**CHAPTER 1**

**INTRODUCTION**

**CHAPTER OUTLINE AND OBJECTIVES**

I. The Science of Psychology

Psychologists develop theories and conduct psychological research to answer questions about behavior and mental processes; these answers can impact individuals and society.

The scientific method, a means to gain knowledge, refers to ways in which questions are asked and the logic and methods used to gain answers.

Two important characteristics of the scientific method are an empirical approach and a skeptical attitude.

II. Science in Context

Science occurs in at least three contexts: historical, social-cultural, and moral contexts.

A. Historical Context

An empirical approach, which relies on direct observation and experimentation for answering questions, was critical for developing the science of psychology.

The computer revolution has been a key factor in the shift from behaviorism to cognitive psychology as the dominant theme in psychological inquiry.

B. Social and Cultural Context

The social and cultural context influences researchers’ choice of topics, societys acceptance of findings, and the locations in which research takes place.

Ethnocentric bias occurs when peoples views of another culture are biased by the framework or lens of their own culture.

C. Moral Context

The moral context of research demands that researchers maintain the highest standards of ethical behavior.

The APAs code of ethics guides research and helps researchers to evaluate ethical dilemmas such as the risks and benefits associated with deception and the use of animals in research.

III. Thinking Like a Researcher

To think like a researcher is to be skeptical regarding claims about the causes of behavior and mental processes, even those that are made on the basis of published scientific findings.

The strongest evidence for a claim about behavior comes from converging evidence across many studies, although scientists recognize that claims are always probabilistic.

A. Evaluating Research Findings Reported in the Media

Not all science reported in the media is good science. We must question what we read and hear.

Media reports summarizing original research reports may omit critical aspects of the method, results, or interpretation of the research.

B. Getting Started Doing Research

When beginning a research study, students can answer the first question of what to study? by reviewing psychological topics in psychology journals, textbooks, and courses.

A research hypothesis is a tentative explanation for a phenomenon; it is often stated in the form of a prediction together with an explanation for the predicted outcome.

Researchers generate hypotheses in many ways, but they always review published psychological studies before beginning their research.

To decide if their research question is a good one, researchers consider the scientific importance, scope, and likely outcomes of the research, and whether psychological science will be advanced.

A multimethod approach, one that searches for answers using various research methodologies and measures, is psychologys best hope for understanding behavior and the mind.

IV. Summary

**REVIEW QUESTIONS AND ANSWERS**

These review questions appear in the textbook (without answers) at the end of Chapter 1, and can be used for a homework assignment or exam preparation. Answers to these questions appear in italic.

1. Describe two important characteristics of the scientific method.

*Two important characteristics of the scientific method are the reliance on an empirical approach and the skeptical attitude scientists adopt toward explanations of behavior and mental processes. (pp. 4-5)*

2. Why did early psychologists choose the empirical approach as the favored method for psychological investigations?

*Psychologists at the turn of the 20th century wished to divorce the young field of psychology from pseudoscientific topics dealing with spiritualism (e.g., telepathy, clairvoyance). They chose the empirical approach because it emphasizes direct observation and experimentation to answer questions about behavior and mental processes. Thus, the early psychologists chose to focus on behaviors and experiences that could be observed directly, rather than pseudoscientific experiences. (pp. 6-7)*

3. Identify two ways in which the computer was critical to the development of psychology in the 20th century.

*The computer revolution in the mid-20th century was an important factor in the prominence of cognitive psychology as the dominant perspective within psychology. Psychologists used a computer metaphor to understand cognitive processes and to replace the black box of the behaviorism perspective. Second, the development of readily available, powerful computers in psychology laboratories has significantly broadened the scope and precision of measuring cognitive processes. (p. 7)*

4. Provide an example of (1) how social and cultural factors may influence psychologists choice of research topics and (2) how social-cultural factors may influence societys acceptance of research findings.

*(1) Topics of importance in society can influence researchers’ choice of topics; for example, society’s growing interest in womens issues and issues faced by racial and ethnic minorities has increased the prominence of research representing these groups. (2) Societys acceptance of research findings is often affected by personal beliefs and/or financial interests related to the findings. For example, a report on the effects of child sexual abuse (CSA) was strongly criticized and censured because the findings were contrary to widely held opinions about abuse. (pp. 9-10)*

5. Describe how ethnocentric bias can be a problem in research and suggest one way in which researchers can prevent this bias.

*Ethnocentric bias occurs when researchers fail to recognize when experiences and values of their own culture affect their interpretation of behavior observed in other cultures. This becomes a problem when the framework or lens for interpreting behavior is inappropriate and potentially leads to a pejorative or derogatory interpretation of behavior among people in another culture. One way to avoid this problem is cross-cultural research, which emphasizes the awareness of cultural perspectives for interpreting behavior. (p. 11-12)*

6. What does it mean that research is conducted in a moral context?

*Because science represents a search for truth, there is no tolerance for unethical behavior such as fraud, lies, and misrepresentations. The moral context of research requires scientific integrity and that scientists maintain the highest standards of ethical behavior. (p. 13)*

7. Describe two ethical dilemmas that psychologists may face when conducting research.

*One ethical dilemma concerns deception. Psychologists must consider the questions: under what conditions should researchers be allowed to deceive research participants, and does the benefit of the information gained through deception outweigh the risks associated with deceiving participants about the nature of the research? A second ethical dilemma that psychologists confront is the use of animals in research, and whether animals can be harmed or killed as part of the research process. Psychologists consider the question: under what conditions should we permit psychological research with animals? (p. 14)*

8. Explain why researchers are skeptical about research findings, and explain how their attitude likely differs from that of the general public.

*Behavioral scientists are skeptical about research findings because they recognize that behavior is complex and often many factors interact to cause a psychological phenomenon. Discovering these factors is difficult and requires many studies in order to see the phenomenon in controlled conditions. Scientists also recognize that human scientists can make mistakes and that human inference cannot always be trusted. In contrast, the general public tends to be accepting and uncritical when faced with evaluating phenomena and claims about behavior. Many people are willing to accept “facts” based on their intuition or “common sense.”(pp. 15-16)*

9. Identify three reasons you would give another person as to why he or she should critically evaluate the results of the research reported in the media (e.g., self-help books, television, magazines).

*Three problems can occur in media reports of research: (1) often the psychology that is presented is not based on any research at all; (2) the research reported in the media is not always good research; and (3) media reports are often summaries of research and important details regarding the method, results, or interpretation may be omitted. These problems may lead people to accept media reports that may not be accurate. (p. 17)*

10. What are the three initial steps researchers take as they begin a research project?

*As researchers begin a project they (1) decide what to study (e.g., by reviewing psychological research), (2) determine whether their research question will make a valuable contribution to the science of psychology, and (3) develop a hypothesis to test. (p. 19)*

11. Identify two reasons it is important to search the psychological research literature when beginning research.

*One reason to search the psychological literature is to determine whether research has already provided an answer to the research question. Science is cumulative, and research should build upon previous research. Second, a review of psychological literature will help the beginning researcher to form a hypothesis. The literature review may reveal inconsistencies and/or contradictions regarding a phenomenon, or may show that the phenomenon has been tested only in limited circumstances, or may identify a theory in need of testing. Thus, searching the psychological literature before conducting a study helps researchers to find a solid research path to follow. (pp. 19-20)*

12. Describe the multimethod approach to research and identify its main advantage.

*The multimethod approach is based on the idea that no single research methodology can answer all of the questions psychologists have about behavior and mental processes. This approach emphasizes that the best means to answering questions in psychology is to use various research methodologies and measures of behavior. The advantage of this method is that any one method or measure of behavior may be flawed or incomplete. When researchers use multiple methods, the flaws associated with any particular method are surmounted by other methods that fill in the gaps. By using a multimethod approach, researchers gain a more complete understanding of behavior and mental processes. (p. 23)*

**CHALLENGE QUESTIONS AND ANSWERS**

These questions appear in the textbook at the end of Chapter 1, and can be used for a homework assignment, in-class discussion, or exam preparation. Answers to these questions appear in italic below.

[*Answer to Challenge Question 1 also appears in the text.*]

1. Consider the hypothesis that playing violent video games causes people to be more aggressive compared to watching violence passively on television.

A. How might you test this hypothesis? That is, what might you do to compare the two different experiences of exposure to violence?

*One way to test this hypothesis would be to have two groups of participants. One group would play violent video games, and a second group would watch violence on television. A second way to test the hypothesis would be to use the same group of participants and expose them to both types of violence at different points in time.*

B. How would you determine whether people acted in an aggressive manner after exposure to violence?

*To determine whether people behaved more aggressively following exposure to video games or television, you would need some measure of aggressive behavior. A potentially limitless number of measures exists, perhaps limited only by the ingenuity of the researcher. A good first step is to use measures that other investigators have used; that way, you can compare the results of your study with previous results. Measures of aggression include asking people to indicate how they would respond to hypothetical situations involving anger, or observing how they respond to experimenters (or others) following exposure to violence. In the latter case, the researcher would need a checklist or some other method for recording participants’ violent (or nonviolent) behavior. Keep in mind that aggression can be defined in a number of ways, including physical behaviors, verbal behaviors, and even thoughts (but note the difficulty in measuring the latter).*

C. What additional factors would you have to consider to make sure that *exposure to violence,* not some other factor, was the important factor?

*It would be important to make sure that the two groups -– television vs. video game— are similar in every way except for television or video game exposure. For example, suppose your research had two groups of participants: One group watched television and the other group played video games. Suppose, also, that your results indicated that participants who played video games were more aggressive than participants who watched television on your aggression measure.*

*One problem would occur if the video game participants were naturally more aggressive to begin with compared to the television participants. It would be impossible to know whether exposure to violence in your research or their natural differences in aggressiveness accounted for the observed difference in aggressiveness in your experiment. You would want to make sure, therefore, that the participants in each group are similar before the exposure to violence. Later in this text you will learn how to make the groups similar.*

*You would also want to make sure that other aspects of the participants’ experiences are similar. For example, you would ensure that the length of time exposed to violence in each group is similar. In addition, you would try to make sure that the degree of violence in the television program is similar to the degree of violence in the video game. It would also be important that participants’ experiences do not differ for a number of additional factors, such as whether other people are present and the time of day. In order to demonstrate that video game playing causes more (or less) aggression than television viewing, the most important point is that the only factor that should differ between the groups is the type of exposure.*

2. Researchers use their observations of behavior to make inferences about psychological concepts. For example, “boredom” could be measured by counting the number of times someone moves (fidgets) in a chair.

1. Identify a behavior you could observe to assess each of the following concepts used by psychologists: *interpersonal attraction, embarrassment, fear, enjoyment, and shyness.*

*Note: Students may come up with alternative answers.*

*Interpersonal attraction: eye gaze (e.g., number of attempts, duration), smiling*

*Embarrassment: face color (e.g., turning red), avoiding eye contact*

*Fear: increased heart rate, trembling*

*Enjoyment: smiling, approach movements (e.g., leaning forward)*

*Shyness: avoiding eye contact, limited speech*

1. For each of the behaviors you came up with in Part A, what might be a different concept that is being measured? For example, movements in a chair might measure enthusiasm or anxiety, rather than boredom.

*Interpersonal attraction: extended period of eye gazing may reflect gazer’s mind wandering (i.e., in a “daze”), smiling may indicate positive mood of gazer*

*Embarrassment: turning red may indicate anger, avoiding eye contact may reflect depressed mood*

*Fear: increase in heart rate may indicate excitement, trembling may reflect experience of cold or chill*

*Enjoyment: smiling may reflect attempts at ingratiation or kindness, approach movements may indicate interpersonal attraction*

*Shyness: avoiding eye contact may indicate boredom, limited speech may reflect drowsiness*

3. Identify how ethnocentric bias might influence each of the following research questions, then propose an alternative to reduce ethnocentric bias.

1. A researcher seeks to determine whether happiness is associated with personal fulfillment (i.e., a person’s ability to maximize his or her own individual goals), and compares the relationship between happiness and self-fulfillment in America and China.

*The goal of self-fulfillment is more valued in individualistic cultures such as America, rather than in collectivist cultures (e.g., China). To the extent the researchers seek to link happiness with self-fulfillment and regard Chinese participants as less happy and self-fulfilled, they may demonstrate ethnocentric bias. If the researcher is interested in whether a potential relationship between self-fulfillment and happiness exists in different cultures, it would be better to focus on cultures that hold similar values. Alternatively, the researcher could compare factors associated with happiness in America and China.*

1. A psychologist has conducted research on romantic relationships for over 35 years. Although her research questions have focused on how dating partners interact when together, she decided to expand her research to examine texting between dating partners. Specifically, she plans to test her idea that texting between partners leads to more superficial romantic relationships.

*Because of this psychologist’s likely age and her focus on more traditional dating practices, her research question that seeks to show a negative effect of texting (“superficial”) may reflect an ethnocentric bias. She may choose measures that support her hypothesis. She should be sure to include measures that might indicate positive aspects of texting in relationships.*

1. A researcher is interested in people’s reactions to threats of terrorism, and is specifically interested in the theory that terrorism activates people’s sense of their own mortality. He proposes a research study in which reminding people of the afterlife will diminish their fear of terrorism.

*The researcher’s plan to remind people of the afterlife likely reflects his own religious background and beliefs, and is not sensitive to the fact that religious traditions differ in their views of an afterlife. An alternative would be to investigate fear of terrorism across religious traditions, or to examine the relationship between different beliefs about mortality and fear of terrorism.*

4. Form hypotheses by linking together an event or behavior from the first column with an outcome from the second column, and then identify a possible explanation from the third column. Use each event, outcome, and explanation once. More than one combination of the variables may be possible.

**Event or Behavior Outcome Explanation**

**1** living in poverty  **1** reduced helping **1** physiological arousal, anger

**2** racial discrimination **2** risk-taking behavior **2** experience of unpredictability

**3** imagine meeting negatively **3** psychological distress **3** decreased perception of

stereotyped personothers’ humanity

**4** playing violent video games **4** greater intention to **4** reduced anxiety

interact with person

*Note: Students may argue alternative hypotheses to those listed here based on their own combinations of the variables.*

*Living in poverty results in psychological distress, likely due to the experience of unpredictability that occurs in impoverished conditions.*

*The experience of racial discrimination results in increased risk-taking behavior, likely due to increased physiological arousal and anger.*

*Imagining a meeting with a negatively stereotyped person leads to a greater intention to interact with a negatively stereotyped person, likely due to reduced anxiety about the person.*

*Playing violent video games results in less helping of others, likely due to decreased perceptions of the humanity of others.*

**ISSUES AND PROBLEMS FOR CLASS DISCUSSION**

As an introduction to the science of psychology, one purpose of Chapter 1 is to encourage students thinking about the scientific method and the need for critical evaluation of research findings. The following questions may be useful for class discussion regarding students’ experiences with psychological research and ways of gaining knowledge.

1. Science in the Public Interest: Violence in the Media

The first section of Chapter 1 illustrates how research in psychology impacts society and reviews findings regarding media violence. Students are likely familiar with the major findings, but it may be helpful to review the list of findings (p. 4). Discussion may address students’ experiences of violence in the media and their impression of whether they are adversely affected by media violence. Next, describe students’ personal experiences as anecdotal evidence (perhaps even a case study) that lacks any comparison or control condition. That is, students might consider how their attitudes and behaviors might be different *without* exposure to media violence to highlight the importance of comparison. Students also may consider the impact of these research findings on their own future behavior (e.g., additional exposure to violence) and whether society should do more to limit media violence.

2. The Scientific Method: Ways of Knowing

Very early in the course (in the first or second class session) we have found it useful to have a class discussion to help students put the scientific method in context as a way of knowing. We center the discussion on the question, “What is truth and how do we know it? The discussion can be done most efficiently with students responding individually in a large group but students can also work in pairs or in small groups prior to discussing in a large group. The entire discussion can be completed in as little as 10 or 15 minutes if it is done as one large discussion group. Steps for leading the discussion follow.

Step 1. To begin the discussion students are asked to respond to variations of a question such as “How do you know something is true?” and “What institutions in our society claim to tell us things that are true? Students typically respond that they know what is true based on personal opinion, public opinion, or what they have been taught is true. Students identify several societal institutions that claim to tell us things that are true. The institutions typically include education, government, the legal system, religion, and the media. The students frequently generate science as one of the institutions; when they do not, we either prompt students to elicit science as a response or simply add science to the list.

Step 2. In the second phase, one of the institutions from the list is selected. We have found that the legal system works especially well for this phase. The students are to identify for the selected institution (1) an assumption made in seeking truth; (2) rules or guidelines in seeking evidence for truth; and (3) a decision rule for claiming truth. For the legal system, students relatively quickly identify the three characteristics. The assumption they describe is that the accused is presumed innocent. They describe guidelines for seeking evidence such as search warrants and rules for presenting evidence in court. Finally, they identify the decision rule used in criminal cases of guilty beyond a reasonable doubt.

Step 3. The discussion can conclude by noting that science, like the legal system and other societal institutions, is guided by assumptions, rules of evidence, and decision rules. The research methods course provides an introduction to the scientific method. We encourage students to begin their research methods course with the idea that the scientific method is one of many ways of knowing truth.

3. Students Experiences as Research Participants

Many students experienced being research participants when they enrolled in introductory psychology. Colleges and universities commonly ask introductory psychology students to be part of a participant pool and volunteer for various research projects conducted by faculty and students at the institution. Students can be asked to share their experiences as research participants. What did they learn about psychological research through their participation? What did it feel like to be a subject of a study? How were they treated by researchers? Their responses may raise ethical issues associated with research participation, which are addressed more fully in Chapter 3.

4. Reports of Psychological Research in the Popular Press

An assignment that can be given to students early in the course is to collect reports of research findings related to psychology that appear in news media, periodicals, and online. (This can be built into the regular course assignments or presented as extra credit.) Not only does this assignment serve to demonstrate the relevance of their research methods course to understanding and discussing topics of practical interest (e.g., parenting, psychotherapy, Alzheimers disease, interpersonal relations), but also provides examples of what psychologists have learned using the scientific method. Because articles obtained by students will vary in their degree of detail, scientific foundation, and other important characteristics, many of these research reports may be used to illustrate the problems of learning exactly what was done from a brief media report of research. That is, students may be guided to see the difficulty of sorting out the scientific facts in media reports and this hopefully will begin to instill in them a healthy skepticism for what they hear or read in the media.

Students might be asked to consider the following questions:

A. What reasons would you give to another person as to why he or she shouldn’t accept uncritically the results of psychological research as it is reported in the news media (e.g., television, online, magazines)?

*Students may argue that they dont have enough information to accept the results uncritically, or that they need to learn what other scientists have learned. They also may state that reporters may have selected information from a report so as to provide support for points they wish to make in their story, or may be biased to present a certain viewpoint.*

B. Are there aspects of the media report that make you skeptical about accepting the findings? What type of information could have been provided that would make you less skeptical?

*Students may report they have been skeptical when a finding seemed too good to be true. In addition, they may wonder whether the outlet for the report has anything to gain (e.g., advertising dollars). Students may suggest that more information would help reduce their skepticism, for example, by reading original research reports and searching psychological literature for evidence that a finding has been replicated.*

5. Ethnocentric Bias in Psychological Concepts

The important issue of ethnocentric bias can be discussed by selecting major psychological concepts and asking students to consider how these concepts might be viewed differently across different cultures and over time. (It is important to emphasize to students that culture measures more than national identity.) Possible examples for discussion include personal space, achievement motivation, intelligence, introversion.

Students may also be asked to consider to what extent (1) their own research interests and hypotheses about behavior are influenced by their social-cultural background and (2) topics of interest in contemporary psychology are influenced by social-cultural factors. The following questions may guide discussion:

A. What research topics in psychology interest you? What are some questions you have about behavior and mental processes? To get started, fill in the blank to this statement: I have often wondered why \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

B. What hypothesis can you form about your topic?

*In this exercise, students should be able to develop ideas for the relationships among variables that interest them, as well as possible causes of psychological phenomena.* *In order to anticipate material in subsequent chapters, students could be asked to differentiate descriptive information from predictive relationships and potential causal explanations in their hypotheses.*

C. Consider the ways your cultural background influences your choice of topic and the hypothesis you have developed. How might your topic or hypothesis differ if viewed from a different cultural lens?

*In order to brainstorm about cultural influences, prompt students to consider whether people with different backgrounds than themselves would view their topic similarly. For example, male students may be asked to consider how females would approach the topic (and vice versa); similarly, traditional college-age students could discuss whether older individuals might have a different perspective. Finally, students could be prompted to consider other variables (e.g., racial/ethnic background, religion, socioeconomic status) as different lens that influence how we perceive psychological phenomena.*

D. What research topics and theories are currently popular among psychologists? You may want to page through some psychology journals or interview some of your psychology instructors.

*One answer to this question might focus on recent emphases on neuropsychology. Discussion may focus on theories that explain behavior and mental processes using neurochemical and neuroanatomical processes. A different perspective might emphasize sociobiological explanations, which focus on the evolutionary advantage of certain behaviors and mental processes.*

E. How might our current social and cultural context be related to the prominence of these research topics?

*The popularity of neuropsychology parallels the technological advances seen in our society. Because of recent advances in neuroimaging (e.g., functional magnetic resonance imaging), we are able to identify brain structures that appear to be relevant to certain behaviors.*

F. To what extent does ethnocentric bias play a role in the prominence of these research topics?

*To the extent that our culture values technology, we may be biased to view research that is neuropsychological as more important or that it contributes more to our understanding of human behavior and mental processes than other approaches.*

6. Clinical Psychology and Science

Box 1.2 (p. 15) highlights a recent critique of clinical psychology in which the practice of clinical psychology is compared to pre-scientific medical practice of the late 1800s and early 1900s. The authors of the critique (Baker, McFall, & Shoham, 2008) argue that most clinical psychologists are unaware of scientific evidence that favors the use of empirically supported treatments (ESTs) and moreover, lack the training that would allow them to understand the research methodology and findings. They conclude their critique of clinical psychology by suggesting that training in clinical psychology should be completely reformed to be more scientific and research-based, and that the practice of nonscientific clinical psychology should be stigmatized.

Students often pursue psychology because of their interest in clinical practice and some may do so because they perceive clinical psychology to be more people-oriented, with a focus on talking to people about their problems. Indeed, many students regard their research methods course as an obstacle to overcome, rather than a critical aspect of the practice of psychology. Class discussion may focus on these questions:

A. What do you imagine the practice of clinical psychology to be like? Does it include science and research?

B. If you were to seek treatment from a clinical psychologist, would you be interested in a treatment that has been shown to be effective in clinical research, or would you be satisfied with the psychologists personal experience in treating people? Is your answer different than what you might seek from a medical doctor for a physical problem?

1. If you are considering graduate studies in clinical psychology, what do you think of the argument that training should be scientifically based and that nonscientific training and practice should be stigmatized? Would a strong research focus in clinical psychology training programs affect your choice for study? Why or why not?

7. Additional Challenge Questions

These challenge questions (along with the concepts illustrated in each question) can be used for class discussion or possible test questions.

1. In your courses you have learned a variety of approaches to gaining knowledge about people. For example, in reading literature, we learn about people through the eyes of the author and the characters he or she has developed. How is this approach to gaining knowledge different from that used by researchers in psychology? What are the advantages and disadvantages of each approach?

*[Note: This question asks students to compare what they have learned about the scientific method in Chapter 1 with experiences in other disciplines; information about other disciplines is not addressed directly in the text.]*

*Researchers in psychology rely on an empirical approach to gaining knowledge; this approach emphasizes direct observation and experimentation. The advantage of the empirical approach is that it limits subjective judgment and intuition, both of which can lead to inaccurate conclusions about psychological phenomena. A disadvantage of this approach is that some aspects of mental processes are difficult to observe directly. In literature, readers may obtain a very rich and full description of characters behavior and mental processes, allowing them to gain a good understanding of motivations and behaviors. This information, however, may be biased by an authors understanding of human behavior and may not describe what is generally true for most people.*

1. Across the history of research in psychology, we have witnessed a change in emphases from sensation-perception to behaviorism and then to cognitive psychology. Within the different areas or subdisciplines of psychology (e.g., clinical, developmental, neuroscience, social), the number of research topics has increased tremendously.

*[Note: The following questions ask students to describe their own interests in psychology and to review recent psychological journals to identify topics of current interest within subdisciplines of psychology. Answers will vary according to students’ experiences.]*

(1) What area(s) within psychology is of most interest to you, and why?

(2) At your library, browse through three or four current issues of journals within your area of interest (e.g., *Developmental Psychology, Journal of Consulting and Clinical Psychology, Journal of Personality and Social Psychology*). (Ask your instructor or librarian for names of additional journals.) What topics did the researchers investigate? Can you observe any trends in the topics or in the kind of research that is being conducted? Describe your findings.

1. Identify how ethnocentric bias might play a role in the type of research the following groups choose to pursue by providing a sample research question that would likely be of interest for each group (and would represent potential bias).

(1) men vs. women

*An ethnocentric bias from a male perspective might lead researchers to study peoples interest in team sports and competition; from a female perspective, researchers may choose to study peoples interest in infants and children.*

(2) ethnic majority vs. ethnic minority

*Researchers from within an ethnic majority might choose to conduct research on power hierarchies within relationships; researchers from an ethnic minority might choose to investigate factors related to feelings of oppression.*

(3) political conservative vs. political liberal

*Politically conservative researchers might choose to study the role of moral values in peoples voting behavior; politically liberal researchers might examine peoples views on economic justice.*

(4) ages 18-25 vs. 35-45 vs. 55-65 vs. 75-85

*Researchers in the 18-25 age group might study factors related to mate selection; researchers in the 35-45 age group might choose to study factors related to career success; researchers in the 55-65 age group might be interested in studying the effects of an empty nest; researchers in the 75-85 age group might investigate attitudes toward death and dying.*

**INSTRUCTORS LECTURE/DISCUSSION AIDS**

The following pages display content from Chapter 1 and may be used to facilitate lecture or discussion.

1. The Science of Psychology: This page identifies three main aspects about psychological science.

2. Media Violence and Aggression: As an example of research in psychology, this page details major findings regarding the effects of media violence.

3. The Scientific Method: This page describes the scientific method and the empirical approach.

4. Science in Context: Three contexts for scientific psychology are introduced: historical, social/cultural, and moral.

5. Ethnocentric Bias: This page describes the ethnocentric bias.

6. Thinking Like a Researcher: This page introduces scientific skepticism.

7. Guidelines for Evaluating Reports of Psychological Research: This page offers guidelines for evaluating research reports presented in the media.

8. Getting Started Doing Research: This page suggests ideas for getting started in research.

9. Research Hypotheses: This page defines hypothesis and compares two hypotheses regarding the effects of media violence.

10. The Multimethod Approach to Psychological Research: This page explains why psychologists use multiple methods to answer research questions.

11. Steps in the Research Process: This page outlines the steps involved in conducting research and provides a good overview of topics covered in the text.

12. Discussion Questions: This page lists a number of questions that may stimulate discussion regarding the nature of psychological research.

**The Science of Psychology**

* Psychologists
* Develop theories
* Conduct research
* Answer questions about behavior and mental processes

**A Research Example:**

**Media Violence and Aggression**

* Exposure to media violence *causes*
* Increase aggressive and violent thoughts, emotions, behaviors
* Short- and long-term effects
* Consistent effects of exposure to violent media across:
* Variety of research studies and methods
* Samples of people
* Types of media (e.g., TV, films, video games, Internet, music)
* Long-term effects of childhood exposure
* Adult aggression
* Physical assaults
* Spouse abuse
* Research supports theories about exposure to media violence:
* Activates aggressive cognitions and physiological arousal
* Models aggressive behaviors
* Desensitization to violence
* Additional factors important
* Characteristics of viewers (e.g., age)
* Social environments (e.g., parental monitoring)
* Media content (e.g., realism, consequences of violence)
* No one is immune to the effects of media violence.

Anderson, C. A., Berkowitz, L., Donnerstein, E., Huesmann, L. R., Johnson, J. D., Linz, D., Malamuth, N. M., & Wartella, E. (2003). The influence of media violence on youth. *Psychological Science in the Public Interest, 4,* 81-110.

**The Scientific Method**

* Not a particular technique or method; an abstract concept
* Ways in which scientists ask questions
* Logic and methods they use to gain answers
* Two important aspects: Empirical approach, skeptical attitude
* Empirical approach
* Observe behaviors directly
* Experimentation (systematic control of observations)

**Science in Context**

**Historical, Social-Cultural, and Moral Contexts**

* Historical context
* Increased scope of scientific psychology
* Psychological organizations: APA, APS
* Early 1900s: empirical approach
* 20th century: computer revolution
* Shift: behaviorism to cognitive psychology
* Social and cultural context
* *Zeitgeist* influences
* Research questions
* Support for research
* Societys acceptance of research findings
* Potential for ethnocentric bias
* Moral context
* High standards for integrity and ethical conduct
* Scientists do not fabricate data, plagiarize, or selectively report research findings
* Ethical principles of APA
* Evaluate research dilemmas involving risk and benefits, deception, animal research

**Ethnocentric Bias**

* Attempt to understand behavior of individuals in a *different* culture through framework or views of our *own* culture
* Be aware of cultural influences.
* Consider research questions that go against stereotypes.
* Ethnocentric bias influences how we interpret behavior.
* Example: stereotypes based on clothing, hair style, body art
* Class Discussion

Does ethnocentric bias influence how people of different age groups interpret the dress (including body art) and behavior of teens and young adults?

**Thinking Like a Researcher**

* Be skeptical.
* Even for claims based on published research
* And claims presented in the media
* Strongest evidence
* Converging evidence
* All claims are probabilistic.
* Science and the legal system
* Both make decisions based on evidence.
* Small amount of evidence leads to *suspicion*.
* Large amount of evidence is needed to *convict.*

**Guidelines for Evaluating Reports**

**Of Psychological Research**

* Dont confuse pseudoscience or nonscience with science.
* Be skeptical.
* Scientists may disagree.
* Research is generally about averages.
* Go to the original source.

**Getting Started Doing Research**

* What should I study?
* Review psychology journals, textbooks, and courses
* Attend colloquia
* Join a research team
* How to develop a research question and hypothesis to test in research?
* Most important: Read reports of psychological research

**Research Hypotheses**

* A *hypothesis* (plural: hypothes*es*) is
* A tentative explanation for a phenomenon
* Stated in the form of a prediction together with an explanation for the prediction
* Examples
* Research participants who play violent video games are *predicted* to behave *more* aggressively after the exposure than participants who passively view television violence

*because*

video game participants aggression is reinforced (rewarded) while playing the game.

* Research participants who play violent video games are *predicted* to behave *less* aggressively after the exposure than participants who passively view television violence

*because*

video game participants have the opportunity to release any aggressive impulses; passive television viewers do not have the opportunity during exposure.

**The Multimethod Approach**

**to Psychological Research**

* One scientific method
* Many psychology research questions and methods
* Different areas in psychology require multiple research methods

(e.g., clinical, cognitive, developmental, and social psychology).

* No single research method or technique can answer all of the different questions.
* Multimethod approach
* Use various research methodologies and measures of behavior
* Toolbox with different strategies
* No perfect method for answering questions
* Each method or measure of behavior has flaws or may be incomplete
* Multiple methods fill in the gaps
* Advantage: gain more complete understanding of complex behavior and mental processes

**Steps of the Research Process**

**Step How?**

Develop a research question. Be aware of ethnocentric bias.

Gain experience doing research.

Read psychological literature.

Generate a research Read theories on your topic.

hypothesis. Consider personal experience, think of exceptions, and notice inconsistencies in previous research.

Form operational definitions. Look to previous research to see how others have defined the same constructs.

Identify the variables you will examine.

Choose a research design. Decide whether your research question seeks to describe, allow prediction, or identify causal relationships.

Choose the appropriate research design for your question.

Evaluate the ethical issues. Identify the potential risks and benefits of the research and the ways in which participants’ welfare will be protected.

Submit a proposal to an ethics review committee.

Seek permission from those in authority.

Collect and analyze data; Get to know the data.

form conclusions. Summarize the data.

Confirm what the data reveal.

Report research results. Present the findings at a psychology conference.

Submit a written report of the study to a psychology journal.

**Discussion Questions**

* Have you heard or read media reports about psychological research?
* Did you accept the report without questions? Why or why not?
* Did you have enough information?
* What do other scientists say about the topic?
* Could the reporter be biased?
* Do you remember ever being skeptical about research presented in the media?
* Why were you skeptical?
* What information would have made you less skeptical?
* Did a finding seem too good to be true?
* Did anyone have anything to gain through the report?
* Have the findings been replicated (repeated)?
* What research topics in psychology interest you?
* What relationships might exist among variables (factors) of interest to you?
* Can you make predictions regarding your variables?
* Can you identify potential causes for the behavior or phenomenon?
* Does your cultural background influence your choice of topic and hypotheses?
* Would people of different backgrounds view your topic similarly?
* Consider people with different age, sex, racial and socioeconomic status than yourself. Might these characteristics make a difference for your topic?
* What research topics and theories are currently popular among psychologists?
* How might current the current social and cultural context be related to the prominence of certain psychological topics?
* What psychology research topics are investigated at your school?