Quasi-Experimental Designs

Say goodbye to Factorial designs and ANOVAs

Move on to

Quasi-Experimental Designs

Case Studies

Naturalistic Observation

Interviews/Narratives/Focus Groups

Survey Research

Analyses: Chi Square, Correlations, Multiple regressions

Quasi-Experimental Designs

- “Static” variables: Experimenter does not manipulate
- Therefore all could be subject to unknown or unanticipated confounds
- Cannot clearly isolate cause and effect
- Defined in terms of correlations of associations
- In an article, preferred description is the strength of the association

Quasi-Experimental Designs

Case studies: Useful as an example or to highlight some unusual circumstance

Problems: Not systematic, no comparison group

Naturalistic Observation: Useful in helping to guide future research, guiding/shaping theory

Problems: Unobtrusive?

What behaviors should be observed?

Validation of observed behaviors?

Quasi-Experimental Designs

Interviews/Narratives/Focus Groups

Can be useful as part of a program of research. People can talk about "meaning" and "importance"

Problems: Again, defining and validating behaviors

Deciding on specific behaviors/topics

Unobtrusiveness of moderator?

Quasi-Experimental Designs

Survey research: Complicated, so we will cover this on Wednesday

Analyses:

- Chi square
- Correlation
- Multiple regression
- Path analysis
- Structural Equation Modeling (SES)
- Odds Ratios, etc.

Quasi-Experimental Designs

Most important point to remember:

All measure the strength of association and cannot show cause/effect. Only a true experiment can show that.

Very useful as part of a program of research

Quasi-Experimental Designs

Survey research more than other type of research

Most often used,

Quasi-Experimental Designs

Survey research more than other type of research

Most often used,

Most often mishandled,

Quasi-Experimental Designs

Survey research more than other type of research

Most often used,

Most often mishandled,

Most often misunderstood,

Quasi-Experimental Designs

Survey research more than other type of research

Most often used,

Most often mishandled,

Most often misunderstood,

Most often manipulated

Quasi-Experimental Designs

Survey research

As with other quasi-experimental designs:

Measure “static” variables

- You do not manipulate, nature does
- Examples?

Association between two or more variables is the best you can do

No cause/effect

Quasi-Experimental Designs

Why used?

Ease of use

Some variables cannot be manipulated

Helpful pre-experimental design

Several issues need to be attended to:

Quasi-Experimental Designs

Obtaining a representative sample

Effects of method of contact and assessment

Qualities of survey instrument itself

Threats to internal validity

Quasi-Experimental Designs

Obtaining a representative sample

- Representative of what? Whom?
- How do you find them?
- How do you maximize participation?

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Effects of method of contact and assessment

Telephone

Letters (snail mail, e-mail)

Advertisement (Newspapers, flyers, web)

Word of mouth

Convenience sample

Assessment: Face to face? Oral/written? Telephone? Internet? Other?

By whom? What language?

How might these affect responses?

Quasi-Experimental Designs

- Qualities of survey instrument itself
- Avoid “homegrown” including altering an existing instrument as little as possible
- Look for instrument with good psychometric data and carefully assess and report your psychometric data
- Psychometric data: Reliability, validity, standardization
- Self-report vs. other report?
- Length? Reading level? Clarity? Scale used? Other qualities?

Quasi-Experimental Designs

- Developing a survey instrument
- Examples: Forced choice, dichotomous responses, Likert scale, nominal responses
- Question: How do the responses “group together”?
- Internal reliability
- Factor analysis
- Whole area of study in itself

Quasi-Experimental Designs

- Survey research:
- Threats to internal validity
- Selection
  - Example: DUI study men vs women
  - Berksen's bias
- Mortality
  - Failure to complete or respond (e.g. rate of return)
- Selection X Mortality
  - Failure to complete at a differential rate

Quasi-Experimental Designs

- How to report in APA style
- Always report as an association
- Could be predictor but only if theoretically sound and use proper controls
- Correlations, multiple regressions etc. on Friday

Quasi-Experimental Designs

- Correlation
- Association between two variables
- Positive vs. Negative
- Effects of increase in number of participants
- Effects of large number of correlations with same data set (Bonferroni corrections)

Quasi-Experimental Designs

- Multiple Regression: How do a set of variables interact to predict criterion or outcome variable?

Quasi-Experimental Designs

Example: Predicting GPA

Predictor variables—

- Parental variables
- Past GPA
- Subject variables (e.g. age, sex)
- SES
- Other variables?

Independent and interactive contributions

Models (Equations)

Stepwise versus Hierarchical regression

Quasi-Experimental Designs

Logistical Regression: Criterion variable is dichotomous rather than continuous

Quasi-Experimental Designs

Logistical Regression: Criterion variable is dichotomous rather than continuous

Path analysis

Theory: X leads to Y, Y leads to Z

Extension of Multiple regression techniques over time

Models (theory) reflect the time element

Quasi-Experimental Designs

Many types of Research designs beyond the scope of this course

Right now, reading and understanding research is the goal

To learn more, take more courses, get involved in research (DIS opportunities), read books and articles

Psychology is a research-based discipline