Political Science Research Methods

Lecture 8: Experiments Wrap-up and Measurements

Homework—
Message
from the TA's

Its important that you go over the lab guides 1 and 2 this weekend to see whether you can do all the steps in R

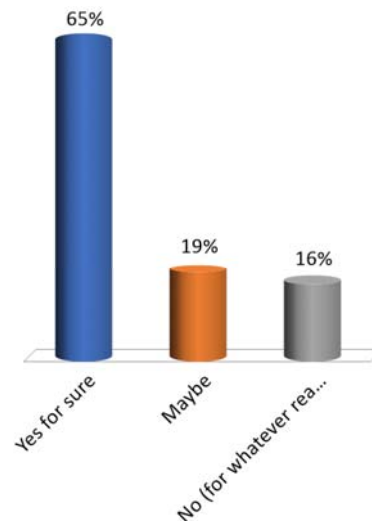If not, see your TA next week, ASAP!! This is important, you cannot fall behind!!

TOP GLOBAL WARMING

Arrangement for Friday's afternoon labs: only 8.30am (must email)

Are you planning to go to the climate change march tomorrow in Montreal?

1. Yes for sure
2. Maybe
3. No (for whatever reason)

- 65% — Yes for sure
- 19% — Maybe
- 16% — No (for whatever rea...

Plan today

Variety and examples of experimental designs (wrap-up)

Measurement of concepts and variables

As-if randomization

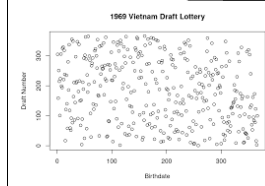|		
Subjects do not self-select into treatment and control groups.	Assignment to treatment and control groups is plausibly uncorrelated with alternative explanations.	Lower on internal validity than if we had truly random assignment

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Other Typical Examples of Natural Experiments

1969 Vietnam Draft Lottery

- Being a victim of 9/11 (effects on family's politics, article by Hersh)
- Position on Vietnam Draft lottery and its effect on views about war
- Assignment of college roommates in dormitories and outgroup feelings
- Reception of TV stations in Indian villages and its effect on social capital
- Policy: effectiveness of needle exchange programs on drug use (careful whether random)
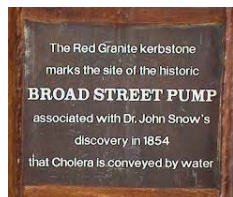

London Water Supply

- Two water companies serve the same neighborhood. Next door houses can have different water sources ("as-if" random assignment).
- One company draws from a clean source (control), the other from a polluted source (treatment).
- Rate of cholera deaths 10 times higher in treatment group (treatment effect).

The Red Granite kerbstone marks the site of the historic BROAD STREET PUMP associated with Dr. John Snow's discovery in 1854 that Cholera is conveyed by water

John Snow and Cholera in London

Internal Validity: The study is properly set up to determine if the independent variable has a *causal* effect on the dependent variable.

Internal and 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 or beyond a case.
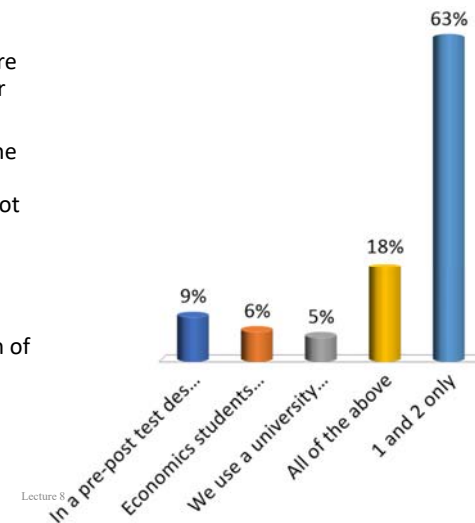
Internal and External Validity

What is a threat to internal validity?

1. In a pre-post test design subjects/respondents become more knowledgeable of politics for other reasons than the civics course.
2. Economics students notice what the trust experiment is all about and change their default strategy to "not cooperating."
3. We use a university wide student sample instead of a general population sample on how partisanship affects the perception of negative news.
4. All of the above
5. 1 and 2 only

Bar chart:
- In a pre-post test des...: 9%
- Economics students...: 6%
- We use a university...: 5%
- All of the above: 18%
- 1 and 2 only: 63%

Examples of 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/study itself might change behavior.

Demand characteristics: Subjects learn or try to guess what the experiment/study is about, and change their behavior

Instrumentation: Measurements change over time

Examples of Threats to External Validity

Unrepresentative subjects or cases: Is a class of undergraduate students representative of all voters?

"**Hawthorne effect**": People change their behavior because they are being observed (both internal and external validity).
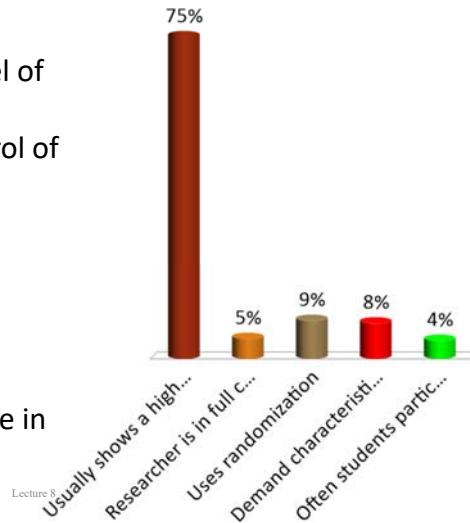
Treatment is applied in a way we wouldn't see in the **real world.**

Choose the one answer for which lab experiments are NOT known:

1. Usually shows a high level of realism
2. Researcher is in full control of manipulation
3. Uses randomization
4. Demand characteristics - participants aware of experiment may change behaviour.
5. Often students participate in lab experiments

Bar chart:
- Usually shows a high... — 75%
- Researcher is in full c... — 5%
- Uses randomization — 9%
- Demand characteristi... — 8%
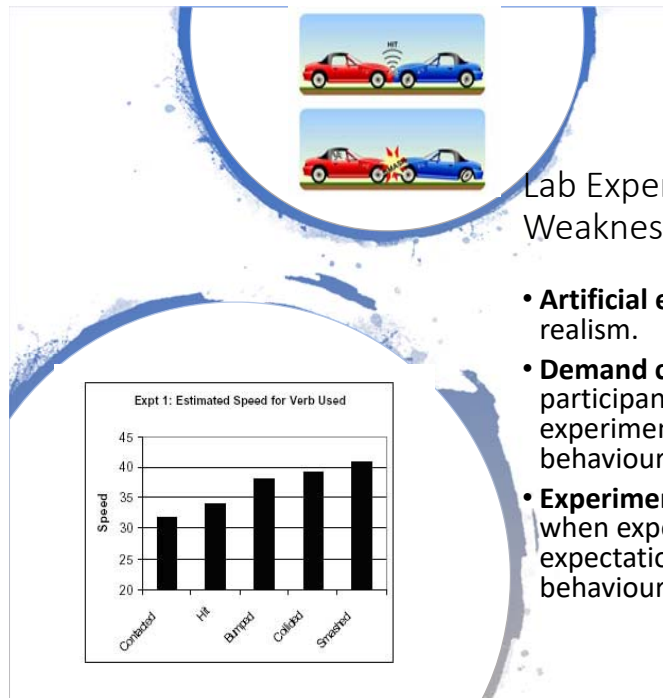- Often students partic... — 4%

Lab Experiments

- Research in **lab or CONTROLLED** environment
- **Researcher in full control**
- Complete **randomization** into treatment and control groups
- Good for internal validity
- Relatively easy to **replicate.**
  - Often **cheaper** and **less time-consuming** than field experiments

Speech bubbles: "Somebody else will help him", "I've got to catch the subway", "I'm late for work"
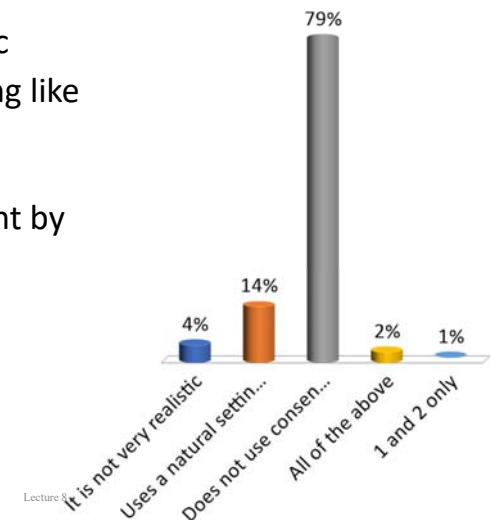

Lab Experiments- Weaknesses

- **Artificial environment** - low realism.
- **Demand characteristics** - participants aware of experiment, may change behaviour.
- **Experimenter effects** - bias when experimenter's expectations affect behaviour.

Chart: Expt 1: Estimated Speed for Verb Used
- y-axis: Speed (20 to 45)
- x-axis: Contacted, Hit, Bumped, Collided, Smashed

What is a big drawback of field experiments?

1. It is not very realistic
2. Uses a natural setting like workplace, school, neighborhood
3. Does not use consent by participants
4. All of the above
5. 1 and 2 only

Bar chart:
- It is not very realistic — 4%
- Uses a natural settin... — 14%
- Does not use consen... — 79%
- All of the above — 2%
- 1 and 2 only — 1%

Slide 1: Field experiments

- A field experiment takes place anywhere in a **natural setting;** it could take place in a school, hospital, the street or an office.
- People may behave more naturally than in laboratory - **higher realism.**
- Easier to **generalise** from results.
- People often do not know they are being studied

Examples:
- Canvassing experiments
- Civic course experiments
- Vote Compass experiments
- Mock elections
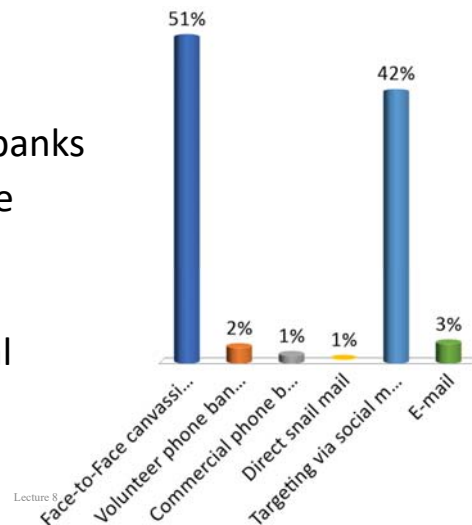- Evaluating Programs/ Policies

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Slide 2: Field Experiments-Weaknesses

- Often only **weak control of competing variables**
- Difficult to replicate.
- Can be **time-consuming and costly.**
- Often involves some **deception**.
- Does not use consent

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Slide 3

What do you think is the most effective way to increase voter turnout?

1. Face-to-Face canvassing
2. Volunteer phone banks
3. Commercial phone banks
4. Direct snail mail
5. Targeting via social media
6. E-mail

Chart values: 51%, 2%, 1%, 1%, 42%, 3%
Categories: Face-to-Face canvassi..., Volunteer phone ban..., Commercial phone b..., Direct snail mail, Targeting via social m..., E-mail

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Slide 4: For next week

- Do your homework in R (go over lab guides)—do not fall behind
- Assignment #2 due on Sunday
- Check out assignment #3 over weekend and start to think how to approach it
- Reading for Oct 1 and quiz #5
- Next week we discuss more on measurements and go into case studies/comparative method

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Team Scores

Points	Team	Points	Team
2.69	Yes for sure		
2.68	Maybe		
2.57	No (for whatever reason)		