

EXPERIMENTS IN POLITICAL SCIENCE

September 23, 2020

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TYPES OF RESEARCH

- ***Observational vs. Experimental***
- **Observational studies**
 - Researcher gathers information already existing in the world
 - Causality based on eliminating alternate explanations or identifying mechanisms
- ***Qualitative vs. Quantitative methods***
- **Experimental studies**
 - *Researcher controls and randomly assigns* values of the independent variable to cases/participants
 - Causality based on manipulation of the independent/treatment variable

Randomised Experiment (comparing 2 treatments)



RANDOMLY SPLIT INTO GROUPS

APPLY TREATMENTS

COLLECT DATA ON OUTCOMES

COMPARE

TWO TYPES OF RANDOM

Random Sampling

- Using a random method to *select subjects/observations* for a study
 - Random walk for house-to-house survey/Random dialer
 - Done properly, generates a *representative* sample (helps with external validity)

Random Assignment

- Using a random method to *assign subjects already in the study* to a value of the independent variable (aka to a treatment or control group)
 - Coin toss/pull number out of hat/random number generator
 - Done properly, establishes causality by *eliminating alternate explanations* (helps with internal validity)

TWO TYPES OF CONTROL

- **Control variable:** A potential confounding variable that you try to rule out as a cause by including it in your study. An alternate explanation.
- **Experimental control:** The group of cases/participants that did not receive the treatment. A counterfactual.

Does negative advertising affect voter turnout?

Treatment = Received negative ad
Control Group = subjects 2, 5, 6

Subject	Gender	Race	Employed?	Received Negative Ad?	Outcome
1	M	White	Y	Y	Voted
2	F	Black	Y	N	Voted
3	F	Asian	Y	Y	Did not vote
4	M	Black	N	Y	Voted
5	M	White	Y	N	Did not vote
6	F	White	Y	N	Voted
7	M	White	N	Y	Did not vote

Control variables



IV



DV



See: Niven 2006

TYPES OF EXPERIMENTS

- **Laboratory**

- An experiment in which the researcher controls both the assignment to treatment and the environment of the survey itself

- **Lab-in-the-field**

- A lab experiment conducted in a real/local environment

- **Field**

- An experiment conducted in the environment relevant to the research question

- **Survey**

- A survey that uses randomized questions as the assignment to treatment

- **Natural**

- An experiment where nature (or another truly exogenous factor) assigns cases to treatment *as if* treatment were randomly assigned.