Survey Experiments

POLS 703 North Dakota State University

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Survey Experiments: Advantages

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Survey Experiments: Advantages

- Causal identification
- Cheap
- Sampling can be good
- Easy to iterate, break down

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Survey Experiments: Common Issues

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Survey Experiments: Common Issues

- External validity (setting, unit, treatment, outcomes)
- Recruitment issues (weird samples, small samples)
- Unreliable self-report, desirability bias
- Demand characteristics (example: police in the lab)

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Noncompliance, inattention, satisficing

Survey Experiments: Common Mistakes

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- Not measuring effect duration
- One-shot treatments
- Ignoring endogeneity/mutual causation

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• Not true control group

Survey Experiments: Contamination Issues

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Survey Experiments: Contamination Issues

- Within-survey spillovers
- Real world pre-treatment



Vignette Experiments

- A short text describing a situation
- Keep everything the same across treatments, except one (or a few) things

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- Very common form of survey experiment
- Increasingly use images, multi-media

Imagine that you were living in a village in another district in Uttar Pradesh and that you were voting for candidates in (village/state/national) election. Here are the two candidates who are running against each other: The first candidate is named (caste name) and is running as the (BJP/SP/BSP) party candidate. (Corrupt/criminality allegation). His opponent is named (caste name) and is running as the (BJP/SP/BSP) party candidate. (Opposite corrupt/criminality allegation). From this information, please indicate which candidate you would vote for in the (village/state/national) election.

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-Banerjee et al. (2012)

- Tool for measuring preferences for attributes of something
 - Conjoint experiments elicit revealed preferences
 - Standard survey items measure stated preferences
 - Conjoints estimate relative importance of attributes

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 - Example: car model, trim, color, and price
 - Example: candidate party, gender, race, and main policy priority

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- Describe item(s) in terms of a set of attributes and ask respondents to rate and/or choose between items
 - Example: car model, trim, color, and price
 - Example: candidate party, gender, race, and main policy priority
- Long history (e.g., Luce & Tukey 1964, Green & Rao 1971)
 - Very popular in marketing
 - Sometimes called "stated choice methods" or "factorial surveys" in economics or sociology
 - Recent popularity in political science; recognition of potential for non-parametric causal inference

- Multiple flavors
 - Traditional single profile rating
 - Paired profile rating and/or choice
 - Adaptive
- Multiple methods of analysis
 - Parametric behavioral models (e.g., latent utility models)

- Fractional factorial designs
- Non-parametric potential outcomes approach

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- Fractional factorial designs
- Non-parametric potential outcomes approach

	CANDIDATE A	CANDIDATE B	
Supports Creating Pathway to Citizenship for	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%	Promote the use of renewable energy but allow continued use of fossil fuels	
Previous Occupation	Doctor	Activist	
Prior Political Experience	U.S. Representative	U.S. Representative	
Sexual Orientation	Straight	Straight	
Military Service Experience	Did not serve	Served in the Army	
Gender	Male	Female	
Supports Government Healthcare for	Only Americans who are older, poor, or disabled	All Americans	
Race/Ethnicity	White	White	
Age	37	45	

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r1_c6A On a scale from 1 to 7, where 1 indicates that you definitely would NOT want this type of Democratic candidate to run against President Trump and 7 indicates that you definitely would want this type of Democratic candidate to run against President Trump, how would you rate each of the candidates described above?

	Definitely NOT want 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Definitely want 7 (7)
Candidate A (1)	0	0	0	0	0	0	0
Candidate B (2)	0	0	0	0	0	0	0

p1_c6A Which candidate profile would you prefer for the Democratic candidate to run against President Trump in the general election?

	Candidate A (1)	Candidate B (2)
Preferred Candidate (1)	0	0

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

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Why not just ask respondents to state preferences, and rate the importance of each attribute?

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Conjoint Experiments: Why Not Ask Directly?

Why not just ask respondents to state preferences, and rate the importance of each attribute?

- Responses are often trivial (e.g., prefer lower prices)
- Simple questions elicit cheap talk and desirability bias
- Participants are bad at judging relative importance of attributes
- Direct questions do not provide causal identification
- Direct questioning makes it difficult to investigate interactions

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• Direct questions don't mimic real-world decision-making

Survey experiments give us causal estimates and avoid many of the pitfalls of direct questioning. So, when are conjoint experiments more useful than simple vignette experiments?

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Survey experiments give us causal estimates and avoid many of the pitfalls of direct questioning. So, when are conjoint experiments more useful than simple vignette experiments?

- You are interested in multi-dimensional choices/preferences
 - Efficiency gains
 - Can estimate relative causal effects
- You are interested in interactions between attributes
- You have a computerized survey delivery mode
 - BUT can accommodate other modes if the enumerator has a (tablet) computer

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Conjoint Experiments: Disadvantages?

What are some disadvantages to conjoint analysis?

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Conjoint Experiments: Disadvantages?

What are some disadvantages to conjoint analysis?

- External validity issues (fake choices)
- Cognitive complexity
- No simple "% support" stats
- "Odd" profiles
- Implementation is tricky
 - Presenting randomized pairs
 - Adjusting for profile restrictions

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Conjoint Experiments: Exercise

Choose a question you can answer with a conjoint experiment

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- Choose 3 attributes to vary in each profile
- Ohose 2 levels for each attribute
- Write a response prompt (choice/rating)

Conjoint Experiments: Implementation

• Qualtrics suite: https://www.qualtrics.com/core-xm/conjoint-analysis/

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- Strezhnev et al. tool: https://github.com/astrezhnev/conjointsdt
- Qualtrics + Javascript:

https://github.com/leeper/conjoint-example

Notation:

- $i \in 1, \ldots, N$ respondents
- $k \in 1, \ldots, K$ rating tasks
- $j \in 1, \ldots, J$ alternatives (profiles) per task
- $I \in 1, \ldots, L$ discrete attributes per profile

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- Treatment T_{ijk} is an *L*-vector and T_{ijkl} is the *l*th attribute of the profile

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- $Y_{ijk}(\bar{t})$ is a binary indicator variable where 1 indicates that respondent i would choose the *j*th profile in her *k*th choice task if she got the treatment set \bar{t} and 0 implies that she would not

Assumptions:

Stability/no carry-over (like SUTVA)

$$Y_{ijk}(\bar{\boldsymbol{T}}_i) = Y_{ijk'}(\bar{\boldsymbol{T}}'_i)$$
 if $\boldsymbol{T}_{ik} = \boldsymbol{T}'_{ik'}, \ \forall \ j, k, k'$

2 No profile-order effects

$$Y_{ij}(\bar{\boldsymbol{T}}_{ik}) = Y_{ij'}(\bar{\boldsymbol{T}}'_{ik})$$
 if $\boldsymbol{T}_{ijk} = \boldsymbol{T}'_{ij'k}$ and $\boldsymbol{T}_{ij'k} = \boldsymbol{T}'_{ijk}, \ \forall \ i, j, j', k$

8 Random profiles

 $Y_i(t) \perp T_{ijkl} \forall i, j, k, l, t \text{ and } 0 < p(t) \equiv p(T_{ik} = t) < 1$

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- We can estimate average treatment effects (ATEs), but they are generally not interesting unless certain profiles are "special"
- Average marginal component effects (AMCEs) tell us the marginal causal effect of each attribute on choice/rating
- Average component interaction effects (ACIEs) capture higher order causal effects

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- Average marginal component effects (AMCEs) tell us the marginal causal effect of each attribute on choice/rating
- Average component interaction effects (ACIEs) capture higher order causal effects
- We can estimate AMCEs and ACIEs <u>non-parametrically</u> with OLS

• Cluster standard errors, or block bootstrap, by respondent

Clientelism and Public Goods Provision: Substitutes or Compliments?

- Standard models assume clientelism and public goods provision are substitutes
- How do voters perceive this trade-off?
- Do voters punish clientelism?



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Modernization story

• Voter demand story

- Modernization story
 - Income, urbanization, press expansion, literacy, broker rents

- Mechanism = efficient voter mobilization
- Top-down
- e.g. Cox 1987, Stokes et al 2013
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 - Income, urbanization, press expansion, literacy, broker rents
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- Voter demand story
 - Middle class voters demand programs, punish clientelism
 - Mechanism = middle class distaste, competitive elections, ?
 - Bottom-up
 - e.g. Weitz-Shapiro 2012, 2014; Winters & Weitz-Shapiro 2013, Ocantos, de Jonge, & Nickerson 2013

Clientelism and Income: Cross-National Patterns



Clientelism and Income: Cross-National Patterns



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(Note: Up='Good')

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• Mechanisms: Income $\uparrow \rightarrow$

\rightarrow punish observed clientelism

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- Mechanisms: Income $\uparrow \rightarrow$
 - $\textcircled{0} \quad \mathsf{public goods utility} \uparrow$

 \rightarrow punish observed clientelism

- Mechanisms: Income $\uparrow \rightarrow$
 - (1) public goods utility \uparrow
 - $\textcircled{0} \quad \text{education} \uparrow \rightarrow \text{understand clientelism/public goods tradeoff} \uparrow$

 \rightarrow punish observed clientelism

- Mechanisms: Income $\uparrow \rightarrow$
 - $\textbf{0} \quad \mathsf{public goods utility} \uparrow$
 - 2 education $\uparrow \rightarrow$ understand clientelism/public goods tradeoff \uparrow

- $\textcircled{O} \quad \text{education} \uparrow \rightarrow \text{anti-clientelism norms} \uparrow$
- \rightarrow punish observed clientelism

- Mechanisms: Income $\uparrow \rightarrow$
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- ${\small \textcircled{0}}$ willingness to pay for non-instrumental benefits \uparrow
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 - ${\small \textcircled{0}}$ willingness to pay for non-instrumental benefits \uparrow
 - \rightarrow punish observed clientelism
- Mediators
 - Reliance on public goods (1)
 - Olientelism/public goods substitutability perception (1, 2)
 - 3 Education
 - Democratic norms/values (3, 4)
 - $\bullet~$ Understanding of clientelism/public goods tradeoff (1, 2)

- Time horizon (1, 2, 4)
- Orban/rural (1)
- Government/aid job (1?)

Substitutes

- $\bullet \ \ {\sf Clientelism} \ \uparrow \rightarrow \ {\sf public} \ {\sf goods} \ \downarrow \\$
- Fixed budget models (e.g., Stokes et al. 2013)
- Corruption, electoral priorities, low quality bureaucracy

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Hypothesis (Substitutes)

Voters perceive clientelism and public goods provision as substitutes.

Hypothesis (Substitutes-Voting)

Voters who perceive clientelism and public goods provision as substitutes are more likely to vote against clientelist candidates.

• Compliments

- Clientelism $\uparrow \rightarrow$ public goods \uparrow
- Informational (e.g., van de Walle 2007, Kramon 2016, 2018)

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• Signals competence, resources, commitment to voter

Compliments

- Clientelism $\uparrow \rightarrow$ public goods \uparrow
- Informational (e.g., van de Walle 2007, Kramon 2016, 2018)
- Signals competence, resources, commitment to voter

Hypothesis (Complements)

Voters perceive clientelism and public goods provision as complements.

Hypothesis (Compliments-Voting)

Voters who perceive clientelism and public goods provision as complements are less likely to vote against clientelist candidates.

- How does income fit in?
 - Mechanisms: public goods utility, education
 - Mediators: Clientelism/public goods substitutability perception

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- How does income fit in?
 - Mechanisms: public goods utility, education
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Hypothesis (Wealth-Substitutes)

Wealthy voters are more likely to view clientelism and public goods provision as substitutes than are poor voters.

Hypothesis (Wealth-Substitutes-Voting)

Wealthy voters who view clientelism and public goods provision as substitutes are more likely to vote against clientelist candidates than are poor voters.

The Nepali Case

- Shifting income distribution
- Shifting clientelism dependency
- Subnational heterogeneity in both
- Recent competitive, free and fair (enough), elections



Sampling

- Village Development Committee (VDC)/Gaunpalika, pop>500
- Competitive FPTP constituencies
- Top/bottom quartiles (non)agriculture, education
- Random national sample of remaining VDCs, stratified by population density, electrification

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Dimension	Value A	Value B	Value C
Gender	[Gendered name]	[Gendered name] + gender statement + stick-figure	
Party	This candidate rep- resents the party you most often support.	This candidate does not represent the party you most often support.	
Vote Buying	The candidate is of- fering people who pledge their votes a small amount of money.	The candidate is of- fering people who pledge their votes a job for a family member.	This candidate is not offering money, or a job for a fam- ily member, in ex- change for people's vote pledges.
Policy Promise	The candidate is promising to in- crease household water connections in the community.	The candidate is promising to build additional school infrastructure in the community.	
Competitive	The election will be very close.		



- Which candidate would you vote for?
 - a Candidate A
 - b Candidate B
- Which candidate would be more likely to provide water connections to the community?
 - a Candidate A
 - b Candidate B
- Which candidate would be more likely to build additional school infrastructure in the community?

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- a Candidate A
- b Candidate B

"National parliament candidate A [is/is not] offering people who pledge their votes [a small amount of money/access to small loans]. Candidate B [is/is not] offering people who pledge their votes [a small amount of money/access to small loans]. Both candidates promise to [increase household water connections/build school infrastructure] in the community. In your view, which candidate is more likely to provide [increase household water connections/build school infrastructure] in the community, if elected to office?"

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- Candidate A is most likely
- Candidate B is most likely
- They are equally likely

"A candidate for national parliament is offering people who pledge their votes [a small amount of money/access to small loans]. Compared to a candidate who is not engaging in this behavior, is this candidate more or less likely to help the community obtain things like improved roads, better access to water, educational infrastructure, health services, after being elected?"

- Much more likely
- Slightly more likely
- Slightly less likely
- Much less likely

- Expect (wealthy) respondents
 - believe vote-buying/job-offering candidates less likely to provide water/school infrastructure
 - who respond much/slightly less likely in Vignette 2, will be less likely to vote for vote-buying/job-offering candidates

- Expect (wealthy) respondents
 - believe vote-buying/job-offering candidates less likely to provide water/school infrastructure
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- Issues
 - Multiple tests
 - Correlated outcomes

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- Issues
 - Multiple tests
 - Correlated outcomes
- Method
 - Multivariate regression
 - Wealth measure from factor analysis of proxies
 - Standard AMCE estimates, but deals with correlated outcomes

- Joint coefficient tests
- Interactions to test wealth-hypotheses

Vignette Experiment Analyses

- Expect (wealthy) respondents
 - believe vote-buying/loan-offering candidates less likely to provide water/school infrastructure in Vignette Experiment 1

• believe vote-buying/loan-offering candidates less likely to provide public goods in Vignette Experiment 2

Vignette Experiment Analyses

- Expect (wealthy) respondents
 - believe vote-buying/loan-offering candidates less likely to provide water/school infrastructure in Vignette Experiment 1

- believe vote-buying/loan-offering candidates less likely to provide public goods in Vignette Experiment 2
- Method
 - Vignette 1 is conjoint-alike, standard AMCE estimates
 - Vignette 2 is a simple ordinal regression

Wealth Index

Where do your family members usually go for a health check-up/treatment when someone in your family is

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sick? Mark up to three.

- Health post
- Local medical store
- Government hospital
- Private hospital/clinic
- Traditional healer
- Health institutions in India
- Other (specify)

What type of school do your children (if applicable) attend for education?

- Public/Government
- Private/Boarding
- Religious/Non-formal institutions

What is the primary construction material of your housing unit's exterior walls?

- Grass/thatch/bamboo
- Plastic/Polythene
- Mud/unburnt brick
- Wood
- Stone not packed with mortar
- Stone packed with mortar
- GI/Metal/Asbestos sheets
- Concrete
- Burnt brick
- Other (specify)

Wealth Index

What is the primary construction material of your housing unit's roof?

- Grass/thatch/bamboo/wood/mud
- Plastic/polythene
- Handmade tiles
- Machine made tiles
- Burnt brick
- Stone
- Slate
- CGI/Metal/Asbestos sheets
- Concrete
- Other (specify)

What is the primary fuel source your household uses for cooking?

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- Wood
- Sawdust
- LPG or similar
- Other natural material

Wealth Index



(a) Difficulty Parameters

(b) Discrimination Parameters

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