

Asking and answering research questions

What's it about?

(Social Psychology pp. 24–54)

Social psychologists strive to reach *general conclusions* by developing **scientific theories** about why people behave the way they do, both to solve large social problems as well as to understand everyday events. These scientific theories must satisfy three requirements: (1) they are about **constructs**; (2) they describe *causal relationships*; and (3) they are *general* in scope.

In order to test their theories, social psychologists must design research that is valid, according to three types of validity. **Construct validity**, which means the extent to which independent and dependent variables actually measure the intended theoretical construct, is often threatened by the **social desirability response bias**, when people act in ways that they think are socially desirable. **Internal validity** ensures that changes in the **independent variable** actually *caused* the changes in the **dependent variable**.

Nonexperimental research designs often lack internal validity because the variables are merely measured (not manipulated); however, **experimental research** designs using **random assignment** of participants to groups and manipulations of variables, have high internal validity. **External validity**, which means that results can be generalized across other settings, populations, and times, is ensured by conducting **replications** of studies.

When conducting scientific research, it is crucial for researchers to treat participants fairly, either by obtaining their **informed consent** before the experiment; or, if deception is used, by **debriefing** participants after the experiment on the purpose of the study, and the reasons for the deception. Although social psychologists cannot provide answers to moral and ethical questions, scientific research can help inform society on the relevant topics of those questions.

Chapter topics

- Research questions and the role of theory (*pp. 26–27*)
- Testing theories: From theory to research (*pp. 28–46*)
- The role of ethics and values in research (*pp. 47–513*)

RESEARCH QUESTIONS AND THE ROLE OF THEORY

Ask yourself

- How do we ensure that our general conclusions are as trustworthy as possible?
- What do social psychologists strive to understand and explain when formulating research questions?
- What is a construct?

What you need to know

ORIGINS OF RESEARCH QUESTIONS (<i>SP p. 26</i>)
WHAT IS A SCIENTIFIC THEORY? (<i>SP pp. 26–27</i>)
<ul style="list-style-type: none">• Theories are about constructs• Theories describe causal relations among constructs• Theories are general in scope

Social psychology is an empirical science, which means that its theories and conclusions about social behavior rest on the results of research.

The goal of social psychologists is to reach general conclusions about human social behavior that are as trustworthy as possible, by keeping their research free from bias and error.

Ethics and value stands about research issues are equally important as carefully following the rule of scientific method.

Origins of Research Questions

(*SP p. 26*)

Research questions are provoked by curiosity about why people behave the way they do. This includes large social problems as well as everyday events that affect everybody's life.

Social psychologists try to discover general principles about human behavior that apply to many different situations, instead of focusing on specific events and specific individuals.

What Is a Scientific Theory?

(*SP pp. 26–27*)

A **scientific theory** is a statement about the causal relationships among abstract constructs. It is a statement that holds for specific types of people, times, and settings.

Theories are about constructs

Constructs are abstract concepts because they cannot be directly observed or measured; for example, “knowledge,” or “love.”

Theories describe causal relations among constructs

Theories state that a change in one construct (the cause) produces a corresponding change in another construct (the effect).

The fact that theories can explain why certain events occur is very important, as we can then conduct practical interventions to change that behavior or to solve that problem.

Theories are general in scope

Theories are intended to apply to many people across different settings and times.

The general range of applicability varies between theories. Some theories are more limited in scope, and may apply only to a certain group of people.

So what does this mean?

Social psychologists try to reach general conclusions about why people behave the way they do, both to solve large social problems as well as to understand everyday events. Research questions are thus most often provoked out of an initial curiosity; the researcher has the desire to find the answer to his or her question about events, ideas, people, or phenomena. In order to discover general principles about human behavior, social psychologists develop **scientific theories** about the causal relationships among abstract concepts. These scientific theories must satisfy three requirements: (1) they are about **constructs**; (2) they describe causal relationships; and (3) they are general in scope.

TESTING THEORIES: FROM THEORY TO RESEARCH

Ask yourself

- How can I provide a valid test of a social-psychological theory?
- How do I ensure that my research has high validity?
- What are the threats to the validity of my study, and how can I get rid of bias and error?

What you need to know

CONSTRUCT VALIDITY AND APPROACHES TO MEASUREMENT (<i>SP pp. 29–32</i>)
<ul style="list-style-type: none">• Threats to construct validity• Ensuring construct validity
INTERNAL VALIDITY AND TYPES OF RESEARCH DESIGN (<i>SP pp. 33–35</i>)
<ul style="list-style-type: none">• Threats to internal validity• Ensuring internal validity• Experimental versus nonexperimental research designs
EXTERNAL VALIDITY AND RESEARCH POPULATIONS AND SETTINGS (<i>SP pp. 36–43</i>)
<ul style="list-style-type: none">• Generalizing <i>to</i> versus generalizing <i>across</i> people and places• External validity and research participants• Cultures and external validity• External validity and laboratory research• External validity and nonlaboratory research• Ensuring external validity
EVALUATING THEORIES: THE BOTTOM LINE (<i>SP pp. 43–46</i>)
<ul style="list-style-type: none">• The importance of replication• Competition with other theories• Getting the bias out

The ultimate goal of research is to test theories, which allows social psychologists to see whether a theory offers a good explanation for human behavior.

Theories can only be evaluated if valid research has been conducted. Valid research relies on the same properties mentioned above:

- *Constructs*: Because theories deal with constructs, researchers must be sure that the specific variables they are studying are relevant to the construct.
- *Causal relations*: Psychologists have to make sure they find a causal explanation in their research (and eliminate other possible causes for that behavior/finding).
- *Theories are general in scope*: Researchers have to make sure that what is found in the research reflects something about people in general, and not just about specific groups of people.

Construct Validity and Approaches to Measurement

(SP pp. 29–30)

Construct validity: If a research study has strong construct validity, both the independent and the dependent variables of the study, or the events that occur in the study, should correspond to/reflect the intended theoretical constructs.

Independent variable: causal factors; factors that are manipulated by the researcher.

Dependent variable: variables representing effects (they depend on the causal/independent variable).

There are two ways of ensuring construct validity has been met:

1. the variables correspond to the intended construct
2. the variables do *not* correspond to other constructs.

Threats to construct validity

It is often difficult to ensure construct validity, as the variables being tested might be affected by other influences/constructs besides the one being measured.

One common threat to construct validity is the **social desirability response bias**, which means that people will answer questions, or act, in ways that make them look good.

Social psychologists must always be on guard against biases to construct validity, especially when they are researching attitudes or behaviors that are not socially approved of.

Ensuring construct validity

The two main ways of ensuring construct validity are: (1) to use the best measures for the purpose; and (2) to use multiple measures.

(1) Using the best measure for the purpose: Three different types of measure categories can be used in research:

- *Self-report measures*: ask an individual about his or her thoughts, feelings, or behaviors. These are probably the best source of information about beliefs, attitudes, and intentions, but are also susceptible to threats such as social desirability response bias.

CASE STUDY: What kind of Facebook user are you? [see ch02-CS-01.doc]

Weblink: Examples of self-report measures used in research

www.psy.miami.edu/faculty/ccarver/CCscales.html

- *Observational measures*: directly watching and recording people's behaviors. These measures often have good construct validity, especially if people are not aware that they are being observed.

RESEARCH ACTIVITY: Underground psychology [see ch02-RA-01.doc]

- *Archival measures*: the examination of traces of past behavior such as organizational or public records, Facebook posts, old newspaper articles, etc. These offer an idea of

how people behave in the “real world” but you have no control over what information was recorded, how it was recorded, and by whom.

- *Performance measures*: ask participants to perform a task as well as they can. This measure often eliminates social desirability bias, because people are trying to perform the task as well as they can, and are not focusing on what their actions mean.
- *Physiological measures*: include measures of physiological activity such as heart rate, skin conductance (how much you sweat), stress hormones, and brain activity. These measures are often more valid than simple self-report measures.

CASE STUDY: My hormones made me do it!: Lying on behalf of your group. [see ch02-CS-02.doc]

(2) Using multiple measures: The different measures mentioned above each have different strengths, so it is best to use multiple measures to ensure construct validity.

- Using multiple measures enhances a researcher’s confidence in his or her findings.
- When different measures produce the same results, researchers can be quite confident that they are actually measuring the intended construct, and increase the likelihood that the construct will actually be measured.

Internal Validity and Types of Research Design

(SP pp. 32–36)

Internal validity has to do with knowing whether the measured changes in one variable (the independent variable) actually caused the changes in another variable (the dependent variable). Research only has high internal validity if the researcher can confidently conclude that a change in the independent variable caused a change in the dependent variable.

Threats to internal validity

The major threat to internal validity is that factors or variables other than the independent variable are causing the observed changes in the dependent variable.

Nonexperimental research designs are designs in which researchers simply measure the independent variable and the dependent variable. These are very vulnerable to threats to internal validity, as it is harder to state the actual *cause* of the observed difference/change in the dependent variable.

Ensuring internal validity

Internal validity can be ensured by using an **experimental research** design. In an experimental research design: (1) participants are randomly assigned to experimental groups, and (2) the independent variable is manipulated (intentionally), rather than simply being measured.

Random assignment gives every participant in the experiment an equal chance of ending up in either experimental group.

The independent variable is intentionally manipulated, so that the different groups are exposed to different treatments. Because the groups are equal before the manipulation, as a result of random assignment, the observed changes/differences in the groups are assumed to be due to the independent variable.

Experimental versus nonexperimental research designs

Experimental research designs offer higher internal validity, and permit stronger tests of *causal* relations between constructs, because random assignment and manipulation of the independent variable allow the researcher to rule out alternative explanations for the observed differences between groups.

Nonexperimental research designs are used: (1) because some important variables cannot be intentionally manipulated; (2) for ethical reasons, because some variables shouldn't be manipulated; and (3) because sometimes experimental manipulations are not as strong as, or cannot replicate, the effects found in everyday life.

Weblink: Internal validity: A tutorial

<http://psych.athabasca.ca/html/Validity/>

External Validity and Research Populations and Settings

(SP pp. 36–43)

External validity is the extent to which the results of a research study can be generalized to other people, settings, and times. External validity can be ensured by conducting repeated tests of a theory in different populations or settings, or by using different participants.

Generalizing *to* versus generalizing *across* people and places

Applied research is an example of research in which the researcher's primary interest lies in a specific target population and setting.

However, the research goal in social psychology is usually a broader sort of generalization across factors. The key question in these studies is: What aspects of the research conclusions will successfully generalize across other settings and populations?

It is not crucial whether the study's specific findings can be generalized.

The generalization that is expected lies at a higher theoretical level: that of causal relationships between abstract constructs. So researchers hope that the underlying principles of their research will generalize across various populations and settings.

External validity and research participants

The first major threat to external validity is the type of people studied in the research. Usually college students are used in psychological research; the specific findings of this research cannot then be generalized to other populations.

Generalizing about causal explanations is more justifiable than generalizing about specific thoughts and behaviors.

The most basic social-psychological processes are most likely to operate in similar ways across different groups of people.

The *only* way to ensure that research conclusions can be generalized to other settings and populations is by repeating the research with different types of participants at different times.

Cultures and external validity

Different cultures exist across the world; this limits the generalizability of social-psychological research, as social psychology remains largely a Western phenomenon.

Since culture strongly dictates thoughts and behavior, research on these specific things cannot be easily generalized to other populations. However, the *process* by which thoughts and actions are developed and used is more generalizable.

External validity and laboratory research

A third factor that threatens/limits the generalizability of research is the setting, or place, in which the research is conducted.

Most social-psychological research is conducted in laboratories, as these are the easiest places in which to maintain high internal validity.

The downside of laboratory research includes: (1) short time span; (2) the artificial quality of the lab; and (3) participants pay closer attention to what is happening around them during a short laboratory session than in their everyday lives, because they expect it will be important, and so different attention processes are operating.

When different processes are operating inside and outside the laboratory, theories and research cannot easily be generalized from one setting (the lab) to another setting (people's everyday lives).

An important disadvantage of laboratory settings for research includes **demand characteristics**: participants' behaviors are influenced by their perceptions of the research purpose, or what the researcher wants or expects from them. This is also a threat to construct validity.

CASE STUDY: Demand characteristics [see ch02-CS-03.doc]

External validity and nonlaboratory research

Field research takes place outside the laboratory, and can often complement laboratory research. It frequently has good construct validity, and has a nonexperimental research design.

Field research does not always lead to higher external validity; research conducted in one setting often will not generalize to another setting.

Ensuring external validity

If the goal of the research is to generalize to a *specific* target population and setting, the participants and the setting must be representative of the target.

If the goal of the research is to generalize across different populations, settings, and times, then external validity can be ensured by repeating the research in multiple settings, and with multiple populations (and cultures).

RESEARCH ACTIVITY: External validity and the Milgram experiment [see ch02-RA-02.doc]

Evaluating Theories: The Bottom Line

(*SP pp. 43–47*)

Theories only become generally accepted as better than other competing theories if multiple studies have produced the same results.

Each type of validity is crucial for research to provide support for a theory.

The importance of replication

Theories cannot be supported by the results of a single study alone, so researchers need to carry out a **replication** of (or reproduce) their results in other studies, using different manipulations, in different settings, and with different populations.

CASE STUDY: The importance of replication [see ch02-CS-04.doc]

A meta-analysis is used to compare the results of many different studies testing one theory, and it allows researchers to examine the generalizability of results across these different replications.

RESEARCH ACTIVITY: The importance of replication [see ch02-RA-03.doc]

Competition with other theories

A theory is never said to be “proven”; instead it is said to be “generally accepted,” which means that a social consensus exists among the community of scientists.

Often, theories that seem to compete to explain results of different research studies turn out to complement each other. Competing theories might actually work best together to provide a better understanding of the research findings.

Getting the bias out

Research methods are designed to exclude as many biases and errors as possible from all three forms of validity.

The three forms of validity include:

- Concern for *construct validity*: ensuring that the events observed in the research are good measures of the intended general constructs. This helps researchers avoid incorrect interpretations of specific findings in the research.
- Concern for *internal validity*: ensuring that one event *caused* another; this makes it possible for researchers to exclude possible alternative explanations for their findings (or the differences in the variables), before citing their findings as good support for a theory.
- Concern for *external validity*: ensuring that an observation made in the research is generalizable, and does not describe specific events, or a specific trait pertaining to only a set population.

Do not assume that scientists can always exclude all bias and error from their research methods. Scientists are human, and are often affected by their own cultural assumptions.

There are no guarantees that scientists will always be objective, but the research techniques devised are the best ways to eliminate bias and error.

So what does this mean?

In order to test their theories, social psychologists must design research that is valid, according to three types of validity. **Construct validity**, which is the extent to which the **independent variable** and the **dependent variable** actually measure the intended theoretical construct, is often threatened by the **social desirability response bias**, in which people act in ways that they think are socially desirable. **Internal validity** ensures that changes in the independent variable actually caused the changes in the dependent variable.

Nonexperimental research designs often lack internal validity because the variables are merely measured (not manipulated); however, **experimental research** designs using **random assignment** of participants to groups, and manipulations of variables, have high internal validity. **External validity** is ensured by conducting replications of studies. Theories become more generally accepted if multiple replicated studies show they are more valid than competing theories; but, often, rival theories end up complementing each other to provide the best explanation for research findings.

THE ROLE OF ETHICS AND VALUES IN RESEARCH

Ask yourself

- How can I ensure that the end justifies the means in the studies I read about, or in studies I conduct myself?
- What is informed consent? What is debriefing?
- Can social psychologists answer moral and ethical questions with their research?

What you need to know

BEING FAIR TO PARTICIPANTS (<i>SP pp. 48–51</i>)
<ul style="list-style-type: none">• The use of deception in research
BEING HELPFUL TO SOCIETY (<i>SP pp. 51–52</i>)

Scientists have a responsibility to the scientific community not to falsify or misrepresent their data.

Because social psychology deals with questions about human behavior, and social-psychological research is performed by humans, researchers must often deal with issues of ethics and values.

Researchers must always ask: Does the end justify the means? And, if the study is carried out, will the results be used in a socially responsible way? These primary issues are concerned with the fair treatment of participants and the social responsibility of the researcher.

Weblink: The American Psychological Association's Ethical Guidelines

www.apa.org/ethics/code/index.aspx

Weblink: The British Psychological Society's Ethical Guidelines

www.bps.org.uk/sites/default/files/documents/code_of_ethics_and_conduct.pdf

Being Fair to Participants

(*SP pp. 48–50*)

In order to treat participants fairly, researchers should ensure they know what they will experience throughout the study before they agree to take part. If deception is used, the participants should be told what the study was about after completion.

RESEARCH ACTIVITY: The importance of treating participants fairly [see ch02-RA-04.doc]

The primary obligation of researchers is to avoid harming the participants. One way to ensure this is to keep participants' responses and actions completely anonymous and unidentifiable. Distress during or after participation in the research should also be minimized as much as possible.

In order to conduct their research ethically, researchers must obtain a participant's **informed consent**. This means that individuals can make an informed decision about participating in the study, and are given the opportunity to withdraw from the study at any time without penalty. It does not mean that participants will know every detail about the study.

Weblink: [Learn more about informed consent
www.research.umn.edu/consent/menu_soc.html](http://www.research.umn.edu/consent/menu_soc.html)

The use of deception in research

Many ethical questions arise when deception is used in research. Often, participants are misled about what they believe will happen to them. The consequences of deception can be benign, but can also be extremely stressful.

So why use deception? Deception is important to combat biases such as the social desirability bias and demand characteristics. Deception is necessary in studies examining socially sensitive topics, in order to produce valid results.

When deception is used, participants are informed of this deception, and of the study's goals, through **debriefing**. The goals of debriefing are to allow the participants to raise questions and concerns; to have the researcher fully explain the purpose and methods of the experiment, as well as the use of deception; and to deal with any possible negative effects the research has

had on participants, in order to provide them with more positive attitudes about themselves and their actions.

Institutional Review Boards, made up of scientists and community members, were established in the mid-1970s to deal with decisions about research ethics. The Boards can ask for changes in a research plan, or deny its approval, if ethics are being violated.

Being Helpful to Society

(SP pp. 51–52)

Valid social-psychological research can help provide evidence to help society and individuals make decisions about moral or ethical questions.

Scientists often disagree about how scientific research findings should be applied to society; each researcher must decide for him- or herself how the findings can best serve society.

Most importantly: social psychology is an empirical science; it cannot and will not answer moral and ethical questions. However, scientific research can inform society about relevant topics, so that each individual can form his or her own opinion on questions of morality and ethics.

So what does this mean?

When conducting scientific research, it is crucial for researchers to treat participants fairly. The best way to do this is by asking the participants for **informed consent** before they take part in the experiment, thereby ensuring they understand what they will experience throughout the study. Often deception is needed in certain studies; if this is the case, **debriefing** must follow the research, in which the researcher explains fully to the participants what the goals of the research and the deception were. Although social psychologists cannot provide answers to moral and ethical questions, scientific research can help inform society on the relevant topics of those questions.

Weblink: Test what you've learned about research methods and ethics! (This page is also a nice review.)

www.learner.org/series/discoveringpsychology/methods/index.htm