

# Chapter 4

## Research Design

# Three Purposes of Research

- Exploration
- Description
- Explanation

Explanation is aimed at describing social events or phenomena:

- True
- False

Exploratory studies are done for all except which one of the following purposes?

- A. To satisfy researcher's curiosity and desire for better understanding
- B. Test the feasibility of undertaking a more extensive study
- C. To develop methods to be used in any subsequent study
- D. To sort out the ethical issues of a study

# Criteria for Nomothetic Causality

- Correlation – a change in one variable *corresponds* to a change in the other variable
- Time Order – the cause must precede the effect temporally
- Nonspuriousness - assurance that the association between the variables is not due to a 3<sup>rd</sup> variable rather than a direct connection

Spurious relationship is relevant for which criterion for establishing nomothetic causality?

- A. Correlation
- B. Time order
- C. Anomalies
- D. The effect cannot be explained in terms of some third variable

# What Nomothetic Causality is Not

- A. Complete Causation
- B. Exceptional Cases
- C. Majority of cases
- D. None of the above
- E. All of the above

# Necessary and Sufficient Causes

- Necessary – must be present in order for effect to follow
- Sufficient – if present, the effect is guaranteed to follow

In order to receive an honorable or dishonorable discharge from the military, you must be in the military. In terms of the discharge type, being in the military is:

- A. Necessary cause
- B. Sufficient cause
- C. Necessary and sufficient cause
- D. Major cause

# Units of Analysis

- The *what* or *whom* is being studied
  - Individuals : information about individuals is aggregated and generalized
  - Groups : information about a collective is aggregated and generalized
  - Organizations : information about formal social organizations is aggregated and generalized
  - Social Artifacts : information from a product of social beings is aggregated and generalized

Kohei studied how differently one country in Latin America coped with financial crisis from another country. What is the unit of analysis?

- A. Individual
- B. Organizations
- C. Nation state
- D. Community

# Errors in Reasoning

- The Ecological Fallacy – observing at the level of group, but drawing conclusions about individuals
- Reductionism – a strict limitation of the kinds of concepts considered relevant to the study

The ecological fallacy is most relevant in terms of which one of the following?

- A. Criteria for building nomothetic causal explanations
- B. Purposes of research
- C. Necessary causes
- D. Time order
- E. Units of analysis

# Which one of the following is the best example of reductionism?

- A. Dr. Stets decided to change her sample size from 500 to 100
- B. Dr. Hanneman tends to use only one or two theories in his research
- C. Dr. Chase-Dunn argues that world-systems, rather than nation states, should be the best unit of analysis
- D. Dr. Burke loves to explain collective behaviors (e.g. GM workers' strike) in terms of psychological variables

# Two Approaches to Data Collection in terms of Time

- Cross-Sectional Study – A study based upon observations at a single point in time
- Longitudinal Study – A study design involving the collection of data at different points in time
- In a nutshell, cross-sectional or longitudinal data? One time point vs observe the same phenomena over an extended period

# Among Longitudinal Designs

- Trend Study – a given population is monitored for changes over time
- Cohort Study – the same specific sub-population is studied over time
- Panel Study – data is collected from the same set of subjects over time

What is called attrition of participants is most problematic for which of the following?

- A. Cross-sectional
- B. Panel
- C. Trend
- D. Time-series
- E. Cohort

What implications does the type of data have for scientific research? What are advantages and disadvantages of each data?

- Cross-sectional: good for exploration, but snap-shot
- Longitudinal: change (trend, cycle...), but expensive

Which one of the following designs is the most likely to be used for descriptive purpose?

- A. Cross-sectional
- B. Trend
- C. Cohort
- D. Panel

Longitudinal studies are particularly useful for addressing which criterion for nomothetic causality?

- A. Time order
- B. Correlation
- C. Non-spuriousness
- D. Complete causation
- E. None of the above