Causal – Comparative Studies

- Descriptive
  - Attempts to describe reasons or causes for existing conditions

Causal – Comparative Studies

- Ex Post Facto
- After the fact
- The attempt to find the reason or cause of why groups have differences

Causal – Comparative Studies

- Basic
  - Start with effect and seek causes
- Retrospective
  - Casual – Comparative
  - Common type
- Variation
  - Start with a cause and investigate its effect on some variable

Causal – Comparative vs Correlation Similarities

- Lack of manipulation by both types
- Similar cautions regarding interpretations of results

Causal – Comparative vs Correlation Differences

Causal-comparative studies

- Attempt to identify cause effect relationship
- Involve two (or more) groups and one independent variable
- Involve comparison

Correlational studies

- Do not identify cause
- Involve two (or more) variables and on group
- Involve relationships

Causal - Comparative vs Experimental

Causal – Comparative

Sample not assigned randomly to groups already formed

No treatment

Can not be manipulated

Experimental

Attempt to establish cause – effect relationships

Random sample random groups

Treatment

Manipulated

Limitations to Causal – Comparative

- Cannot exercise control as in experimental studies
- Extreme caution in interpreting results
- Caution – do not apply cause and effect relationships
- Cannot assign participants

Causal – Comparative Advantages

- Permit investigation of variables that cannot or should not be investigated experimentally
- Facilitate decision making
- Provide guidance for experimental studies
- Less costly

Design

- Select two groups that differ on some independent variable and comparing them to some dependent variable
- Turn to page 353 Figure 10.1

Definition and Selection of Participants

- Independent variable must be clearly and operationally defined
- Definition of groups will affect generalizability
- Random selection from defined population is preferred

Control in Causal – Comparative

- Lack of randomization manipulation and control sources of weakness
- Groups have already received the independent variable
- Possible that groups differ on some other important variable

Control

- Control the variables unrelated to study
- Pair-wise matching
- Two participants similar on control variable
- Eliminate participants who do not have a match
- Compare homogeneous groups
- Analysis of covariance
- Adjusts initial group differences

Data Analysis

- Involves descriptive and inferential statistics
- Most common descriptive are mean (average) and standard deviation (range)
- Most common inferential statistics are the t-test (means significantly different) and chi square (comparison of group frequencies)

Interpretation of Data

- Use caution
- Difficult to establish cause-effect relationship
- Relationship may be reverse of one hypothesized
- A third factor may be the underlying cause