Session V
Lingering Issues

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Quiz time!

Compliance

1. What is compliance?

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2. How can we analyze experimental data when there is noncompliance?

Balance testing

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2. What can we do if we find a covariate imbalance between groups?
3. How can we avoid this problem entirely?

Nonresponse and Attrition

1. Do we care about outcome nonresponse in experiments?

Nonresponse and Attrition

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2. How can we analyze experimental data when there is outcome nonresponse or post-treatment attrition?

Manipulation checks

1. What is a manipulation check?
   What can we do with it?

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2. What do we do if some respondents "fail" a manipulation check?

Null effects

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2. What does it mean for an experiment to be *underpowered*?
3. What can we do to reduce the probability of obtaining an (unwanted) "null effect"?

Effect heterogeneity

1. What should we do if, post-hoc, we find evidence of effect heterogeneity?

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2. What can we do pre-implementation to address possible heterogeneity?

Representativeness

1. Under what conditions is a design-based, probability sample necessary for experimental inference?

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2. What kind of causal inferences can we draw from an experiment on a descriptively unrepresentative sample?

Peer Review

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2. What should we do if a peer reviewer asks us to include or exclude particular respondents from the analysis?

Questions?

Bennett and Iyengar:[1]

> *manipulational control actually weakens the ability to generalize to the real world where exposure to ~~politics~~ stimuli is typically voluntary. Accordingly, it is important that experimental researchers use designs that combine manipulation with self-selection of exposure.*

[1] p.724 from Bennett & Iyengar. 2008. "A new era of minimal effects? The changing foundations of political communication." *Journal of Communication* 58(4): 707–31.

Hovland: [2]

It should be possible to assess what demographic and personality factors predispose one to expose oneself to particular ~~communications~~ stimuli and then to utilize experimental and control groups having these characteristics. Under some circumstances the evaluation could be made on only those who select themselves, with both experimental and control groups coming from the self-selected audience.

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[2] p.16 from Hovland. 1959. "Reconciling conflicting results derived from experimental and survey studies of attitude change." *American Psychologist* 14(1): 8–17.

Treatment Preferences I

- Experiments are about inferring effect of X on Y
- Respondents may have preferences over whether they are treated or untreated[3]
- Origins of this discussion are in the medical literature[4]
- Closely related to the notion of placebo effects

[3] Rucker. 1989. "A Two-Stage Trial Design for Testing Treatment, Self-Selection,

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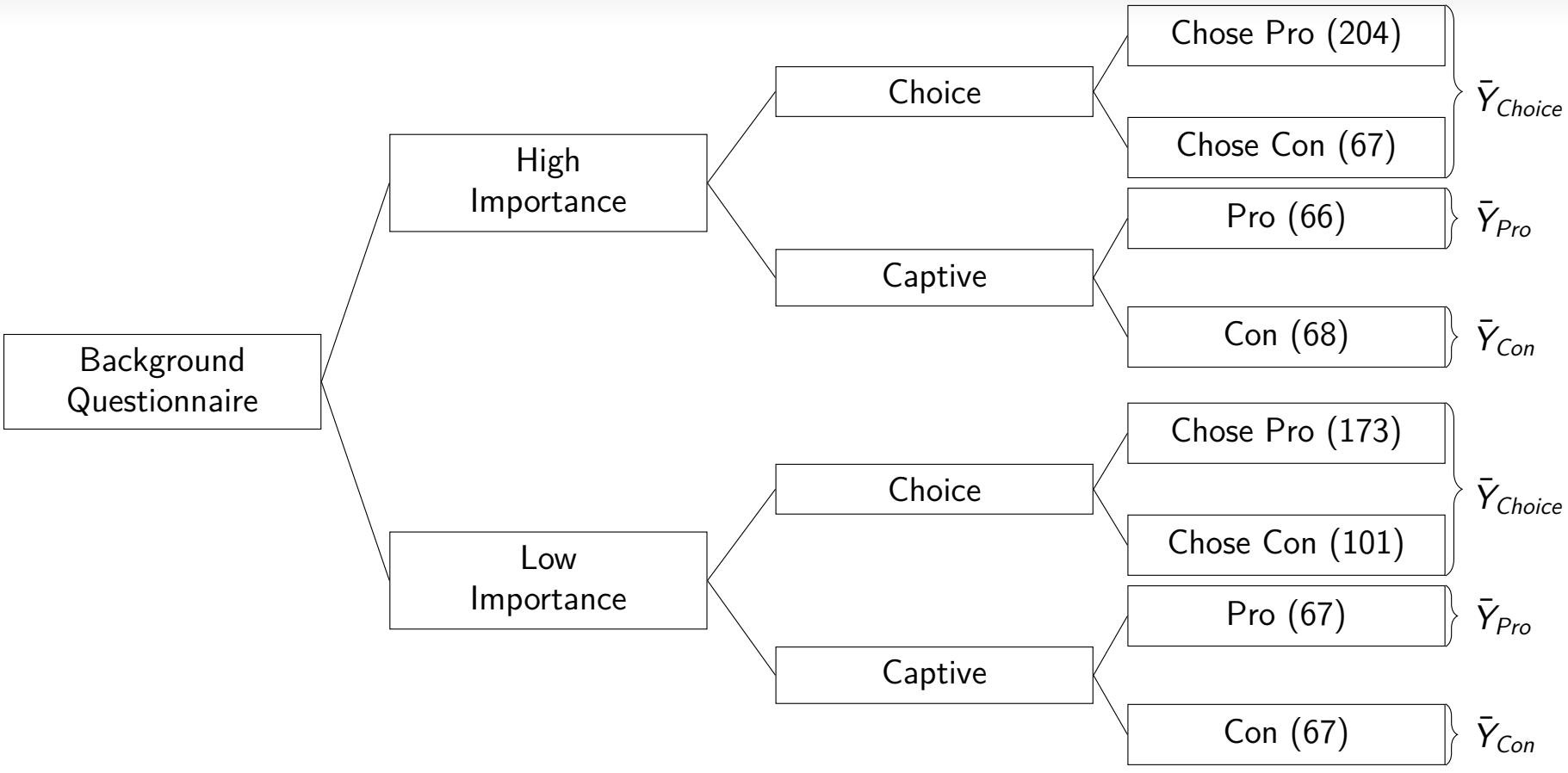
  1. Stated preference measures
  2. Designs that reveal preferences



Leeper. 2016. "How Does Treatment Self-Selection Affect Inferences About Political Communication?" Available at `http://thomasleeper.com/research.html`

Analyzing 3-Group Preference Trials[5]

1. SATE: $\bar{Y}_T - \bar{Y}_C$
2. CATE (Prefer T): $\frac{\bar{Y}_{Choice} - \bar{Y}_C}{\hat{\alpha}}$
3. CATE (Prefer C): $\frac{\bar{Y}_T - \bar{Y}_{Choice}}{1 - \hat{\alpha}}$

Note: $\alpha = Pr(T|Choice)$

[5] GK2011 Package for R. `https://cran.r-project.org/package=GK2011`

Questions?

History: Key Moments

1. Tuskegee (1932-1972) and Guatemala (1946-1948) Studies
2. Nuremberg Code (1947)
3. Helsinki Declaration (1964)
4. U.S. 45 CFR 46 (1974) and "Common Rule" (1991)
5. The Belmont Report (1979)
6. EU Data Protection Directive (1995; 2012)
    - UK Data Protection Act (1998)

Helsinki Declaration

- Adopted by the World Medical Association in 1964[6]
- Narrowly focused on medical research
- Expanded the Nuremberg Code
  - Relaxed consent requirements
  - Risks should not exceed benefits
  - Institutionalization of ethics oversight

[6] http://www.bmj.com/content/2/5402/177

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- Do these rules apply to non-medical research?

[6] http://www.bmj.com/content/2/5402/177

The Belmont Report

- Commissioned by the U.S. Government in 1979[7]
- Three overarching principles:
  1. Respect for persons
  2. Beneficence
  3. Justice
- Three policy implications:
  - Informed consent
  - Assessment of risks/benefits
  - Care for vulnerable populations

[7]

Benefits and Harm

- What is a “benefit”?
- What is a “harm”?
- How do we balance the two?

Ethical Considerations

- Most ethical issues are not unique to *experimental* social science
- Some especially important issues:
  1. Randomization
  2. Informed consent
  3. Privacy
  4. Deception
  5. Publication bias

I. Randomization

- Is it ethical to randomize?

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  - What is consent?
  - What is "informed" consent?
  - What exactly do they have to consent to?
- Cross-national variations
  - Consent forms required in U.S.
  - Not required in UK

III. Privacy

- Under EU Data Protection Directive (1995), data can be processed when:
  - Consent is given
  - Data are used for a "legitimate" purpose
  - Anonymous or confidential
- Data cannot leave the EU except under conditions

III. Privacy

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- Answers reflect "manipulated" attitudes, behaviors, perceptions, etc. that respondents may not have given in another setting

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  - Commission: Telling respondents it is a dictator game, but it is actually a trust

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- If studies are meant to policy or practical implications, then we care about PATE or a set of CATEs, including whether their effects are positive, negative, or zero.
- Publication bias (toward "significant" results) invites wasting resources on

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Presentations!

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1. Explain how to analyze experiments quantitatively.
2. Explain how to design experiments that speak to relevant research questions and theories.
3. Evaluate the uses and limitations of several common survey experimental paradigms.
4. Identify practical issues that arise in the implementation of experiments and evaluate how to anticipate and respond to them.

Wrap-up

- Thanks to all of you!
- Stay in touch (t.leeper@lse.ac.uk)
- Good luck with your research!