

# **Political Science Scope and Methods**



**Introduction to Research Design  
and The Experimental Method**

# Introduction to Research Design



- Scientific method (again)
  - Quant vs. Qual
  - Are they different?
- KKV and Van Evera
  - Similarities: theory testing
  - Differences: Inductive vs. deductive theorizing

# Some Terminology



- Dependent Variables (DV) and Independent Variables (IV)

- Van Evera definition

- Alternative conception:

- We explain particular phenomenon – our DV – as a function of specific explanations – our IVs.

- Examples

- Strategies

# Terminology (continued)



- Internal vs. External validity
  - Internal validity: the “real effect.”
  - External validity: “generalizability.”
  - Threats to validity
    - Example (internal): School vouchers
    - Example (external): Social psychology

Bottom Line (76 pages of Campbell and Stanley later): Be Careful!

# Testing theories



- Van Evera: 2 ways to test theories:
  - Experimentation
  - Observation
    - Case studies
    - “Large N” (statistical) analysis



# Experiments

- Experimentation:

- Lab experiments

- Effect of negative advertisements (Ansolabehere)
- Study of political cognition (Berinsky)

- Field experiments

- Effect of canvassing, telephone calls, and mailing on turnout (Green and Gerber)
- Effectiveness of “franking” – baby books and ballots (Cover and Brumberg)

# The Practice of Experimentation

- Campbell and Stanley: The hard sell
- Limitation of experiments
  - Experimental work as the plutonic ideal
- Experiments are about control
  - Payoff in causal inference
  - Maximize internal validity (if do them correctly)
  - Random Assignment

Note: Random assignment  $\neq$  random selection



# Other Concerns

- Construct validity

- Why does the treatment work?

- Is the treatment what we say it is?

# Experiments vs. Quasi Experiments

- Experiments: C&S – p.8: If you use random assignment, you don't need to worry about internal validity
- Quasi-Experiments: C&S – p. 40,56 – things are not so neat
  - Specific threats to worry about
  - Designs that control for all threats to validity might be hard to operationalize

# Example



Enid wants to investigate the effect of saliency of message on attitude change. From an old Ph.D. she finds a swell communication on the importance of physical sciences in a liberal education. Fortunately for her, Widget University conducts separately - English classes for engineers and liberal arts majors. Within this limitation, however, the university has matched the classes carefully on age, sex composition, socioeconomic background, and College Entrance Board Scores (both verbal and mathematical ability as well as on scores in specific subjects). Enid checks on the dean's records and is happy to find that the classes have indeed been matched to the best possible extent. Enid then delivers the message to the engineers (the salient group) and to the liberal arts students (the non-salient group). The engineers show much more attitude change. Enid concludes that message saliency increases attitude change.