Comparing and Combining List and Endorsement Experiments: Evidence from Afghanistan

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Japanese Political Science Association
Methodological Motivation

- Survey is used widely in social sciences
- Validity of survey depends on the accuracy of self-reports

**Sensitive questions** $\implies$ social desirability, privacy concerns
- Racial prejudice, corruption, support for political actors
- Lies and nonresponses $\implies$ potential bias

Survey “experiments” as a solution

1. Randomization: Randomized response method
2. Aggregation: **List experiment** (item count technique)
3. Cueing: **Endorsement experiment**

Two problems of indirect measures and proposed solutions:

1. **Measurement error** $\implies$ *comparing* two measures
2. Statistical inefficiency $\implies$ *combining* two measures
Theoretical and Substantive Motivation

- How do we measure “hearts and minds” in a conflict setting?

- Current efforts in Afghanistan rely on direct questions:
  1. USAID (TCAPF): “Who do you believe can solve your problems?”
  2. ISAF (ANQAR): “Over the past 6 months, do you think the Taliban have grown stronger, grown weaker, or remained the same?”

- Why are direct questions a bad idea?
  1. Threats to enumerators and respondents
  2. Nonresponse, social desirability bias
  3. Interviews are public
  4. Danger of selection bias in sampling locations (role of gatekeepers)

- ANQAR (November-December 2011): 50% refusal rate
Public Nature of Interviews

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A Battlefield in Princeton, New Jersey
Sampling in the Heartland of Insurgency

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List and Endorsement Experiments

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Script for the control group:

I’m going to read you a list with the names of different groups and individuals on it. After I read the entire list, I’d like you to tell me how many of these groups and individuals you broadly support, meaning that you generally agree with the goals and policies of the group or individual. Please don’t tell me which ones you generally agree with; only tell me how many groups or individuals you broadly support.

Karzai Government; National Solidarity Program; Local Farmers
Script for the treatment group:

I’m going to read you a list with the names of different groups and individuals on it. After I read the entire list, I’d like you to tell me how many of these groups and individuals you broadly support, meaning that you generally agree with the goals and policies of the group or individual. Please don’t tell me which ones you generally agree with; only tell me how many groups or individuals you broadly support.

Karzai Government; National Solidarity Program; Local Farmers; ISAF
The Data from the List Experiment

<table>
<thead>
<tr>
<th>response value</th>
<th>Control Group</th>
<th>ISAF Treatment Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>frequency</td>
<td>proportion</td>
</tr>
<tr>
<td>0</td>
<td>188</td>
<td>20.5%</td>
</tr>
<tr>
<td>1</td>
<td>265</td>
<td>28.9</td>
</tr>
<tr>
<td>2</td>
<td>265</td>
<td>28.9</td>
</tr>
<tr>
<td>3</td>
<td>200</td>
<td>21.8</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>2.6</td>
</tr>
<tr>
<td>Total</td>
<td>918</td>
<td></td>
</tr>
</tbody>
</table>
Script for the control group:

A recent proposal calls for the sweeping reform of the Afghan prison system, including the construction of new prisons in every district to help alleviate overcrowding in existing facilities. Though expensive, new programs for inmates would also be offered, and new judges and prosecutors would be trained. How do you feel about this proposal?

Strongly agree; Agree; Indifferent; Disagree; Strongly disagree; Don’t Know; Refuse to answer
Script for the treatment group:

A recent proposal by ISAF calls for the sweeping reform of the Afghan prison system, including the construction of new prisons in every district to help alleviate overcrowding in existing facilities. Though expensive, new programs for inmates would also be offered, and new judges and prosecutors would be trained. How do you feel about this proposal?

Strongly agree; Agree; Indifferent; Disagree; Strongly disagree; Don’t Know; Refuse to answer
Data from the Endorsement Experiment

List Experiment

Endorsement Experiments

Direct Elections
Prison Reform
Independent Election Commission
Anti-Corruption Reform

Overall (N = 1836)

Helmand (N = 570)

Khost (N = 420)

Kunar (N = 264)

Logar (N = 324)

Urozgan (N = 258)

Control

ISAF

Strongly disagree
Disagree
Indifferent
Agree
Strongly agree
Don't know
Refused

0 items
1
2
3
4

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List and Endorsement Experiments

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A statistical test: $H_0 : \rho_0 = \rho_1$ and $H_1 : \rho_0 < \rho_1$ with bootstrap
Descriptive Comparison: Question by Question

**Prison Reform (p < .01)**

- Treatment Group: 
  - List Experiment: \( \rho = 0.44 \)
  - Endorsement Experiment: 
    - Control Group: \( \rho = 0.18 \)

**Direct Elections (p = 0.26)**

- Treatment Group: 
  - List Experiment: \( \rho = 0.12 \)
  - Endorsement Experiment: 
    - Control Group: \( \rho = 0.09 \)

**Election Commission (p < .01)**

- Treatment Group: 
  - List Experiment: \( \rho = 0.44 \)
  - Endorsement Experiment: 
    - Control Group: \( \rho = 0.10 \)

**Corruption Reform (p < .01)**

- Treatment Group: 
  - List Experiment: \( \rho = 0.50 \)
  - Endorsement Experiment: 
    - Control Group: \( \rho = 0.04 \)
Descriptive Comparison: Violence & Territorial Control

District Violence Level
- Low (p < .01)
  - ISAF Treatment Group: rho = 0.26
  - Control Group: rho = 0.10

District Territory Control
- Taliban (p < .01)
  - ISAF Treatment Group: rho = 0.40
  - Control Group: rho = 0.24

Endorsement Experiment
- District Violence Level
  - Low: Contested (p < .01)
  - High: Contested (p < .01)

List Experiment
- District Violence Level
  - Low: Low (p < .01)
  - High: High (p < .01)

Control Group
- District Territory Control
  - ISAF Treatment Group: rho = 0.33
  - Control Group: rho = 0.20

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Models for List and Endorsement Experiments

- **LIST EXPERIMENTS** (Imai 2011; Blair & Imai 2012):
  1. Likelihood framework with missing data
  2. Assumptions: no design effect, no liar
  3. Latent variable modeling for support

- **ENDORSEMENT EXPERIMENTS** (Bullock, Imai & Shapiro 2011):
  1. Item response theory to combine multiple questions
  2. Assumptions: single policy dimension, no learning
  3. Latent variable modeling for support

What is the probability of supporting ISAF?

- List: prob. of saying yes to the sensitive item
- Endorsement: prob. of endorsement having a positive effect on support for policy

These probabilities should be similar!
Comparing and Combining the Two Models

- Modeling the latent support variable
- List experiments: the probit model

\[ Z_i = \mathbf{1}\{Z_i^* > 0\} \quad \text{where} \quad Z_i^* \overset{\text{indep.}}{\sim} \mathcal{N}(V_i^\top \gamma, 1) \]

- Endorsement experiments: the linear latent model

\[ s_i^* \overset{\text{indep.}}{\sim} \mathcal{N}(V_i^\top \lambda, \omega^2) \]

- Compare the coefficients: \( \gamma \) and \( \lambda/\omega \)

- Combine the two models: \( Z_i^* = s_i^*/\omega \) and \( \gamma = \lambda/\omega \)
Overall Proportion of ISAF Supporters

List

Endorsement

Difference

(List − Endorse)

Combined

Overall Proportion of ISAF Supporters

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Effects of Taliban and ISAF Victimization

Victimization

by Taliban

by ISAF

Effects on Probability of Supporting ISAF

List
Endorse
Combined
List
Endorse
Combined

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Effects of Taliban/ISAF Post-Harm Mitigation Efforts

Approach after Victimization

by Taliban

by ISAF

Effects on Probability of Supporting ISAF

List

Endorse

Combined

List and Endorsement Experiments

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Effects of CERP Aid Spending

Proportion of ISAF Supporters

CERP Aid Spending (hundred thousands)

- Endorsement Experiment
- List Experiment

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Proportion of ISAF Supporters by Territorial Control

Territorial Control
- by Taliban
- by the Government
- Contested

Proportion of ISAF Supporters

List
Endorse
Combine

Concluding Remarks

- Challenges of eliciting truthful responses to sensitive questions
- List and endorsement experiments: indirect questioning methods
- Need for validation $\Rightarrow$ multiple measurement strategy
- Statistical methods for comparing and combining list and endorsement experiments
- Open-source software list and endorse for implementation

Practical suggestions:
1. Randomize the treatment across, not within, respondents
2. List experiments are more prone to social desirability bias than endorsement experiments
3. Multiple pre-tests and focus groups
The project website for papers and software:

http://imai.princeton.edu/projects/sensitive.html

Email for comments and suggestions:

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