

# OBSERVATION IN PSYCHOLOGICAL RESEARCH

PSY 300 LAB 2

9/9/04

# INTRODUCTION

- **Science is self-correcting**

Hypothesis --> Prediction --> Test -->

--> Comparison observation-prediction -->

--> Support or modification of theory

- **Observers are fallible**, even if careful:

e.g., optical illusions

- Scientists use **methods to avoid errors**

# DESCRIPTIVE OBSERVATION METHODS

- **Descriptive observation:** 1) enumerates which behaviors occur and 2) records quantity and frequency
- **Four descriptive methods:**
  - > Naturalistic observation
  - > Case study
  - > Survey
  - > Meta-analysis

# NATURALISTIC OBSERVATION

- **Set a boundary on range of behaviors to observe (e.g., use previous data)**
- **Create clear and unambiguous behavior categories**
- **Interobserver reliability**
  - > Typically measured by a correlation coefficient (between +1 and -1)

# NATURALISTIC OBSERVATIONS

- Examples:
  - > Ethology:
    - 1) ID categories; 2) record number of times
    - **Ethogram**
    - Problems
  - > Flashing eyebrows
  - > Testing neonates

# THE CASE STUDY

- **Intensive** investigation of a case of some sort
- Main disadvantage: do NOT allow to infer what causes what
- **Deviant-case analysis:** compares two similar cases that differ in specific ways.

# SURVEY RESEARCH

- Results are **descriptive** in nature
- Importance of a **representative sample**
- To ensure representativeness of sample:
  - > Large random sample (expensive)
  - > **Stratified sample**: population is divided into smaller units, and these are sampled

# META-ANALYSIS

- **Science is a cumulative process**
- The problem of **external validity**
- **Meta-analysis**: reexamines a large group of observations (studies) on the same topic
  - > Summarizes across studies
  - > Helps determine **external validity** and relative **strength** of a particular observation

# ADVANTAGES OF DESCRIPTIVE RESEARCH

- **Early stages** of research
- In some cases, more controlled methods are not possible
- **Flexible**, inexpensive, easy to do
- **Ecological function**: role of behaviors in adapting to the environment
- Observations are high in **ecological validity**

# SOURCES OF ERROR IN DESCRIPTIVE RESEARCH

- Do NOT allow to **determine relations** among events.
- Do NOT allow **reproducibility**
- **Researcher bias**: difficulty to describe without interpreting.
  - > With animals: **anthropomorphizing**

# REACTIVITY IN DESCRIPTIVE RESEARCH

- **Reactivity:** Roles the participants may adopt in research settings
- Naturalistic observation:
  - > **Unobtrusive vs participant** observations
  - > **Unobtrusive measures**
- Case studies are **retrospective** in nature:
  - > Ordinary and **motivated forgetting**

# REACTIVITY (cont.)

- Surveys, interviews, and tests: **Response style**
  - > **Response acquiescence** (yea-saying)
  - > **Response deviation** (nay-saying)
  - > **Social desirability**
- Edwards' proposed a **forced-choice test**
- **Volunteer problem** and possible solutions

# SUMMARY

- Methods include naturalistic observation, case study, survey, and meta-analysis
- Observation **important in early stages** of research. It is flexible and ecologically valid
- Sources of error: **relations can't be inferred**, not reproducible, researcher bias, and reactivity