation* between education and income. Higher levels of education co-occur with higher levels of income and vice versa. The researcher thinks that higher education causes higher incomes but the researcher cannot be sure until they satisfy two other criteria: *time order* and *non-spuriousness*. In order to have confidence in the claim that more education leads to a higher income the researcher has to show empirically that educational attainment precedes increases in income in time, and that there isn't some third variable exerting a causal influence (or producing changes in both the income and education variables). These criteria help us to avoid the pitfalls of

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assuming the direction of variables and falling victim to faulty myths perpetuated in media. It could be that levels of education predict levels of income – but it could also be that levels of income (socio-economic class) predicts educational attainment. We need a scientific approach to determining cause and effect that satisfies all three criteria of causality before we can have confidence in any causal claim.

David Kirk and Derek Hyra (2010) published a research paper in *Social Sciences Quarterly* in which they tested whether there is a causal relationship between crime and home foreclosure. The authors found that despite popular wisdom that suggests that suggests a positive causal relationship between foreclosures and crime. Their results suggest that the relationship is in fact spurious – community disadvantage exerted a causal influence on both crime rates and home foreclosure rates.

Source

Kirk, D. S., & Hyra, D. S. (2012). Home foreclosures and community crime: Causal or spurious association? *Social Science Quarterly*, *93*(3), 648-670.

Activity

Ask students to review Kirk and Hyra's (2010) article *Home Foreclosures and Community Crime: Causal or Spurious Association* and answer the following questions:

1. Define independent and dependent variable. What are the independent and dependent variables in the study?

2. Does the article satisfy the criteria necessary to determine a cause and effect relationship? Why or why not?

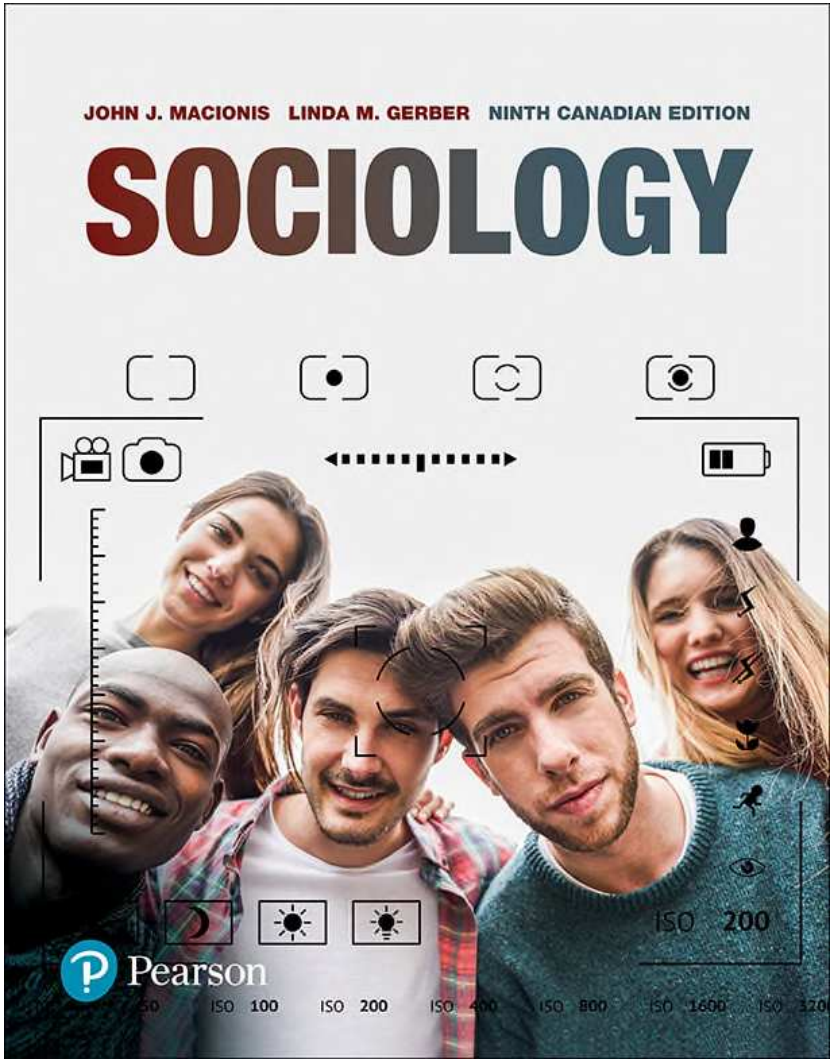
3. How can knowing the criteria of determining a causal relationship between variables help social scientists to dispel common sense mythologies?

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Sociology

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Chapter 2

Sociological Investigation

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Learning Objectives

1. Explain how scientific evidence often challenges common sense.
2. Describe sociology's three research orientations.
3. Identify the importance of gender and ethics in sociological research.
4. Explain why a researcher might choose each of sociology's research methods.

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Basics of Sociological Investigation

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

   In order to answer our questions, there are many forms of “truth”:

   – Belief or faith
   – Expert testimony
   – Simple agreement
   – Science

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Science as One Form of Truth

- Science is a logical system that bases knowledge on direct systematic observation.
  - Stands apart from faith, belief, or conventional wisdom
- Scientific knowledge rests on empirical evidence: information we can verify with our senses.

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Common Sense vs. Scientific Evidence

- "Poor people are far more likely than rich people to break the law." (p. 34) **Not True**
- "Canada is a middle-class society in which people are more or less equal." (p. 34) **False**
- "Poor people don't want to work." (p. 34) **Wrong**
- "Differences in the behavior of females and males are just 'human nature'." (p. 34) **Wrong**
- "People change as they grow old, losing many interests as they focus on their health." (p. 34) **Not Really**
- "Most people marry because they are in love." (p. 34) **Not Always**

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Three Ways to Do Sociology

1. **Scientific sociology:** Is the study of society based on systematic observation of social behavior.

   Positivism assumes that an objective reality exists “out there” that can be studied based upon empirical evidence.

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Scientific Sociology (1 of 2)

- **Concept:** a mental construct that represents some part of the world in a simplified form (e.g. “Social Class”)
- **Variable:** a concept whose values change from case to case (e.g. “Upper Class”, “Middle Class”, “Lower Class”)
- **Measurement:** a procedure for determining the value of a variable in a specific case (e.g. income, education)

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Scientific Sociology (2 of 2)

- **Operationalize a variable:** specifying exactly what is to be measured before assigning a value to a variable
- **Reliability:** consistency in measurement
- **Validity:** actually measuring exactly what you intend to measure

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Relationships Among Variables (1 of 2)

- **Cause and effect**
  - A relationship in which change in one variable causes change in another
- **Types of variables**
  - ***Independent*:** the variable that causes the change
  - ***Dependent*:** the variable that changes

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Relationships Among Variables (2 of 2)

- **Correlation**
  - A relationship in which two or more variables change together
- **Spurious Correlation**
  - An apparent but false relationship between two (or more) variables caused by some other variable
  - To expose it use **control**, holding constant all variables except one in order to see clearly the effect of that variable

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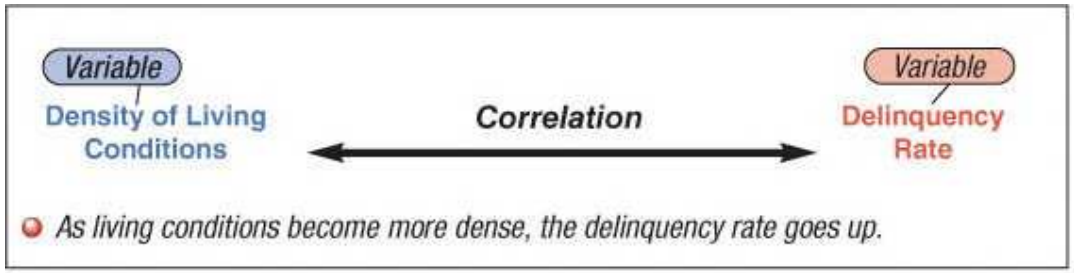
Correlation Does Not Mean Causation

- Correlation means only that two (or more) variables change together. To establish cause and effect (*causation*), three requirements must be met:
  1. A demonstrated correlation,
  2. An independent (or causal) variable that occurs before the dependent variable, and
  3. No evidence that a third variable could be causing a spurious correlation between the two.

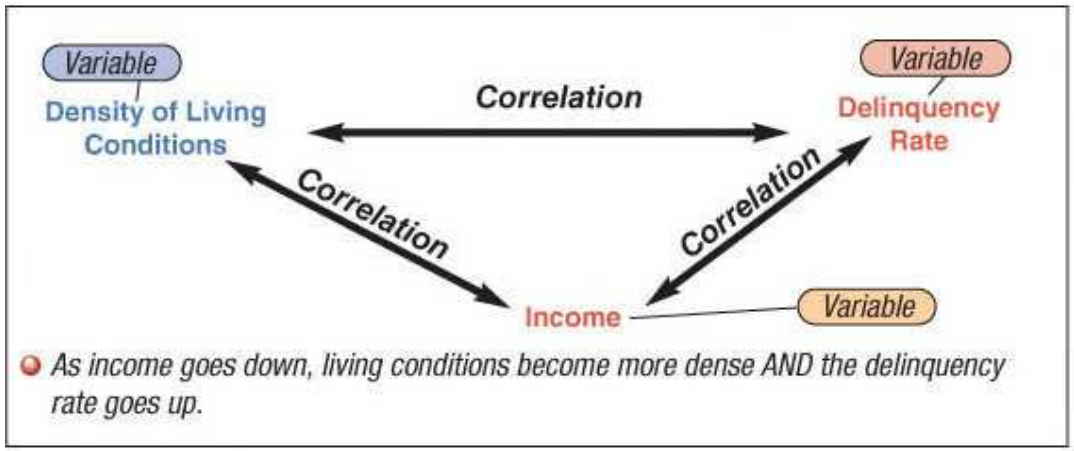
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Correlation and Cause (1 of 2)



(a) If two variables increase and decrease together, they display correlation.

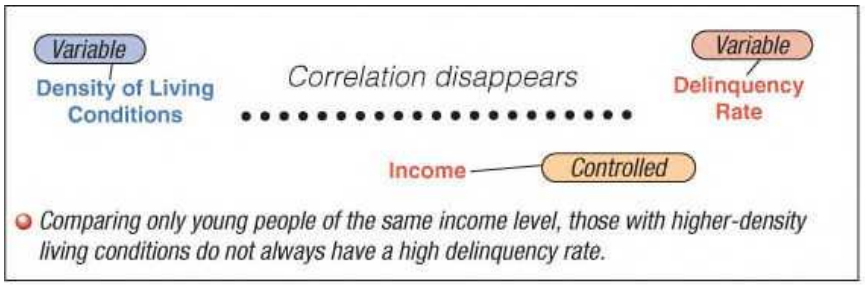


(b) Here we consider the effect of a third variable: income. Low income may cause *both* high-density living conditions *and* a high delinquency rate.

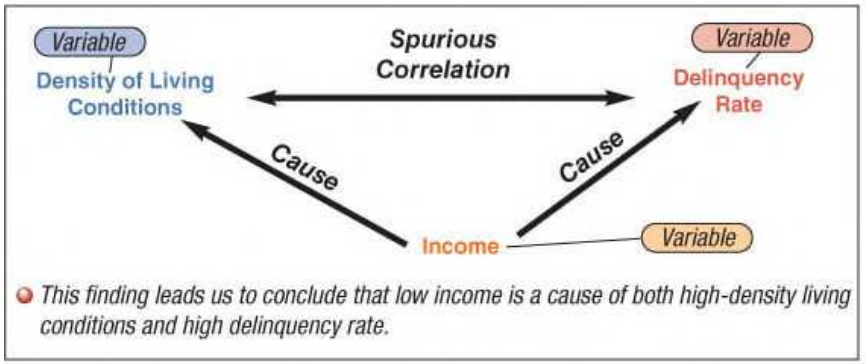
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Correlation and Cause (2 of 2)



(c) When we control for income—that is, examine only young people of the same income level—we find that density of living conditions and delinquency rate no longer increase and decrease together.



(d) Density of living conditions and delinquency rate are correlated, but their correlation is *spurious* because neither one causes the other.

Figure 2–1 Correlation and Cause: An Example

Correlation is not the same as cause. Here's why.

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The Ideal of Objectivity

Personal neutrality in conducting research

- Max Weber said sociologists select topics that are *value-relevant*
- But cautioned them to be *value-free* in their investigations
- **Replication:** repetition by other researchers can limit distortion caused by personal values.

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Limitations of Scientific Sociology

- Human behavior is too complex to predict precisely any individual's actions.
- The mere presence of the researcher might affect the behavior being studied.
- Social patterns change.
- Sociologists are part of the world they study, making value-free research difficult.

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Interpretive Sociology

- The study of society that focuses on the meanings people attach to their social world:
  - Sees reality as being constructed by people themselves in the course of their everyday lives
  - Relies on qualitative data

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Critical Sociology

- The study of society that focuses on the need for social change:
  - Researchers should be social activists in pursuit of desirable change
  - Works for equality
  - Sociology as Politics:
    - Critical sociologists say that all research is political or biased—either it calls for change or it does not

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Research Orientations in Sociology

SUMMING UP Three Research Orientations in Sociology			
	Positivist Sociology	**Interpretive Sociology**	**Critical Sociology**
What is reality?	Society is an orderly system. There is an objective reality "out there."	Society is ongoing interaction. People construct reality as they attach meanings to their behavior.	Society is patterns of inequality. Reality is that some categories of people dominate others.
How do we conduct research?	Using a scientific orientation, the researcher carefully observes behaviour, gathering empirical, ideally quantitative, data. Researcher tries to be a neutral observer.	Seeking to look "deeper" than outward behaviour, the researcher focuses on subjective meaning. The researcher gathers qualitative data, discovering the subjective sense people make of their world. Researcher is a participant.	Seeking to go beyond positivism's focus on studying the world as it is, the researcher is guided by politics and uses research as a strategy to bring about desired social change. Researcher is an activist.
Corresponding theoretical approach	Structural-functional approach	Symbolic-interaction approach	Social-conflict approach

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Methods and Theory

- **Scientific sociology** corresponds to the **structural-functional** approach
- **Interpretive sociology** is related to the **symbolic-interaction** approach
- **Critical sociology** is linked to the **social-conflict** approach

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Gender and Research (1 of 2)

- **Androcentricity and Gynocentricity:** Approaching the topic from a male-only or female-only perspective.
- **Overgeneralizing**: Using data collected from one sex and applying the findings to both sexes.

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Gender and Research (2 of 2)

- **Gender blindness**: The failure to consider the impact of gender at all.
- **Double standards**: Using different standards to judge males and females.
- **Interference:** a subject under study reacts to the sex of the researcher.

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Women as Methodologists

- Feminist researchers claim:
  - Research should focus on the condition of women in the society
  - Research should be grounded in women's experience of subordination
- Among women founders of social science:
  - Harriet Martineau (1802-1876)
  - Florence Nightingale (1820-1910)

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Research Ethics (1 of 2)

- Must strive to be technically competent and fair-minded.
- Must disclose findings in full without omitting significant data & be willing to share their data.
- Must protect the safety, rights, and privacy of subjects.

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Research Ethics (2 of 2)

- Must obtain *informed consent;* subjects are aware of risks and responsibilities and agree.
- Must disclose all sources of funding & avoid conflicts of interest.
- Must demonstrate cultural sensitivity.

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Methods of Sociological Research

- A research method is a systematic plan for doing research:
  - Experiments
  - Surveys
  - Participant observation
  - Use of existing data
- None is better or worse than any other; methods are chosen according to who we wish to study and what we wish to learn

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Testing a Hypothesis: The Experiment

- **Experiment:** Investigating cause and effect under highly controlled conditions, testing a **hypothesis,** a statement of a possible relationship between two (or more) variables.
- Steps:
  1. Specify independent and dependent variables
  2. Measure dependent variable
  3. Expose dependent variable to independent variable
  4. Measure dependent variable to see what change, if any, took place

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Control

- To be certain that the change in the dependent variable was due to the exposure to the independent variable, the researcher must keep constant other factors that might intrude.
- One method is to break group into experimental and control groups.
  - Experimental group is exposed to independent variable
  - Control group is exposed to a placebo
- **Hawthorne effect**: a change in behaviour caused by awareness of being studied.

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Asking Questions: Survey Research

- **Survey:** a research method in which subjects respond to a series of statements or questions in a questionnaire or an interview.
- **Population**: the people who are focus of the research
- **Sample:** a part of the population that represents the whole
- **Random sampling:** every person has an equal chance of being in the sample
- **Questionnaire:** a series of written/read (**interview**) questions:
  - closed-ended (fixed response) or
  - open-ended (allowing free response)

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In the Field: Participant Observation

- A research method in which investigators systematically observe people while joining them in their routine activities.
- Most of this research is exploratory and descriptive.
- Strives to get an insider's view.
- A well trained participant-observer can gain significant insight into people's natural behaviour.

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Using Available Data

- **Secondary and Historical Analysis:** reanalyzing data collected by others.
  - e.g., census data
- **Content Analysis:** counting or coding the content of written, aural, or visual materials.
  - e.g., letters and textbooks, Television, Websites

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Four Research Methods

SUMMING UP Four Research Methods				
	Experiment	**Survey**	**Participant Observation**	**Secondary Analysis**
Application	For explanatory research that specifies relationships between variables Generates quantitative data	For gathering information about issues that cannot be directly observed, such as attitudes and values Useful for descriptive and explanatory research Generates quantitative or qualitative data	For exploratory and descriptive study of people in a "natural" setting Generates qualitative data	For exploratory, descriptive, or explanatory research whenever suitable data are available
Advantages	Provides the greatest opportunity to specify cause-and-effect relationships Replication of research is relatively easy	Sampling, using questionnaires, allows surveys of large populations Interviews provide detailed responses	Allows study of "natural" behaviour Usually inexpensive	Saves time and expense of data collection Makes historical research possible

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SUMMING UP Four Research Methods				
	Experiment	**Survey**	**Participant Observation**	**Secondary Analysis**
Limitations	Laboratory settings have an artificial quality Unless the research environment is carefully controlled, results may be biased	Questionnaires must be carefully prepared and may yield a low return rate Interviews are expensive and time-consuming	Time-consuming Replication of research is difficult Researcher must balance roles of participant and observer	Researcher has no control over possible biases in data Data may only partially fit current research needs

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Technology and Research

- **Personal Computers**: give sociologists remarkable technical ability
- **Internet**: allows unprecedented levels of communication.
- These advances facilitate research and will transform sociological investigation throughout the current century.

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The Interplay of Theory and Method

- **Inductive logical thought:**
  - Reasoning that transforms specific observations into general theory
  - Induction "increases" from specific to general
- **Deductive logical thought:**
  - Reasoning that transforms general theory into specific hypotheses suitable for testing
  - Deduction "decreases" from general to specific

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Deductive and Inductive Thought

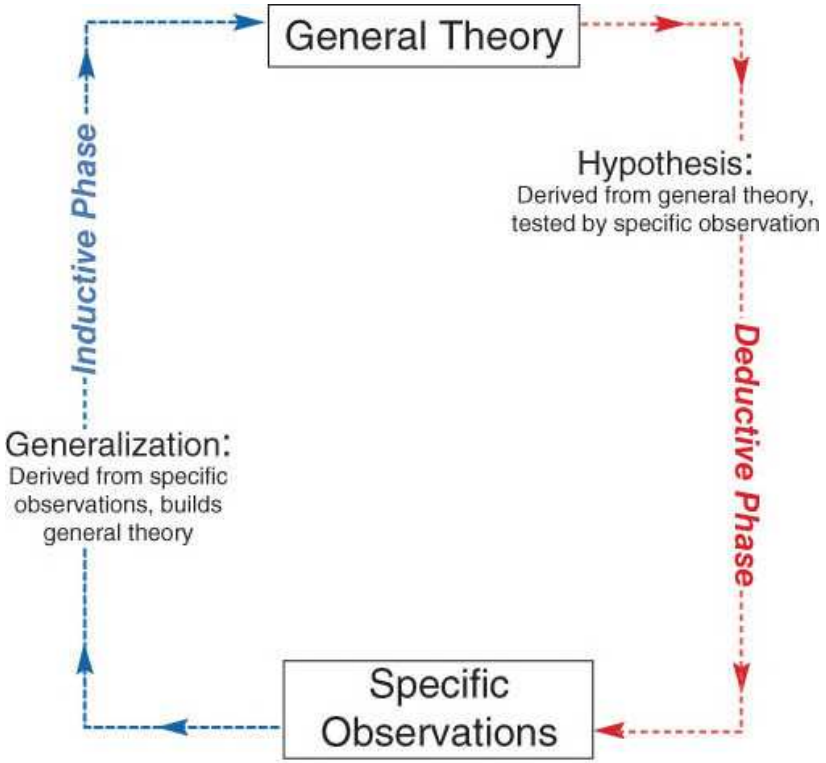


Figure 2–2 Deductive and Inductive Logical Thought

Sociologists link theory and method through both inductive and deductive logic.

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Ten Steps in Sociological Investigation (1 of 2)

1. Select and define topic
2. Review the literature
3. Develop key questions to ask
4. Assess requirements for study
5. Consider ethical issues

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Ten Steps in Sociological Investigation (2 of 2)

6. Select a research methodology
7. Collect the data
8. Interpret the findings
9. State conclusions
10. Publish the findings

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