

# GENERALIZATION

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**PSYC214**

**Chapter 14**

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# Generalizing to Other Populations <sup>1</sup>

External validity: the extent to which findings may be generalized

## College students

- Highly restricted population
- Young, with social and political attitudes in flux
- High cognitive skills
- More similar to each other than adults are similar to other adults in the general population

# Generalizing to Other Populations <sub>2</sub>

Volunteers: Their data may be different from what is obtained with a general sample because volunteers tend to have the following characteristics:

- Highly educated
- High socioeconomic status
- More in need of approval
- More social

Online research: Internet users represent a unique demographic, which presents generalization issues.

# Generalizing to Other Populations <sup>3</sup>

## Sex, Gender, Race, and Identity

- Humans have multiple identities. These identities can impact how they react to, respond to, and comply with research projects.
- Sex and gender are often used interchangeably, but *sex* generally refers to a biological classification, while *gender* is used to focus on social roles and identities associated with being male and female.
- The construct of race is made more complicated the concept of ethnicity. Both are important for the Census and other surveys that are used for policy decisions.

# Generalizing to Other Populations <sup>4</sup>

## Location

- Participants in one location may differ from participants in another location.

## Culture

- Much research has been focused on Western, Educated, Industrialized, Rich, Democratic (WEIRD) cultures.
- People from different cultures may respond differently to the same environments.
- There are many differences across cultures, but also may similarities.

# Generalizing to Other Populations <sup>5</sup>

## Nonhuman animals

- Most research with nonhuman animals is done with the expectation that the findings can be generalized to humans.

## In defense of college students

- Although it is easy to criticize research on the basis of subject characteristics, this criticism does not mean the results cannot be generalized.
- College students are human.
- College student populations are increasingly diverse.
- Study replication provides a safeguard against the limited external validity of a single study.

# Generalizing across Methods

Most research uses only one experimenter, which helps ensure that the experimenter's influence on subjects is constant throughout the experiment.

Important, potentially influencing characteristics of experimenters:

- Personality
- Gender
- Experience

One solution is to use two or more experimenters.

# Pretests and Generalization

## Advantages of a pretest:

- Confirms that the groups are equivalent
- Helps assess mortality effects

## Disadvantages of a pretest:

- Limits the ability to generalize to populations that did not receive a pretest (the **Solomon four-group design** can help)

# Generalizing from Laboratory Settings

A laboratory setting allows the experimenter to study the impact of independent variables under highly controlled conditions.

Does the artificiality of the laboratory limit the ability to generalize the results?

Generalization to real-life settings is not relevant when the purpose of study is to investigate causal relationships.

Laboratory experiments help examine the results of field experiments. The two sets of results are generally complementary.

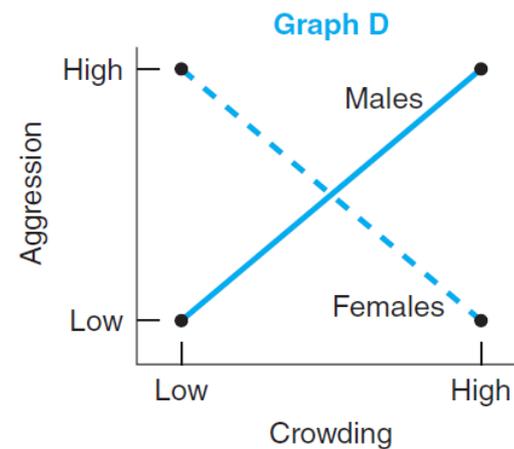
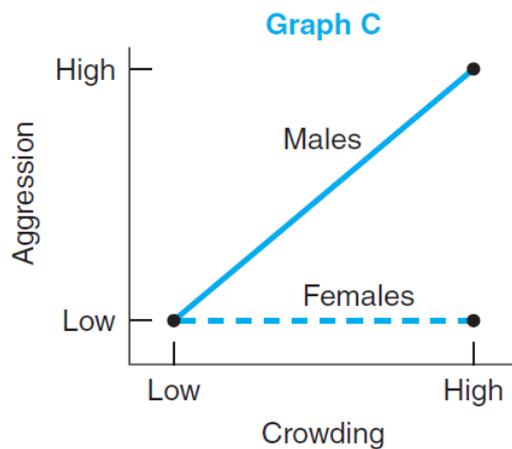
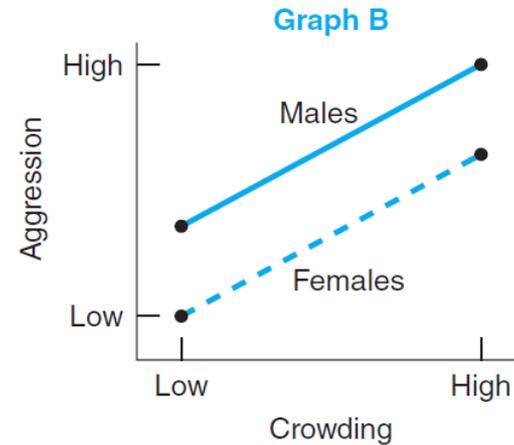
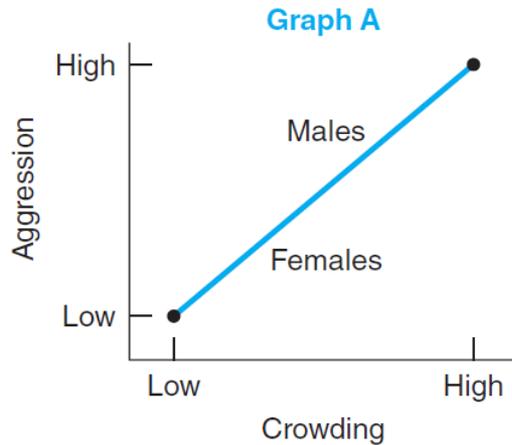
# Supporting Good External Validity

Using a census or a random sample can produce better external validity than a nonrandom sample.

## Generalization as a statistical interaction

- An interaction occurs when a relationship between variables exists under one condition but not another, or when the nature of the relationship is different in one condition than in another.
- The existence of interaction effects can be determined by including other variables, such as gender, age, or ethnic group, in the research design.

# Figure 14.1 — Outcomes of a Hypothetical Experiment on Crowding and Aggression



# The Importance of Replications

**Replication** of research is a way of overcoming any problems of generalization that occur in a single study.

There are two types of replication:

- **Exact replication:** An attempt to precisely replicate the procedures of a study
- **Conceptual replication:** The use of different procedures to replicate a research finding

# Evaluating Generalizations <sup>1</sup>

In a **literature review**, a reviewer reads a number of studies that address a particular topic and then writes a paper summarizing and evaluating the literature.

A literature review:

- Summarizes what has been found.
- Informs the reader if findings are strongly supported or weakly supported.
- Exposes inconsistent findings and areas lacking proper research.
- Discusses future directions for research.

# Evaluating Generalizations

**In a meta-analysis**, the researcher combines the actual results of a number of studies and then analyzes them using a set of statistical procedures.

A meta-analysis:

- Allows comparisons of the effect sizes in different types of studies so hypotheses can be tested.
- Allows statistical, quantitative conclusions.

# Using Research to Improve Lives

The impact of psychological research can be seen in many areas, including:

- Health
- Law and criminal justice
- Education
- Work environments

Psychologists also use the Internet to provide information on many topics, such as parenting, education, and mental health, to the public.