Methodology

- Social Psychology: An Empirical Science

Empirical research allows us to test the validity of personal observations and folk wisdom.
Methodology

- Social Psychology: An Empirical Science

Hindsight bias is the tendency for people to exaggerate how much they could have predicted an outcome after knowing that it occurred.
Methodology

Social psychology relies on three types of methods -- observational, correlational, and experimental -- to provide empirical answers to questions about social behavior.
Chapter Outline

I. Formulating Hypotheses and Theories
Formulating Hypotheses and Theories

- Inspiration from Earlier Theories and Research

Science is cumulative and people often generate hypotheses based on previous theories and research.
Formulating Hypotheses and Theories

- Hypotheses based on Personal Observations

Personal experience, current events, and literature can provide a source of hypotheses to test.
II. The Observational Method:
Describing Social Behavior
The observational method involves systematic observation and measurement of behavior.
**Ethnography** is a type of observational method used by cultural anthropologists and social psychologists to study and understand a group or culture.
The Observational Method

*Participant observation* a form of systematic observation whereby the observer interacts with the people being observed, but tries not to change the situation in any way.
The Observational Method

Interjudge reliability is the level of agreement between two or more people who independently observe and code a set of data.
Archival analysis is a form of the observational method whereby the researcher examines the accumulated documents of a culture.
The Observational Method

• Limits of the Observational Method

* It is not easy to make a systematic observation with some rare events

* There are problems of reliability in archival analysis

* It is difficult to make generalization due to observation of one particular setting
Chapter Outline

III. The Correlational Method: Predicting Social Behavior
The **correlational method** involves systematically measuring the relationship between two or more variables (e.g., how much one can be predicted from the other).

- Watching TV and aggressiveness of children
- People’s weight and height

The **correlation coefficient** is a statistic that assesses how well you can predict one variable from another.
The Correlational Method

Correlation Coefficient

Positive correlations indicate that an increase in one variable is associated with an increase in the other.

Negative correlations indicate that an increase in one variable is associated with a decrease in the other.
The Correlational Method

Positive correlation

No correlation

Negative correlation

Amount of television watched

Aggression
The Correlational Method

• Surveys

The correlational method often relies on *surveys*, as well as on observational data. Surveys are used when the variable of interest is not easily observable.
Random selection can ensure that a sample is representative.

Every one in the population has an equal chance of being selected for the sample.
The Correlational Method

• Limits of the Correlational Method: Correlation Does Not Equal Causation

The correlational method identifies only whether two variables are associated, and not why they are related.

Only the experimental method, which systematically controls and manipulates events, can determine causality.
IV. The Experimental Method: Answering Causal Questions
The experimental method is the method in which the research randomly assigns participants to the different conditions in an experiment.
The Milgram Obedience Experiment
The Experimental Method

- Independent and Dependent Variables

The *independent variable* is manipulated by the researcher. It is the variable presumed to cause the change in the other variable.

- Bağımsız değişken
The Experimental Method

• Independent and Dependent Variables

The dependent variable is the one measured by the researcher to see if changes depend on the level of the independent variable.

• Bağımlı değişken
Internal Validity refers to making sure that nothing else besides the independent variable can affect the dependent variable; this is accomplished by controlling all extraneous variables and by randomly assigning people to different experimental conditions.
## The Experimental Method

### Independent Variable
The variable that is hypothesized to influence the dependent variable. Participants are treated identically except for this variable.

### Dependent Variable
The response that is hypothesized to depend on the independent variable. All participants are measured on this variable.

### Example: Darley and Latané (1968)

<table>
<thead>
<tr>
<th>The number of bystanders</th>
<th>How many subjects helped?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant + Victim</td>
<td>85%</td>
</tr>
<tr>
<td>Participant + Victim + Two others</td>
<td>62%</td>
</tr>
<tr>
<td>Participant + Victim + Four others</td>
<td>31%</td>
</tr>
</tbody>
</table>
Internal validity is established by controlling all extraneous variables and by using *random assignment* to conditions.
Even with random assignment, there is a small probability that different characteristics of people are distributed differently across conditions. To guard against misinterpreting results, scientists calculate the *probability level (p-value)* that their results would occur by chance.
External validity is the extent to which the results of a study can be generalized to other situations and other people.
The Experimental Method

- External Validity in Experiments

Generalizability across situations

*Mundane realism* is the extent to which an experiment is similar to real-life situations

*Psychological realism* is the extent to which the psychological processes triggered in an experiment are similar to psychological processes that occur in everyday life.
Generalizability across situations

A *cover story* is a description of the purpose of a study, given to participants, that is different from the true purpose.
The Experimental Method

- External Validity in Experiments

Generalizability across people

*Replication* is repeating a study.
The Experimental Method

- External Validity in Experiments

**Meta-Analysis** is a statistical technique that averages the results of two or more studies to see if the effects on the independent variable is reliable.
The Experimental Method

• Cross-cultural research

*Cross-cultural* research is conducted with members of different cultures.
The Experimental Method

- The Basic Dilemma of the Social Psychologist

When deciding between conducting field experiments and laboratory experiments, social psychologists must face a trade-off between internal and external validity.
# A Summary of Research Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Focus</th>
<th>Question Answered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observational</td>
<td>Description</td>
<td>What is the nature of the phenomenon?</td>
</tr>
<tr>
<td>Correlational</td>
<td>Prediction</td>
<td>From knowing X can we predict Y?</td>
</tr>
<tr>
<td>Experimental</td>
<td>Causality</td>
<td>Is variable X a cause of variable Y?</td>
</tr>
</tbody>
</table>
Chapter Outline

VI. Basic Versus Applied Research
Basic Versus Applied Research

*Basic research* tries to find the best answer to the question of why people behave the way they do, purely to satisfy intellectual curiosity.

*Applied research* tries to solve a specific social problem.
Chapter Outline

V. Ethical Issues in Social Psychology
Guideline for Ethical Research

*Informed consent* is an agreement to participate in an experiment, granted in full awareness of the nature of the experiment.

*Deception* is misleading participants about the true purpose of a study.

*Debriefing* is explaining to participants, at the end of an experiment, the true purpose of the study.