Chapter 6: Strategies of Research Design
Triangulation

- Triangulation of measures
- Triangulation of observers
- Triangulation of theory
- Triangulation of method

FIGURE 6.1 Triangulation: Observing from Different Viewpoints
Qualitative and Quantitative Orientations

- **Nature of Data**
  - Soft data vs. hard data

- **Assumptions of social life**
  - Positivist vs. Interpretive/critical

- **What are we trying to accomplish in a study**
  - Hypothesis testing vs. hypothesis development

- **Type of “logic”**
  - Systematic vs. ongoing practice
Qualitative and Quantitative Orientations

- Reconstructed logic and logic in practice
- Linear and non-linear paths
- Objective and integrity
- Preplanned and emergent research questions
Ways to Select Topics

- Personal experience
- Curiosity based on media
- State of knowledge in the field
- Solving a problem
- Social premiums
- Personal values
- Everyday life
Narrowing a Research Question

- Examine literature
- Talk over with others
- Apply to a specific context
- Define the aim of the study
Good and Bad Research Questions

**EXAMPLE BOX 6.2**

**Examples of Bad and Good Research Questions**

**BAD RESEARCH QUESTIONS**

*Not Empirically Testable, Nonscientific Questions*
- Should abortion be legal?
- Is it right to have capital punishment?

*General Topics, Not Research Questions*
- Treatment of alcohol and drug abuse
- Sexuality and aging

*Set of Variables, Not Questions*
- Capital punishment and racial discrimination
- Urban decay and gangs

*Too Vague, Ambiguous*
- Do police affect delinquency?
- What can be done to prevent child abuse?

*Need to Be Still More Specific*
- Has the incidence of child abuse risen?
- How does poverty affect children?
- What problems do children who grow up in poverty experience that others do not?

**GOOD RESEARCH QUESTIONS**

*Exploratory Questions*
- Has the incidence of new forms of child abuse appeared in Wisconsin in the past 10 years?

*Descriptive Questions*
- Is child abuse, violent or sexual, more common in families that have experienced a divorce than in intact, never-divorced families?
- Are the children raised in impoverished households more likely to have medical, learning, and social-emotional adjustment difficulties than children who are not living in poverty?

*Explanatory Questions*
- Does the emotional instability created by experiencing a divorce increase the chances that divorced parents will physically abuse their children?
- Is a lack of sufficient funds for preventive treatment a major cause of more serious medical problems among children raised in families in poverty?
# Quantitative vs. Qualitative Research

## TABLE 6.1 Quantitative Research versus Qualitative Research

<table>
<thead>
<tr>
<th>QUANTITATIVE RESEARCH</th>
<th>QUALITATIVE RESEARCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researchers test hypotheses that are stated at the beginning.</td>
<td>Researchers capture and discover meaning once they become immersed in the data.</td>
</tr>
<tr>
<td>Concepts are in the form of distinct variables.</td>
<td>Concepts are in the form of themes, motifs, generalizations, and taxonomies.</td>
</tr>
<tr>
<td>Measures are systematically created before data collection and are standardized.</td>
<td>Measures are created in an ad hoc manner and are often specific to the individual setting or researcher.</td>
</tr>
<tr>
<td>Data are in the form of numbers from precise measurement.</td>
<td>Data are in the form of words and images from documents, observations, and transcripts.</td>
</tr>
<tr>
<td>Theory is largely causal and is deductive.</td>
<td>Theory can be causal or noncausal and is often inductive.</td>
</tr>
<tr>
<td>Procedures are standard, and replication is frequent.</td>
<td>Research procedures are particular, and replication is very rare.</td>
</tr>
<tr>
<td>Analysis proceeds by using statistics, tables, or charts and discussing how what they show relates to hypotheses.</td>
<td>Analysis proceeds by extracting themes or generalizations from evidence and organizing data to present a coherent, consistent picture.</td>
</tr>
</tbody>
</table>
Qualitative Design Issues

Language of cases and context

- Grounded theory
- Context is critical
- Bricolage
- Case and process
- Interpretation
  - First-order interpretation
  - Second-order interpretation
  - Third-order interpretation
Quantitative Design Issues

*Language of variables and hypotheses*

- **Variable**
- **Attribute**

- **Types of variables**
  - Independent variable (IV)
  - Dependent variable (DV)
  - Intervening variable
Characteristics of Causal Hypotheses

- At least 2 variables
- Expresses a cause-effect relationship
- Can be expressed as a prediction
- Logical link between hypothesis and theory
- Falsifiable
Testing and Refining Hypothesis

1970
There are five possible hypotheses.

1980
Two of the original five hypotheses are rejected.
A new one is developed.

1990
Two hypotheses are rejected.
Two new ones are developed.

2000
Three hypotheses are rejected.
A new one is developed.

2010
One hypothesis is rejected.
Two new ones are developed.

FIGURE 6.3  How the Process of Hypotheses Testing Operates over Time
Quantitative Design Issues

Language of variables and hypotheses

• Logic of disconfirming hypothesis
  – Null hypothesis
  – Alternative hypothesis
  – Double-barreled hypothesis
Quantitative Design Issues

Language of variables and hypotheses

**HYPOTHESIS:** Poverty and a high concentration of teenagers in an area cause property crime to increase.

**DOUBLE-BARRELED HYPOTHESIS:** This can mean one of three things:

1. Poverty
2. High Concentration of Teens
3. Poverty and High Concentration of Teens Together

**INTERACTION EFFECT:** This means a combination of things:

**FIGURE 6.4** Double-Barreled Hypothesis versus Interaction Effect
Quantitative Design Issues

Potential errors in causal explanation

Teleology

- Not measurable
- Not earlier in time

Tautology

Variable 1 $\rightarrow$ Variable 2

$\equiv$
Quantitative Design Issues

Potential errors in causal explanation

Ecological Fallacy

Error of Reduction

Levels of Analysis

= researcher makes statements about this level

= researcher has evidence for this level
Quantitative Design Issues

Potential errors in causal explanation

• Spuriousness

[Diagram showing relationships between Low Cognitive Level, News from TV, Spurious Association, and Low Level of Knowledge, with Real Cause indicated as a direct path to Low Level of Knowledge.]
# Quantitative Design Issues

*Potential errors in causal explanation*

## Table 6.2: Summary of Errors in Explanation

<table>
<thead>
<tr>
<th>Type of Error</th>
<th>Short Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tautology</td>
<td>The relationship is true by definition and involves circular reasoning.</td>
<td>Poverty is caused by having very little money.</td>
</tr>
<tr>
<td>Teleology</td>
<td>The cause is an intention that is inappropriate, or it has misplaced temporal order.</td>
<td>People get married in religious ceremonies because society wants them to.</td>
</tr>
<tr>
<td>Ecological fallacy</td>
<td>The empirical observations are at too high a level for the causal relationship that is stated.</td>
<td>New York has a high crime rate. Joan lives in New York. Therefore, she probably stole my watch.</td>
</tr>
<tr>
<td>Reductionism</td>
<td>The empirical observations are at too low a level for the causal relationship that is stated.</td>
<td>Because Steven lost his job and did not buy a new car, the country entered a long economic recession.</td>
</tr>
<tr>
<td>Spuriousness</td>
<td>An unseen third variable is the actual cause of both the independent and dependent variable.</td>
<td>Hair length is associated with TV programs. People with short hair prefer watching football; people with long hair prefer romance stories. <em>(Unseen: Gender)</em></td>
</tr>
</tbody>
</table>