CHAPTER 2 INSTRUCTOR'S MANUAL

BRIEF CHAPTER OUTLINE

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Summary

Critical Thinking Skill: Understanding the Importance of Sampling

LEARNING OBJECTIVES

1. Understand that describing reality, identifying correlations between variables, testing causal hypotheses, and developing and testing theories are key objectives of research.
2. Understand that research is often guided by a hypothesis, which may specify a causal relationship between two or more variables.
3. Be able to distinguish between an independent and dependent variable.

4. Be able to differentiate between internal and external validity, and identify the measures available to ensure validity of findings.
5. Be able to describe the defining characteristics of quantitative research methods such as surveys and experiments, and qualitative methods such as observation and archival research.
6. Differentiate between a simple random sample and stratified sample, and begin to think critically about sampling method and its impact on the interpretation of findings.
7. Understand the strengths and weaknesses of the different research methods, and how these strengths and weaknesses influence a researcher's choice of method.
8. Explore the method of meta-analysis, and understand its role in social psychological research.
9. Be able to explain the issues that are raised when we undertake research on diverse groups within U.S. society or with members of other cultures.
10. Identify the three potential sources of harm to research participants, and the steps that individual investigators can take to minimize or prevent such harm.
11. Understand the roles of the Institutional Review Board and informed consent as institutional safeguards against harm to research participants.

After reading Chapter Two, students should have an introductory level understanding of how social psychologists use theories, hypotheses, and sampling and methodologies together to generate knowledge about human social behavior. Students will understand that the objectives of research are to describe reality, identify correlations between variables, test causal hypotheses, and develop and test theories. They will understand the basics of hypothesis construction, and will be able to identify independent and dependent variables. Furthermore, they will explore the major types of quantitative methods (surveys, diary research, experiments) and qualitative methods (observational research, archival research and content analysis), as well as meta-analysis, and understand how the strengths and weaknesses of these different approaches to research impact the variety of topics and questions they are used to explore. Finally, students will understand how research with human subjects can pose both risks and benefits to participants, the forms these risks may take, and the steps both institutions and individuals can take to prevent or mitigate these risks.

LECTURE OUTLINE

I. Introduction

A. Questions about Research Methods—This chapter discusses the research methods used in contemporary social psychology, and provides a foundation for understanding and evaluating the empirical research presented in the text. Topics addressed include 1) the basic objectives of social psychological research, 2) the defining characteristics of five core categories of research methods, including their strengths and limitations, 3) basic issues related to evaluation of research, including internal and external validity as well as the relationship between sampling and generalizability, and 4) the responsibility of individuals and institutions to prevent or reduce risks to participants of social psychological research.

II. Characteristics of Empirical Research

A. Objectives of Research—Though social psychologists conduct research for a number of reasons, their objectives usually fall within four categories. For some, description of reality is the primary objective, especially if the topic of study is one we know little about, or if the investigator wishes to know the frequency with which an attitude or behavior occurs. Researchers may also aim to ascertain if a correlation exists between two or more behaviors or attributes. A third objective of research is to discover the causes of some behavior or event. This is done by first formulating a causal hypothesis, and then designing a study that can eliminate possible alternative interpretations of the findings. Finally, research is often used to test existing theories and develop new ones.

B. Research Hypotheses—A hypothesis, broadly speaking, is a conjectural statement about a relationship between two or more variables. A study may have one or more hypotheses; they can be causal or noncausal in nature. Noncausal hypotheses posit that two variables occur together, such as "high levels of X occur with low levels of Y." Causal hypotheses predict that an independent variable causes or has an effect on a dependent variable. Variables that are not explicitly included in the hypothesis but have a causal effect on the dependent variable are known as extraneous variables.

C. Validity of Findings—When conducting research, investigators must consider the validity of their findings. Validity is both internal and external. We say that the findings of a study have internal validity when they are not contaminated by extraneous variables. Threats to internal validity also threaten the ability of the researcher to provide clear, interpretable results. External validity concerns the applicability or generalizability of a study's findings to settings, populations, or time periods outside of the particular setting or population used for the study.

III. Research Methods

A. Surveys—A survey is a procedure for collecting information by asking members of some population a set of questions and recording their responses. They are useful for identifying the average response to a question, identifying how groups of respondents differ from one another, determining if there is a relationship between two or more attributes of interest, and making basic theoretical contributions to social psychology. Surveys can be administered by an interviewer, on paper, or over the phone or web. The type of survey used, the type or method of questioning, and the sampling strategy chosen will be influenced by the goal of the research, the amount of time and money the investigators have, and the size and characteristics of the population.

B. Diary research- Diary research refer to a variety of procedures that elicit reports of ongoing/recent activities from participants. Participants may be asked to provide information when events occur, or at specific times, e.g., daily. The researcher is able to collect data as events occur in their natural setting, as opposed to after the fact as in a survey. In turn, this should reduce or eliminate errors due to memory and the passage of time since the event (Bolger, Davis & Rafaeli, 2003). Diary methods have been used for decades to study media use patterns (remember the Nielsen ratings of broadcast TV

programs?) and time use. More recently, they have been used to study what people spend money on, what they eat, when and how far they travel, and what housework and child care activities they engage in, to name a few.

C. Experiments-Experiments are the most controlled of all the research methodologies available to social psychologists. They are useful for establishing causal relationships between variables. All experiments share two key characteristics. First, there is manipulation of one or more independent variables (IV) hypothesized to have a causal impact on the dependent variable (DV). Second, participants are assigned randomly to each treatment so as to mitigate the effects of extraneous variables. Experiments can take place in a laboratory or in a natural or field setting. Laboratory experiments allow for greater control of stimuli, tasks, information, and situations faced by the participant. Labs also allow for easier manipulation of the IV, measurement of the DV, and control of extraneous variables. This leads to a greater level of internal validity compared to field experiments, in which investigators manipulate variables in a natural, non-laboratory setting. Field experiments have high external validity compared to lab experiments, but face a number of challenges, such as difficulty manipulating IVs and reduced control over extraneous variables.

D. Observational research, also called a field study, entails making systematic observations about behavior as it occurs naturally in an everyday setting. Social psychological researchers may collect observational data in a number of ways. For instance, they might watch carefully and take notes from memory at a later time, make notes or take audio recordings while they are observing, make audio or video recordings and analyze the tapes later on, become an active participant in the behavior and make notes about the behavior after the fact, or even examine evidence left behind after actors leave the setting. The method selected by the researcher depends on the goal of the research, the sensitivity of the behavior (is it illegal or private?), and whether or not the setting is public. While observational research poses a number of challenges, such as the validity of the findings being sensitive to the recording method used, it remains a valuable method of data collection as it is relatively unobtrusive compared to surveys and experiments and it allows researchers to study social activity in a real-world setting.

E. Archival Research and Content Analysis—While social psychological researchers generally prefer to collect original data, there are instances where data of suitable quality has already been collected and its use is deemed preferable to the collection and analysis of new data. There are many sources of such data, including government agencies, data banks maintained by large universities, information gathered by formal organizations, and the news media. If the data are not in a format that is amenable to analysis, the researcher may perform content analysis. Archival research is of lower cost compared to other methods, and often saves time. Sometimes it enables researchers to test hypotheses about phenomena that occur over extended periods of time. Drawbacks to archival research include a lack of control over the type and quality of the data, doubts regarding the original research design or data collection procedures, and large amounts of inconsistent or missing information.

a. Comparison of Research Methods—No one method of empirical investigation is best for all purposes. Method selection is based on the phenomenon under study and the research characteristics of primary importance to the investigator.

b. Meta-Analysis—Meta-analysis is a statistical technique that allows the researcher to combine the quantitative results from all previous studies on a question. It is useful for making sense of large numbers of studies on the same phenomena that may produce divergent findings. It has become increasingly important as researchers in many disciplines have recognized the "replication crisis."

F. Research in Diverse Populations—It is important that research in racial and ethnic minority groups in the United States, and in members of other cultures around the world, meet the standards of internal and external validity. In order to do so, methods should always take into account and capture relevant aspects of the culture, cultural history and present social and economic circumstances of the group(s) being studied. Furthermore, if the researcher's intent is to characterize groups or cultures, the samples must be representative. Finally, the research team should include researchers who are members of the group(s) or are culturally competent.

G. Ethical Issues in Social Psychological Research

a. Potential Sources of Harm—Harm to participants can come in many forms, including physical harm, psychological harm, and breach of confidentiality. Physical harm is an uncommon risk in social psychological research, though studies that include a physical component—such as inducing stress through exercise on a treadmill—take precautions to exclude potential participants who have a relevant medical condition. Psychological harm is a more common risk. Studies that present participants with negative information about themselves as part of a manipulation run the risk of psychological harm; to mitigate this risk investigators provide a thorough debriefing after the experiment and explain the falsity of the feedback. Finally, there is the risk of breach of confidentiality. There are a number of methods to prevent breach of confidentiality, such as avoiding the inclusion of people who are likely to have social contacts with the respondents on the research team, as well as using pseudonyms in published works.

b. Institutional Safeguards—Institutions, like individual researchers, have a responsibility to reduce or eliminate the risk to which human subjects are exposed. The Common Rule, 45 Code of Federal Regulations 46 A, lays out a number of guidelines for research with human subjects. These include, but are not limited to, encouraging no more than "minimal risk" to subjects, and requiring that federally funded institutions establish an institutional review board to evaluate research proposals. Another institutional safeguard is informed consent, which exists when potential participants or respondents, on being informed by the investigators what their participation will involve, agree willingly to participate in the research.

c. Potential Benefits—Often, there are no direct benefits to research participants. However, there are a few exceptions. Field trials of new treatments for physical or

psychological problems may benefit participants if they prove effective. Also, participants in some studies may gain insight into themselves or others.

H. Summary
I. Critical Thinking Skill: Understanding the Importance of Sampling

LECTURE / DISCUSSION SUGGESTIONS

1. Prior to reading this chapter, what assumptions, beliefs, or ideas did you hold about the purpose of research and its defining characteristics? After reading the chapter, how would you explain the objectives of research and research's characteristics to a friend or relative?

2. What are internal and external validity, and why are investigators concerned with the validity of their findings? Is one type of validity more important than the other?

3. Some threats to the internal validity of experimental research are experimenter and subject effects. What are these two types of effects, and how can investigators reduce the risk of these threats to validity?

4. People often think of experiments when they think of scientific research. While experiments are a useful method, there are times when an experiment might not be the best choice. List three phenomena that might it be difficult, unethical, or costly to study using experimental methods?

5. What is culture? Why is it important to develop our research and instruments with the culture of our sample population in mind? How might not taking culture into consideration influence our results?

6. In some cases, field investigators only obtain informed consent after the behavior of interest has been observed or the conversations has been audio recorded. Why might an investigator wait to get informed consent, and is it ethical to do so? Under what conditions might you view it as ethical or unethical?

7. What is the Institutional Review Board, and what purpose does it serve? Who does the IRB protect (The university? Researchers? Subjects?) Do you think submitting research for IRB approval helps or hinders the research process?

8. Compare and contrast the three types of samples discussed in the chapter (convenience, simple random, or stratified). Why might an investigator choose to use a convenience sample given its drawbacks?

9. Given what you have learned from this chapter, do you believe you will consume research findings presented in the media differently or more critically? In what way?

10. What is "minimal risk"? Does defining it as "risk no greater than that ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests" treat all persons the same, or might this definition put some populations at more risk than others? Can you think of a way to improve the definition of minimal risk?

STUDENT ACTIVITIES

1. Choose a public location (library, supermarket, food court). Drop a small item (keys, a pencil, a few papers) in a natural looking manner. Observe who—if anyone—comes to your aid. Note who helps, and the conditions of the environment while doing the experiment. Repeat your test 10 times, and analyze your results.

2. Learn about your classmates with a simple survey. With a small group, write a simple causal hypothesis and develop three questions to test this hypothesis. Identify the independent and dependent variable. Administer your three-question survey to the class. Every group will share their hypothesis and anonymized results with the class students. Finally, you will individually critique each hypothesis and survey based on this chapter's concepts.

3. Some concepts are abstract and difficult to measure. For example, the term "hook up" may mean different things to different people. Imagine you wanted to do a study on college hook up culture. Ask 10 people to define "hook up." Then, using these definitions, come up with a definition of "hook up" and discuss how you would create a survey to measure college students' "hook up" behavior.

4. Go to fast food restaurant, coffee shop, dining hall, or other public location where people stand in line. For best results, pick a time of day when the location will be busy. Observe people standing in line for one hour and take notes on their behavior. Analyze your notes: were there any patterns in how people behaved? Did you see any social norms at work?

5. Select three to five newspaper articles from different papers covering the same current event (you may look online for sources, but they should be text, not videos). Analyze how the different news outlets cover the event.

6. Complete the random sampling and random assignment activity to learn more about the importance of using random samples and random assignment. For instructions, go to the link below:
    - http://www.socialpsychology.org/teach/random-assign.htm

7. Break into a small group in your class. Work together to develop a hypothesis about a social behavior, and include a brief paragraph that explains how you came to develop this hypothesis. Then trade your hypothesis with another group. After discussing the other group's hypothesis, identify a possible extraneous variable and develop a new hypothesis using the extraneous variable, which you should then write below the other group's hypothesis. The process should continue until all groups have discussed all of the other groups' hypotheses and offered additional hypotheses based on possible extraneous

variables.

8. Use case studies to jump-start conversations about research ethics. A number of scenarios, including discussion questions, are available for instructors to use in class:
    - http://www.edugains.ca/resourcesCurrImpl/Secondary/SocSciHum/EthicsScenariosandCriteriaExamples.pdf

9. Have a mock IRB review of a proposal. For complete instructions and materials, see the link below:
    - http://www.teachpsychscience.org/files/pdf/55201070431AM_1.PDF

10. Use the case of the Little Albert experiment and a clip of a Pavlovian prank from the popular TV show The Office to initiate critical discussion. A full set of instructions can be found here:
    - http://www.teachpsychscience.org/files/pdf/61120131006O9AM_1.PDF

KEY TERMS

archival research (p. 52)
content analysis (p. 53)
crowdsourcing (p. 56)
dependent variable (p. 34)
experiment (p. 45)
external validity (p. 35)
extraneous variable (p. 34)
field study (p. 50)
hypothesis (p. 33)
independent variable (p. 34)
informed consent (p. 60)
internal validity (p. 34)
interview (p. 36)
meta-analysis (p. 55)
methodology (p. 32)
panel study (p. 43)
population (p. 42)
questionnaire (p. 37)
random assignment (p. 45)
reliability (p. 38)
response rate (p. 37)
risk-benefit analysis (p. 59)
simple random sample (p. 42)
stratified sample (p. 42)
theory (p. 33)

INTERNET ACTIVITIES

1. Content analysis: Do an online image search for one of the following words or concepts: professor, college student, mother, father, poverty. Analyze the first 25 images the search returns. Do you see any patterns? What do the images tell you about the concept or word for which you searched? What topics or research questions might an investigator be able to address using a technique similar to this?

2. The popular press often covers social psychological research findings. Read two of the popular press stories below. Does the title infer a causal relationship, or a simple correlation? Does the body of the article suggest a causal relationship or a correlation? Based on the information provided in the article, does the story justify the headline? Evaluate how well the article describes or explains the research methods used to obtain the findings. Based on the description of the methods in the article, how well can you evaluate the validity or reliability of the findings?
    - https://www.nytimes.com/2016/07/13/us/police-shootings-race.html
    - http://www.npr.org/sections/health-shots/2017/09/14/550466947/if-you-think-everyone-else-has-more-friends-youre-not-alone
    - http://www.bbc.com/news/health-41503014
    - http://time.com/4752855/socially-awkward-social-anxiety-science/?iid=sr-link6

3. Learn more about informed consent by completing the NIH office of extramural research's module on respect for persons. Go to the link below, create a free account, and complete the "respect for persons" module.

    https://phrp.nihtraining.com/users/login.php?l=3

4. Practice your observation skills. Watch the short cartoon at the link below and count the number of violent acts
    - http://vimeo.com/8965484

5. Get to know the General Social Survey. Go to the link below and explore the survey questions and associated findings. You can search by keyword and/or filter by variables by selecting modules and subjects. Click left of a question to add it to your cart; once in your cart, you can view the responses to that question. Select five questions that you find interesting and bring those questions and the corresponding findings to class for discussion
    - https://gssdataexplorer.norc.org/variables/vfilter