

Class Survey

Please answer the two questions on the sheet and then pass it to either aisle.

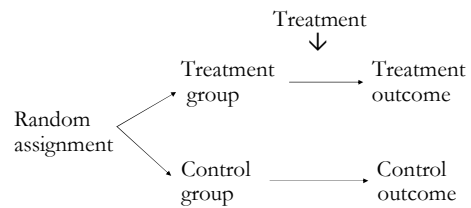
Political Science 104

Lecture 5:
Experiments

Example: Africa in UN Experiment

- That class survey was actually an experiment.
- Only 2 random numbers: 10 and 65.
- Is there an “anchoring heuristic” that leads people to make guesses on question 2 near the number they have just seen?
- In previous work, people guessed about 25 if given 10 as their number, 45 if given 65.
- FYI, the actual number is 28% (54 out of 192).

Standard Experimental Design



The difference between the treatment and control outcomes is the *treatment effect*.

Characteristics of Experiments

- **Treatment and Control Groups:** One group is exposed to some treatment, the other is not.
- **Randomization:** Subjects are assigned to the treatment and control groups randomly. This helps rule out alternative explanations.
- **Control over the independent variable:** The researcher manipulates the treatment (the independent variable) directly.

Internal vs. External Validity

- **Internal Validity:** The study is properly set up to determine if the independent variable has a causal effect on the dependent variable.
- **External Validity:** The results of the study can be generalized to the real world.
- We will usually face a tradeoff between internal and external validity in our research designs.
- Experiments are high on internal validity, low on external validity.

Threats to Internal Validity

- **History:** Something uncontrolled happens between the treatment and the measurement of the dependent variable.
- **Maturation:** The subjects are changing over time. Changes between the treatment and measuring the dependent variable.
- **Testing:** The experiment itself might change behavior.
- **Demand characteristics:** Subjects learn or try to guess what the experiment is about, and change their behavior.

Threats to External Validity

- **Testing interaction effects (the “Hawthorne effect”):** People change their behavior because they are being observed.
- **Unrepresentative subjects:** Is a class of undergraduate students representative of all voters?
- **Spurious measures:** The treatment only works in the experimental setting.

Types of Social Science Experiments

- **Laboratory Experiments:** Takes place in a controlled setting (a lab, classroom, etc.). Good control over the experiment, but less obvious ties to the real world.
- **Field Experiments:** Takes place in the real world. More obvious tie to situations we care about, but less experimental control.

Ethics in Experiments

- The infamous “Stanford Prison Experiment.”
- Most universities now have human subjects committees to review experiments.
- Is deception in experiments permissible?
Economists versus psychologists.

Experiment Example #1 (Iyengar and Kinder)

- Laboratory experiments with 1000 people recruited in newspapers.
- Control group watched regular newscast, treatment group watched altered newscast with extra story on an issue.
- Treatment group more likely to rate the treatment issue most important in a survey a week later.

Experiment Example #2 (Gerber and Green)

- Field experiment in New Haven, CT.
- Flyers reminding people to vote delivered to randomly selected homes.
- Control group received no flyers.
- Treatment group (people in homes that received flyers) more likely to vote than people in the control group.

Experiment Example #3

(New York City)

- NYC randomly selected 2500 low-income families to receive cash incentives for meeting certain criteria (child's school attendance, medical checkups, looking for job, etc.)
- Control group of 2500 low-income families will be tracked, but not offered assistance.
- Testing to see if bonuses for "smart" decisions help alleviate poverty. Experiment started 2007.