Basics of SOCIAL RESEARCH

Fourth Canadian Edition

QUALITATIVE AND QUANTITATIVE APPROACHES

Pearson

W. Lawrence Neuman
Karen Robson

BASICS OF SOCIAL RESEARCH

QUALITATIVE AND QUANTITATIVE APPROACHES

BASICS OF SOCIAL RESEARCH

QUALITATIVE AND QUANTITATIVE APPROACHES

FOURTH CANADIAN EDITION

W. LAWRENCE NEUMAN

UNIVERSITY OF WISCONSIN-WHITEWATER

KAREN ROBSON

MCMASTER UNIVERSITY

Pearson

Editorial Director: Claudine O'Donnell
Acquisitions Editor: Darcey Pepper
Marketing Manager: Christine Cozens
Program Manager: Madhu Ranadive
Project Manager: Colleen Wormald
Manager of Content Development: Suzanne Schaan
Developmental Editor: Joanne Sutherland
Production Services: Cenveo® Publisher Services
Permissions Project Manager: Kathryn O'Handley
Photo and Text Permissions Research: Integra Publishing Services, Inc.
Cover Designer: Cenveo Publisher Services
Cover Image: Vladyslav Danilin/Fotolia
Vice-President, Cross Media and Publishing Services: Gary Bennett

Pearson Canada Inc., 26 Prince Andrew Place, Don Mills, Ontario M3C 2T8.

ISBN 978-0-13-430805-0

10 9 8 7 6 5 4 3 2 1

Library and Archives Canada Cataloguing in Publication

Neuman, William Lawrence, 1950-, author
Basics of social research : qualitative and quantitative approaches / W. Lawrence Neuman, Karen Robson.—Fourth Canadian edition.

Includes bibliographical references and index.
ISBN 978-0-13-430805-0 (hardback)

1. Sociology—Research—Methodology—Textbooks. 2. Social sciences—Research—Methodology—Textbooks. I. Robson, Karen, 1973-, author
II. Title.

HM571.N49 2016 301.072 C2016-905266-4

Pearson

Brief Contents

Table of Contents

Preface

Many students approach a first course on social research with anxiety and trepidation. Some of them associate the course with mathematics and statistics, with which they may have had an unpleasant experience; some may have struggled in natural science courses that used experiments; and some do not know what to expect from a course in social research and believe it is beyond them and only for advanced, very smart scholars. Many students delay taking the required "methods" course until the last semester of their degree—although the course is often meant to be taken in the second year of study. Indeed, courses in research methods often carry the unfortunate reputation that they are difficult or boring. As university professors who have considerable experience teaching these courses, the authors are well aware of the inherent challenges of convincing students that the study of methods can be enjoyable!

Basics of Social Research introduces you to social research and presents "what researchers do and why" in a nonthreatening manner that captures both the excitement and the importance of doing real research. Once you overcome any anxiety and recognize what research is actually about, you might even find it fascinating. A course in social research methodology differs from most other social science courses. Most courses examine content topics such as inequality, crime, racial divisions, gender relations, urban society, and so forth. A methodology course is relevant, as it prepares you to think more systematically about content and also reveals how content findings are created. That is, this social research method teaches you how the knowledge in social sciences comes into being.

This text aims to make the information it presents easy to understand and accessible, but that does not mean it is simplistic. Indeed, proper research is a serious activity, and often how well a study was conducted can have real consequences on many outcomes, including how policies and laws are put in place. An underlying goal of this text is to show you how social research has very real applications in real life—it is not just a topic you are forced to learn for your degree requirements. It is something you can take with you as a skill that will enable you to be critical of what the media are telling you about results from the "latest poll." Just as the actual daily work of a nurse, social worker, police officer, teacher, physician, or counsellor often involves serious issues that have real implications for people's lives, so does social research.

Basics of Social Research has three goals. First, it seeks to show you that social research is simultaneously an important enterprise and one that is not beyond you—you *can* understand it. And it can even be interesting and fun. Second, it uses many examples from real research in published Canadian studies to show you the origins of the findings and information found in textbooks or in the media. Finally, it gives you a foundation for further learning about research and shows you that this activity requires dedication, creativity, and mature judgment.

This text is a shortened version of a larger, in-depth textbook on social research that one of the authors (Neuman) first wrote about 30 years ago and that has been updated many times since then. It was written to provide an uncomplicated introduction to social research for students with a limited background in research.

Like most written works, this text, too, reflects its authors. From the beginning, we have been firmly committed to the value of both quantitative and qualitative approaches to research. We believe that each approach offers a distinct as well as a complementary perspective to understanding the social world and that both approaches are equally important and necessary.

NEW IN THE FOURTH CANADIAN EDITION

This new edition has been thoroughly updated and revised for the Canadian market. Key revisions to the content include the following:

- Updated information on the Canadian Census, throughout
- Updated information on the status of breaches of research ethics in Canadian research
- Simplified explanation of concepts and how they relate to theory (Chapter 2)
- New content on the importance of avoiding plagiarism (Chapter 4)
- New discussion of the shifting understanding of how to measure sex and gender (Chapter 5) and examples that demonstrate how to move beyond the gender binary (Chapter 11)
- A clearer connection drawn between qualitative research questions and interview guides (Chapter 12)

- Expanded discussion of the role of the key informant in gaining access to field research sites (Chapter 13)
- Discussion of the value of oral history exemplified in the recent discovery of the Franklin Expedition shipwreck (Chapter 14)
- A new checklist for researchers new to qualitative data analysis (Chapter 15)
- Additional visual aids throughout to illustrate concepts and processes in social research, designed to aid the visual learner

INSTRUCTOR SUPPLEMENTS

These instructor supplements are available for download from a password-protected section of Pearson Canada's online catalogue (http://catalogue.pearsoned.ca). Navigate to your text's catalogue page to view a list of available supplements. Speak to your local Pearson sales representative for details and access.

- **Instructor's Manual.** This manual includes chapter-by-chapter learning objectives and classifies the test bank questions by topic, objective, and skill.
- **Image Library.** All the figures in the text are provided in electronic format, for use in PowerPoint slides, handouts, or other presentations.
- **Computerized Test Bank.** Pearson's computerized test banks allow instructors to filter and select questions to create quizzes, tests, or homework. Instructors can revise questions or add their own, and may be able to choose print or online options. These questions are also available in Microsoft Word format. The computerized test bank for *Basics of Social Research*, Fourth Canadian Edition, includes approximately 800 questions in essay, multiple-choice, and definition formats.

Learning Solutions Managers. Pearson's Learning Solutions Managers work with faculty and campus course designers to ensure that Pearson technology products, assessment tools, and online course materials are tailored to meet your specific needs. This highly qualified team is dedicated to helping schools take full advantage of a wide range of educational resources, by assisting in the integration of a variety of instructional materials and media formats. Your local Pearson Canada sales representative can provide you with more details on this service program.

Chapter 1

Doing Social Research

Photo Credit: IQoncept/Fotolia

LEARNING OBJECTIVES

After reading this chapter, you will be able to

- **LO 1** Explain why knowledge of social research methods is a useful "everyday" skill to have.
- **LO 2** Explain five alternatives to social research.
- **LO 3** Explain what is meant by the *scientific community* and the *scientific method.*
- **LO 4** Describe the general steps in the research process.
- **LO 5** Explain the difference between academic and applied research.
- **LO 6** Explain the three major purposes of social research.
- **LO 7** Compare the two major time dimensions in social research.
- **LO 8** Explain the difference between qualitative and quantitative approaches, and identify their main data collection techniques.

INTRODUCTION

If you think about the last time you heard some shocking science-related news, it was probably on social media within the last few days. It may have made you think about your consumption patterns or behaviour, particularly if the news you heard was about a particular disease. But did you stop to think about how the researchers came up with their findings? If you didn't, you are not alone. The vast majority of people do not possess the skills to critically evaluate research.

As teachers of social research methods, we believe that research is the most interesting and most important topic in our fields. The fact of the matter is that social research affects many aspects of our everyday lived experiences. Educators, government officials, business managers, human service providers, and health care professionals regularly use social research methods to guide their policies and practices. People use the findings from social research to reduce crime, improve public health, sell products, or just understand aspects of their lives. And as mentioned above, reports of research findings, especially those that are "shocking," appear all over the media every day. Most importantly, however, because the results of research are discussed in the popular media, understanding how researchers arrived at their findings can make you an informed consumer of research. The knowledge and skills you will acquire from this text and a course on research methods is a *practical* skill that you can use in your everyday life as a consumer and informed citizen. It is not just some course-specific information that has no applicability in the real world. The skills you can obtain from understanding social research methods are perhaps among the most real-world applicable skill sets you will ever receive for distinguishing good information from false information. Whether or not you ever conduct your own research, knowing how to discern sound research from "garbage" research is an important skill for anyone to have.

LO 1 Explain why knowledge of social research methods is a useful "everyday" skill to have.

WHY DO SOCIAL RESEARCH?

People conduct social research to learn something new about the social world. A researcher combines theories or ideas with facts in a careful, systematic way. He or she learns to organize and plan carefully and creatively and to select the appropriate technique to address a specific kind of question. A researcher must treat the people in a study in ethical and moral ways. In addition, a researcher must fully and clearly communicate the results of a study to others.

social research: A process in which a researcher combines a set of principles, outlooks, and ideas with a collection of specific practices, techniques, and strategies to produce knowledge.

Social research is a process in which people combine a set of principles, outlooks, and ideas (i.e., methodology) with a collection of specific practices, techniques, and strategies (i.e., a method of inquiry) to produce knowledge. It is a challenging process of discovery that requires persistence, personal integrity, tolerance for ambiguity, interaction with others, and commitment to doing quality work.

Reading this text cannot transform you into an expert researcher, but it can teach you to be a better consumer of research results, help you to understand how the research enterprise works, and prepare you to conduct small research projects. It will also make you equipped to identify good research practices and critically assess whether the shocking finding reported on social media is an outcome of sound research design. After studying this text, you will be aware of what research can and cannot do and why properly conducted research is important.

LO 2 Explain five alternatives to social research.

ALTERNATIVES TO SOCIAL RESEARCH

Most of what you know about the social world is not based on doing social research. You probably learned most of your knowledge about the social world by using an alternative to social research, based on what your parents and other people (e.g., friends, teachers) have told you. You also have knowledge based on your personal experiences, the books and magazines you have read, and the movies and television shows you have watched. You may also use plain old common sense.

More than just a collection of techniques, social research is a process for producing knowledge. It is a more structured, organized, and systematic process than the alternatives that most of us use in daily life. Knowledge from the alternatives is often

correct, but knowledge based on research is more likely to be accurate and have fewer errors. Although research does not always produce perfect knowledge, compared with the alternatives it is much less likely to be flawed. Let us review the alternatives before examining social research.

Authority

You have acquired knowledge from parents, teachers, and experts as well as from books, television, and other media. When you accept something as true because someone in a position of authority says it is true or because it is in an authoritative publication, you are relying on authority as a basis for knowledge. Relying on the wisdom of authorities is a quick, simple, and cheap way to learn something. Authorities often spend time and effort to gain knowledge, and you can benefit from their experience and work.

There are also limitations to relying on authority. First, it is easy to overestimate the expertise of other people. You may assume that they are right when they are not. History is full of past experts whom we now see as being misinformed. For example, some "experts" of the past measured intelligence by counting bumps on the skull; other "experts" used bloodletting to try to cure diseases. Their errors seem obvious now, but can you be certain that today's experts will not become tomorrow's fools? Second, authorities may not agree, and all authorities may not be equally dependable. Whom should we believe if authorities disagree? Third, authorities may speak on fields they know little about, or they may be plain wrong. An expert who is very informed about one area may use his or her authority in an unrelated area. Also, using the halo effect (discussed later), expertise in one area may spill over illegitimately to be authority in a totally different area. Have you ever seen television commercials in which an athlete uses his or her fame as authority to convince you to buy a product? We need to ask: Who is, or is not, an authority?

An additional issue is the misuse of authority. Sometimes organizations or individuals give an appearance of authority so they can convince others to agree to something that they might not otherwise. For example, much research is reported by **think tanks**, which are organizations composed of a body of experts in a field that are often motivated by particular advocacy goals. Sometimes these advocacy goals can be political and ideological in nature, and therefore the topics they choose and the research findings they report tend to reflect a certain ideology. For example, in Canada, the findings reported by the Fraser Institute tend to reflect a conservative and free-market capitalist agenda, while findings from the Canadian Centre for Policy Alternatives tend to focus on social justice issues. Thus, in evaluating the authority of research findings, it is important to know the source of the research that is being reported and any motivations it might have to push forward a certain agenda.

Think tanks: Organizations composed of a body of experts in a field that are often motivated by particular advocacy goals.

Tradition

People sometimes rely on tradition for knowledge. Tradition is a special case of authority—the authority of the past. Tradition means you accept something as being true because "it's the way things have always been." Many people believe that children who are raised at home by their mothers grow up to be better adjusted and have fewer personal problems than those raised in other settings. People "know" this, but how did they learn it? Most accept it because they believe (rightly or wrongly) that it was true in the past or is the way things have always been done. Some traditional social knowledge begins as simple prejudice. You might rely on tradition without being fully aware of it when you believe such things as "People from 'that' neighbourhood will never amount to anything," or "You can never trust that type of person," or "That's

the way men (or women) are." Even if traditional knowledge was once true, it can become distorted as it is passed on, and soon it is no longer true.

Common Sense

You know a lot about the social world from your everyday reasoning or common sense. You rely on what everyone knows and what "just makes sense." For example, it "just makes sense" that murder rates are higher in nations that do not have the death penalty because people are less likely to kill if they face execution for doing so. This and other widely held common sense beliefs—such as that poor youth are more likely to commit deviant acts than those from the middle class, or that most Catholics do not use birth control—are false.

Common sense is valuable in daily living, but it allows logical fallacies to slip into one's thinking. For example, the so-called gambler's fallacy is, "If I have a long string of losses playing a lottery, the next time I play my chances of winning will be better." In terms of probability, this is false. Also, common sense contains contradictory ideas that often go unnoticed because people use the ideas at different times, such as "opposites attract" and "birds of a feather flock together." Common sense can originate in tradition. It is useful and sometimes correct, but it also contains errors, misinformation, contradiction, and prejudice.

Media Myths

Television shows, movies, and newspaper and magazine articles are important sources of information. For example, most people have no contact with criminals but learn about crime by watching television shows and movies and by reading newspapers. However, television portrayals of crime (and of many other things) do not accurately reflect social reality. The writers who create or "adapt" images from life for television shows and movie scripts distort reality, either out of ignorance or because they rely on authority, tradition, and common sense. Their primary goal is to entertain, not to accurately represent reality. Although many journalists try to present a realistic picture of the world, they must write stories in short periods with limited information and within editorial guidelines.

Unfortunately, the media tend to perpetuate the myths of a culture, as do some bloggers and individuals on social networking tools such as Twitter, Tumblr, and reddit. And because what bloggers and other social media users post is very current, people often mistake the information on such sites for fact, when it is often just opinion. For example, the media purport that most Canadians who receive welfare are single mothers (in reality, single and childless men are the largest group of recipients), that most people who are mentally ill are violent and dangerous (only a small percentage actually are), or that extreme weather is evidence that climate change is a hoax (when, in fact, this supports climate change arguments). Also, mass media hype can create the perception that the magnitude of a problem is greater than it is (see Box 1.1). People are misled by visual images more easily than by other forms of "lying"; this means that stories or stereotypes that appear in film and on television can have a powerful effect.

Competing interests use the media to win public support.[1] Public relations campaigns try to alter public opinion about scientific findings, making it difficult for the public to judge research outcomes. For example, a large majority of scientific research supports the theory on climate change (i.e., pollutants from industrialization and massive deforestation are raising Earth's temperature and will lead to environmental disasters), but the media give equal attention to a few dissenters who question climate change, creating the impression in the public mind that "no one really knows" or that scientists are undecided about the issue. Media sources do not mention that the

Box 1.1 In the News

Is the Vaccine Panic a Media Myth?

Canadians hear a lot about the importance of getting vaccinated. They must make decisions about vaccinating themselves against seasonal flu and new "pandemic" strains. Many must also make decisions about vaccinating their children against potentially life-threatening illnesses.

Parents obviously only want to have such injections administered to their children if they are proved to be safe. In the past several years, a purported link between childhood vaccinations—particularly the vaccine for measles, mumps, and rubella (known as MMR)—and childhood autism has come into the media spotlight. Measles, mumps, and rubella are potentially life-threatening illnesses that strike in childhood. This rumour about the supposed link between the vaccine and autism has surfaced time and time again in the media across the United Kingdom, the United States, and Canada.

What caused this media myth to start? In a paper originally published in 1998 in the prestigious British medical journal *The Lancet*, Wakefield and colleagues argued that they found a link between the MMR vaccine and later bowel disease and autism in children. Since then, the paper has been officially retracted and shown to be extremely flawed. For one, the study's findings relied on a very small biased sample of 12 children, which was found to be fabricated. Subsequent studies, all of which had much larger samples (in the thousands) and much more rigorous research designs, failed to show any link between the MMR vaccination and autism.[2]

While the Wakefield paper was retracted, this was not done until several years after the original publication date. Although Wakefield was stripped of his licence to practise medicine in Britain in 2010, and later evidence from the *British Medical Journal* accused Wakefield of outright research fraud (Godlee, Smith, & Marcovitch, 2011), public confidence in vaccines was severely damaged in the media frenzy that followed the publicity surrounding the original flawed research paper. In fact, the myth still exists that there is a link between vaccinations and autism, and this myth continues to be perpetuated by influential celebrities like Jenny McCarthy. As a result, the number of parents not vaccinating their children has increased, and there is some concern that our collective immunity is being threatened.

dissenters represent less than 2 percent of all scientists or that most dissenting studies are paid for by heavily polluting industries. Industries also spend millions of dollars to publicize the negative findings because their goal is to deflect growing criticism and delay environmental regulations, not to advance knowledge.

News media offer horoscopes, and television programs and movies report on supernatural powers, ESP (extrasensory perception), UFOs (unidentified flying objects), and angels or ghosts. Although no scientific evidence exists for such phenomena, between 20 and 50 percent of the Canadian public accepts them as true, and the percentage holding such beliefs has been growing over time as entertainment media give the phenomena more prominence.[3]

Personal Experience

If something happens to you, if you personally see it or experience it, you accept it as true. Personal experience, or "seeing is believing," has a strong impact and is a powerful source of knowledge. Unfortunately, personal experience can lead you astray. What appears true may actually be due to a slight error or distortion in judgment. The power of immediacy and direct personal contact is very strong. In spite of knowing this, many people believe what they see or personally experience rather than what very carefully designed research has discovered.

The four errors of personal experience—overgeneralization, selective observation, premature closure, and the halo effect—reinforce each other and can occur in other areas, as well. They are a basis for misleading people through propaganda, cons or fraud, magic, stereotyping, and some advertising.

The first and most common problem is **overgeneralization**. It occurs when some evidence supports your belief, but you falsely assume that it also applies to many other situations. Limited generalization may be appropriate; under certain conditions, a small amount of evidence can explain a larger situation. The problem is that many

overgeneralization: An error that people often make when using personal experience as an alternative to science for acquiring knowledge. It occurs when some evidence supports a belief, but a person falsely assumes that it applies to many other situations, too.

people generalize far beyond limited evidence. For example, over the years the authors of this text have known a number of visually impaired people. All of them have been very friendly. Can the authors then conclude that all visually impaired people are friendly? Do the six or so people with whom they happened to have personal experience represent all such people?

selective observation: The tendency to take notice of certain people or events based on past experience or attitudes.

The second error, **selective observation**, occurs when you take special notice of some people or events and tend to seek out evidence that confirms what you already believe and to ignore contradictory information. People often focus on or observe particular cases or situations, especially when they fit preconceived ideas. We are sensitive to features that confirm what we think but ignore features that contradict our ideas. Psychologists have found that people tend to "seek out" and distort their memories to make them more consistent with what they already think.[4]

premature closure: An error that is often made when using personal experience as an alternative to science for acquiring knowledge. It occurs when a person feels he or she has the answers and does not need to listen, seek information, or raise questions any longer.

A third error is premature closure, which often operates with and reinforces the first two errors. **Premature closure** occurs when you feel you have the answer and do not need to listen, seek information, or raise questions any longer. Unfortunately, most of us are a little lazy or get a little sloppy. We take a few pieces of evidence or look at events for a short while and then think we have it figured out. We look for evidence to confirm or reject an idea and stop when a small amount of evidence is present. We jump to conclusions. For example, we want to learn whether people in a particular town support Mary Smith or Juan Sanchez for mayor. We ask 20 people; 16 say they favour Mary, 2 are undecided, and only 2 favour Juan, so we stop there and believe Mary will win on the basis of a small sampling of town residents.

halo effect: An error often made when people use personal experience as an alternative to science for acquiring knowledge. It occurs when a person overgeneralizes from what he or she accepts as being highly positive or prestigious and lets its favourable impression or prestige "rub off" onto other areas.

The fourth common error is the **halo effect**, which occurs when we overgeneralize from what we accept as being highly positive or prestigious and let its favourable impression or prestige "rub off" onto other areas. For example, you pick up a report by a person from a prestigious university—say, McGill or the University of Toronto. You assume that the author is smart and talented and that the report will be excellent. You do not make this assumption about a report by someone from an unknown university or college. Under the halo effect, you form an opinion and prejudge the report and may not evaluate it by its own merits alone.

LO 3 Explain what is meant by the *scientific community* and the *scientific method*.

HOW SCIENCE WORKS

Although social research builds on some aspects of alternative ways of developing knowledge, it is science that distinguishes social research. Social research involves thinking scientifically about questions about the social world and following scientific processes. This suggests that we examine the meaning of science and how it works.

Science

The term *science* conjures up an image of test tubes, computers, and people in white lab coats. These outward trappings are a part of science, especially natural science (i.e., astronomy, biology, chemistry, geology, and physics), which deals with the physical and material world (e.g., planets, plants, chemicals, rocks, electricity). The social sciences—such as anthropology, psychology, political science, and sociology—involve the study of people and their beliefs, behaviour, interaction, institutions, and so forth. Fewer people associate these disciplines with the word *science*. Science is a social institution and a means of producing knowledge. Not everyone is well informed about science.

data: The *empirical evidence* or information that a person gathers carefully according to established rules or procedures; it can be qualitative or quantitative.

quantitative data: Information in the form of numbers.

qualitative data: Information in the form of words, pictures, sounds, visual images, or objects.

Scientists gather data using specialized techniques and use the data to support or reject theories. **Data** are the empirical evidence or information that one gathers carefully according to rules or procedures. Data can be **quantitative** (i.e., expressed as numbers) or **qualitative** (i.e., expressed as words, visual images, sounds, or objects).

Table 1.1 How Different Sources of Knowledge Might Address the Topic of Vaccine Safety

Knowledge Source	How the Topic of Vaccine Safety Might Be Addressed
Authority	Doctors say that vaccinations are safe and that they are rigorously tested before they are administered to the public. My doctor says they are safe, too.
Tradition	Vaccines have been around since the 18th century and have served to eradicate many devastating diseases.
Common Sense	Pharmaceutical companies spend a lot of money on developing vaccines, so vaccines must be safe.
Media Myth	I saw celebrities on TV arguing that vaccines are dangerous. They are suggesting that many other people may feel the same way.
Personal Experience	My mother had me and my siblings vaccinated, and we are all fine.
Scientific	The study linking vaccines to autism has been retracted because it was fraudulent, and several other studies have since shown absolutely no linkage between the vaccine and developing autism.

Empirical evidence refers to observations that people experience through the senses—touch, sight, hearing, smell, and taste. This confuses some people, because researchers cannot use their senses to directly observe many aspects of the social world they seek answers about (e.g., intelligence, attitudes, opinions, feelings, emotions, power, authority).

empirical evidence: The observations that people experience through their senses—touch, sight, hearing, smell, and taste; these can be direct or indirect.

The various ways in which acquiring knowledge might address the topic of the safety of vaccinations (discussed in Box 1.1) are shown in Table 1.1.

The Scientific Community

Science comes to life through the operation of the scientific community, which sustains the assumptions, attitudes, and techniques of science. The **scientific community** is a collection of people who practise science and a set of norms, behaviours, and attitudes that bind them together. It is a professional community—a group of interacting people who share ethical principles, beliefs and values, techniques and training, and career paths. For the most part, the scientific community includes both the natural and social sciences.

scientific community: A collection of people who share a system of rules and attitudes that sustain the process of producing scientific knowledge.

Many people outside the core scientific community use scientific research techniques. A range of practitioners and technicians apply research techniques that scientists developed and refined. Many use the research techniques (e.g., a survey) without possessing a deep knowledge of scientific research. Yet anyone who uses the techniques or results of science can do so better if they also understand the principles and processes of the scientific community.

At the core of the scientific community are researchers who conduct studies on a full-time or part-time basis, usually with the help of assistants. Many research assistants are graduate students, and some are undergraduates. Working as a research assistant gives most young scientists a real grasp on the details of doing research. Universities employ most members of the scientific community's core. Some scientists work for

the government (such as for Statistics Canada) or for private industry (such as for Ipsos Canada, Gallup, Pollara, and Environics). Most, however, work at the approximately 200 research universities and institutes located mostly in the advanced, industrialized countries. Thus, the scientific community is scattered geographically, but its members tend to work together in small clusters.

How big is the scientific community? A discipline such as sociology may have about 8000 active researchers worldwide. Most researchers complete only two or three studies in their careers, whereas a small number of highly active researchers conduct a large number of studies. In a specialty or topic area (e.g., the study of at-risk youth, social movements, divorce), only about 100 researchers are very active and conduct most research studies. Although research results represent what humanity knows and have a major impact on the lives of millions of people, only a small number of people actually produce most new scientific knowledge.

The Scientific Method and Attitude

scientific method: The process of creating new knowledge using the ideas, techniques, and rules of the *scientific community*.

You have probably heard of the scientific method, and you may be wondering how it relates to all of this. The **scientific method** is not one single thing: It refers to the ideas, rules, techniques, and approaches that the scientific community uses. The method arises from a loose agreement within the community of scientists. It includes a way of looking at the world that places a high value on professionalism, craftsmanship, ethical integrity, creativity, rigorous standards, and diligence. It also includes strong professional norms, such as honesty and uprightness in doing research, openness about how a study is conducted, and a focus on the merits of the research itself and not on any characteristics of the individuals who conducted the research.

LO 4 Describe the general steps in the research process.

STEPS IN THE RESEARCH PROCESS

Social research proceeds in a sequence of steps. Although various approaches to research suggest slightly different steps, most studies follow the seven steps discussed here.

To begin the process, you select a *topic*—a general area of study or issue, such as domestic abuse, homelessness, or powerful corporate elites. But a topic is too broad for conducting a study—this makes the next step crucial. You must then narrow down the topic, or *focus* the topic into a specific research question for a study (e.g., "Are people who marry at a younger age more likely to physically abuse a spouse under conditions of high stress than those who marry at an older age?"). As you learn about a topic and narrow the focus, you should review past research, or the literature, on a topic or question. You also want to develop a possible answer, or hypothesis, so theory can be important at this stage.

After specifying a research question, you will have to *design* a highly detailed plan on how you will carry out the study. This third step requires that you decide on the many practical details of doing the research (e.g., whether to use a survey or qualitative observation in the field, how many subjects to use). It is only after completing the design stage that you are ready to *collect* the data or evidence (e.g., ask people the questions, record answers). Once you have gathered the data carefully, your next step is to *analyze* the data. This will help you see any patterns and give meaning to, or *interpret*, the data (e.g., "People who marry young and grew up in families with abuse have higher rates of physical domestic abuse than those with different family histories.").

Finally, you must *inform others* by writing a report (we return to this topic in Chapter 4) that describes the study's background, how you conducted it, and what you discovered. The seven-step process shown in Figure 1.1 is oversimplified. In

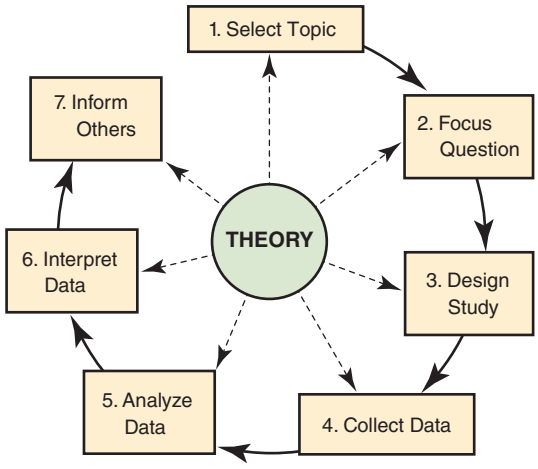

Figure 1.1 Steps in the Research Process

practice, you will rarely complete one step totally and then leave it behind to move to the next step. Rather, the process is an interactive one in which the steps blend into each other. What you do in a later step may stimulate you to reconsider and slightly adjust your thinking in a previous one. The seven steps are for one research project; it is one cycle of going through the steps in a single study on a specific topic.

USE OF RESEARCH

LO 5 Explain the difference between academic and applied research.

For over a century, science has had two wings: Some researchers adopt a detached, purely scientific, and academic orientation; others are more activist, pragmatic, and interventionist oriented. This is not a rigid separation. Researchers in the two wings cooperate and maintain friendly relationships. Some individuals move from one wing to another at different stages in their careers. In simple terms, some researchers concentrate on advancing general knowledge over the long term, whereas others conduct studies to solve specific, immediate problems. Those who concentrate on examining the fundamental nature of social reality are engaged in basic research.

Academic Research

academic social research: Research designed to advance fundamental knowledge about the social world.

Academic social research advances fundamental knowledge about the social world. Academic researchers focus on testing theories that explain how the social world operates, what makes things happen, why social relations are a certain way, and why society changes. Academic research is the source of most new scientific ideas and ways of thinking about the world. Many laypersons criticize basic research, asking, "What good is it?" and consider it to be a waste of time and money. Although academic research often lacks a practical application in the short term, it provides a foundation for knowledge in a specific discipline that may advance understanding in many policy areas, problems, or areas of study. Academic research is the source of most of the tools, methods, theories, and ideas used by applied researchers to analyze underlying causes of people's actions or thinking. It provides the major breakthroughs that significantly advance knowledge; it is the painstaking study of broad questions that has the potential to shift how we think about a wide range of issues. It may have an impact for the next 50 or 100 years. Often, the applications of academic research appear many years or decades later. Practical applications may be apparent only after many accumulated advances in academic knowledge build over a long period.