Survey Experiments

Conjoint and List Designs

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Today's Agenda

Survey Experiments: Conjoint and List Designs

- **Overview**: What survey experiments are and why we should care.
- **Application #1**: Conjoint Experiments.
- **Application #2**: List Experiments.

Overview

Survey Experiments

Overview

Survey Experiments

- What's a "survey experiment"**?**
  - "Researchers assign [survey] respondents randomly to **control** and **treatment** conditions."
  - **Essentially, we randomize question wordings or possible answer choices**. **Study "framing effects"** (**?**).
- What kinds of **advantages** do survey experiments have over "normal" surveys**?**
  - Spurious correlation (**?**).
  - "Social desirability bias," (**?**) and others.
- What was the **role of technology** in popularizing survey experiments**?**

Let’s think about external validity

Define…and why is it important?

Overview

Survey Experiments: External Validity

- The authors identify **five challenges** in the context external validity:

1. Scholars usually find "**short-term effects**" (**?**).
2. Experimental designs usually exploit "**highly artificial settings**" (**?**).
3. Scholars sometimes don't include a "**control group**" (**?**).
4. "**Spillover effects**" within the same survey (**?**).
   Is this something **common**? Why should we **care**?
5. Scholars usually design treatments that are "**binary**" (**?**).
   As opposed to "**continuous**."

Overview

Survey Experiments: External Validity

- Why would we like our results to be "**invariant across samples**"**?**
  Convenient vs. Representative.

- Why would "**convenient samples**" produce different results than, say, "**representative samples**"**?**

  Hint: What **kind** of individuals do "**convenient**" samples have?

- **Convenient v. Representative samples**: depending on the sample, results might be **different** in "**size**" and/or "**sign**" (**?**)
  And what do the authors find, anyway**?**

Overview

Survey Experiments: External Validity

- Effects **signs** and **sizes** are **mostly comparable** across samples.
- How can we tell**?**
  Look at Figure 1.
- Why is this **good news?**

Figure 1
Study 1 Results.

Conjoint

Experiments

Conjoint Designs

Overview

- What's a "**conjoint experiment**"**?**
  - Study "**multidimensional**" (**?**) preferences and "**trade-offs**" towards political objects.
- What's **causal** about conjoints**?**

  What's being **randomized** here?

  ✓ **Attributes**, but also their **order**—to avoid "**order effects**" (**?**)

Conjoint Designs

"Tasks" and "Attributes"

- How does a conjoint experiment **look like?**
  - "Conjoint table"
- What are **participants asked to do?**
  - Tasks and attributes.
- Why might conjoint experiments help **decreasing "social desirability bias"?**

Conjoint Survey Experiments

	CANDIDATE A	CANDIDATE B
Military Service Experience	Served in the Navy	Did not serve
Supports Creating Pathway to Citizenship for	Unauthorized immigrants with no criminal record who entered the U.S. as minors	All unauthorized immigrants with no criminal record
Previous Occupation	Lawyer	Lawyer
Age	53	45
Gender	Female	Female
Race/Ethnicity	White	Hispanic/Latino
Sexual Orientation	Gay	Straight
Position on Climate Change	Ban the use of fossil fuels after 2040, substantially reducing economic growth	Impose a tax on using fossil fuels, moderately reducing economic growth
Supports Government Healthcare for	Only Americans who are older, poor, or disabled	Only Americans who are older, poor, or disabled
Prior Political Experience	U.S. Senator	No prior political experience

Tendency of survey respondents to answer questions in a manner that will be viewed favorable by others, for ex., the interviewer.

What kind of questions are more likely to suffer from social desirability bias?

Why is it important to decrease that bias?

Table 2.1 The list of possible attribute values in the Democratic primary experiment.

Age	37, 45, 53, 61, 77
Gender	Female, Male
Sexual Orientation	Straight, Gay
Race/Ethnicity	White, Hispanic/Latino, Black, Asian
Previous Occupation	Business executive, College professor, High school teacher, Lawyer, Doctor, Activist
Military Service Experience	Did not serve, Served in the Army, Served in the Navy, Served in the Marine Corps
Prior Political Experience	Small-city Mayor, Big-city Mayor, State Legislator, Governor, U.S. Senator, U.S. Representative, No prior political experience
Supports Government Healthcare for	All Americans, Only Americans who are older, poor, or disabled, Americans who choose it over private health plans
Supports Creating Pathway to Citizenship for	Unauthorized immigrants with no criminal record who entered the U.S. as minors, All unauthorized immigrants with no criminal record, No unauthorized immigrants
Position on Climate Change	Ban the use of fossil fuels after 2040, reducing economic growth by 5%; Impose a tax on using fossil fuels, reducing economic growth by 3%; Promote the use of renewable energy but allow continued use of fossil fuels

Attribute Set

	CANDIDATE A	CANDIDATE B
Military Service Experience	Served in the Navy	Did not serve
Supports Creating Pathway to Citizenship for	Unauthorized immigrants with no criminal record who entered the U.S. as minors	All unauthorized immigrants with no criminal record
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Conjoint Table

Conjoint Designs

Distributions

- Should we **randomize** all **attributes** using a "**uniform distribution**"**?**
- **"Unrealistic profiles" (?)**
  Frequency and unrealistic combinations.

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Conjoint Designs

Interpretation

- How do we **interpret conjoint experiments?**
  - **"AMCE" (?)**
    - AMCE represents the effect of a particular attribute value of interest against another value of the same attribute while holding equal the joint distribution of the other attributes in the design, averaged over this distribution as well as the sampling distribution from the population.
- **Reference category** issue.

Figure 2.3 Average marginal component effects of candidate attributes in the Democratic primary conjoint experiment (forced choice outcome). DACA = Deferred Action for Childhood Arrivals.

Conjoint Designs

AMCE, and the Issue of the Reference Category

- To estimate the AMCE, the analyst is required to select a "**reference category**" (**?**).
  For ex., suppose the variable "Gender" has two categories ("M" and "F"). Now, if one wants to compute the AMCE of "M," we should compute it respect to "F."

- The problem is that the choice of the reference category ("F" in this example) matters.

Conjoint Designs

AMCE, and the Issue of the Reference Category

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  For ex., suppose the variable "Gender" has two categories ("M" and "F"). Now, if one wants to compute the AMCE of "M," we should compute it respect to "F."

- The problem is that the choice of the reference category ("F" in this example) matters.

See how estimates change when the ref. cat. changes (Mex to Iraq)

AMCE:
With reference categories

Subgroup MM:
Without reference categories.
See how the effects change.

See how coefficients change between both estimators

Conjoint Designs

Assumptions

1. **Stability and no carryover effects**: subjects are not affected by prior tasks.
2. **No profile order effects**: order in which profiles appear can be "ignored."
3. **Randomization of the profiles**: choices are independent of the profiles.

Choices are independent of the conjoint tables.

Conjoint Survey Experiments

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List

Designs

List Experiments

Overview

- **What** are **list experiments** good for**?**
  What do they solve?
- **How** do list experiments **decrease** social desirability bias**?**
- How does a list experiment **look like?**

List Experiments

Design

Now I'm going to read you three things that sometimes make people angry or upset. After I read all three, just tell me HOW MANY of them upset you. (I don't want to know which ones, just how many.)

(1) the federal government increasing the tax on gasoline
(2) professional athletes getting million-dollar-plus salaries
(3) large corporations polluting the environment

How many, if any, of these things upset you?

Now I'm going to read you four things that sometimes make people angry or upset. After I read all four, just tell me HOW MANY of them upset you. (I don't want to know which ones, just how many.)

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Treatment

List Experiments

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Same set of instructions.

List Experiments

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Notice what's being asked: answer is concealed.

Intention of concealment is repeated three times.

List Experiments

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What kind of inferences do we get using the "simple difference in means estimator"?

List Experiments

Analysis

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What does the "new statistical approach" have to offer when analyzing list experiments?

List Experiments

Assumptions and Design

- What **assumptions** do we need to make list experiments work**?**

1. **No design effects**: responses to control items don't change once the sensitive item is added.
2. **No liars**. **It applies only to the sensitive item**, not to control items**!** Is this assumption reasonable, and why**?**
3. **No ceiling/floor effects**. Items are "not uncontroversial" nor "too controversial" (**?**).

List Experiments

Assumptions and Design

- How does it **look** when we have a good design**?**

Still for sale: the micro-dynamics of vote selling in the United…

Fig. 3 Frequency and percentages of subjects declaring how many (if any) illegal things they would do. *Note* notice that the *X*-axis denotes the number of items, not which ones. Percentages show proportions per condition

List Experiments

Assumptions and Design

- The author suggests **incorporating** a "**direct question**." **Two issues arise**:

1. What kind of information does the **direct question contribute to?**
2. Can the direct question **bias** our results**?**

   If so, how can we make sure it doesn't?

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List Experiments

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Thanks