Topic Salience and Propensity to Respond to Surveys: Findings from a National Mobile Panel

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Theories of Survey Participation

- **Main Theories on Nonresponse** (Tourangeau and Piewes 2013)
  - Social Capital
  - Leverage-Salience Theory
  - Social Exchange Theory

  - Researchers observe that respondents vary in terms of the attributes of a survey request that they judge as relevant to their decision to participate.
  - Expert interviewers tailor the features of their request to heighten the salience of those elements they think will be most favorably received by potential respondent.

- **Leverage-Salience Theory and Survey Participation** (Groves, Singer and Corning, 2000)
  - Attributes of a request that could be relevant to the response decision (survey design features)
  - Each Attribute has:
    - Leverage (intrinsic importance of the attribute to the respondent in decision)
    - Salience (emphasis given to the attribute during the survey request)
    - Valence (positive or negative to the participation decision)
Leverage Saliency Theory (LST) Principals
(Groves, Singer, & Corning, 2000)

Impact of Survey Design Feature on participation decisions is a combination of three things

1. How salient a specific survey design feature is (i.e., whether it’s noticed)
2. How much weight (leverage) respondent puts on that feature (i.e., how important it is to them)
3. And the valence of that weight (i.e., does it nudge them toward or away from participation)

Legend

$L_i = \text{leverage of } \text{j-th attribute} = \text{distance from fulcrum}$

$j = \text{attribute of survey request}$

$S_j = \text{salience of } j\text{th attributes} = \text{size of ball}$

Refuse ($r_i = 0$)  Accept ($r_i = 1$)

Person $i$, $P(r_i = 1) = e^{\beta_o + \Sigma(\beta_jL_j + \beta_2S_j + \beta_3L_jS_j)}$
Salience and Leverage for a Respondent and Nonrespondent

Salience, Importance, and Valence of the same Design Feature may vary among respondents

Person 1, $P(r_1 = 1) = e^{\beta_0 + \sum (\beta_1 L_{1j} + \beta_2 S_{1j} + \beta_3 L_{1j} S_{1j})}$

Person 2, $P(r_2 = 1) = e^{\beta_0 + \sum (\beta_1 L_{2j} + \beta_2 S_{2j} + \beta_3 L_{2j} S_{2j})}$
Survey Feature under Study: Topic Salience (Importance to Respondent)

- Groves theory of leverage-salience (2000) explicitly identifies the survey topic’s importance to the respondent (leverage) along with its prominence (salience) in the survey protocol as potential motivators of survey participation.

- Although review articles have often listed possible factors as motivators or barriers to survey participation, the use of meta-analysis to quantify the impact of these individual factors appears to begin in 1978 (Heberlein and Baumgartner).

- After examining nine factors affecting initial and final response rates in mail surveys across 98 studies, number of contacts and the salience of the survey topic explained 51% of the variance in the final response rate.

- Subsequent meta-analyses of factors affecting survey response rates did not include topic salience.
In 2004, Groves and his colleagues described an ideal design to test topic salience on response rate and response bias (Groves, et al., 2004).

However, they concluded that the challenges of the ideal design are essentially insurmountable. Truly independent repeated survey requests of the same subject are impossible …. Direct measures of people’s interest sets are difficult to obtain ….. Making topic the only feature of a survey that is salient in the introduction is impractical …

Hence, Groves adopted what he considers a suboptimal design to test topic salience on response propensity and non-response bias using a between subjects design, indirect measures of topic salience, and limited controls over other survey features.
So What If We Could Implement an Optimal Design Using a Suboptimal Sample?

- A national, geographically and demographically representative sample drawn from a web panel
- Nearly 2,000 adults aged 18 and older
- Measures **general propensity** of participate in surveys
- Directly measure topic salience (how important to participate on topic X) across a range of topics for the same subjects
- Assess propensity to respond to a survey for **one high salience and one low salience topic** for the same subjects
- Keep **all other features** for the survey requests either the **same or unstated**
Q30. Not counting Surveys On The Go or other survey panels, if you were contacted to conduct a survey on an interesting topic that was not unreasonably burdensome, how likely would you be to participate? N= 1,937

- Definitely would: 38%
- Probably would: 39%
- Might or might not: 17%
- Probably would not: 4%
- Definitely would not: 1%
Q30. Not counting Surveys On The Go or other survey panels, if you were contacted to conduct a survey on an interesting topic that was not unreasonably burdensome, how likely would you be to participate? N= 1,937
Q33. In general, how likely would you be to participate in a survey that was not too burdensome about your health, exercise, diet, and health care, if it was sponsored by ...? N= 1,937
Q38. If you were asked to participate in government surveys on the following topics, how important do you think it would be for you to participate? N= 1,937
Q38. If you were asked to participate in government surveys on the following topics, how important do you think it would be for you to participate? N= 1,937
Propensity to Respond to Government Surveys (Important Topic)

Q39. If you were contacted this week to participate in a government survey about (Topic rated Very/Somewhat Important by Respondent), how likely would you be to participate?
Base: At least one topic was very or somewhat important   N=1876

<table>
<thead>
<tr>
<th>Response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely would</td>
<td>39%</td>
</tr>
<tr>
<td>Probably would</td>
<td>36%</td>
</tr>
<tr>
<td>Might or might not</td>
<td>19%</td>
</tr>
<tr>
<td>Probably would not</td>
<td>4%</td>
</tr>
<tr>
<td>Definitely would not</td>
<td>2%</td>
</tr>
</tbody>
</table>
Propensity to Respond to Government Surveys (Important Topic)

Q39. If you were contacted this week to participate in a government survey about (Topic rated Important by Respondent), how likely would you be to participate? Base: At least one topic was very or somewhat important  
Total N=1876  Very Important N=1515  Somewhat Important N=366
Q44. If you were contacted this week to participate in a government survey about (Topic rated Not too/Not at all Important by Respondent), how likely would you be to participate?

Base: At least one topic was not too or not at all important  N=922
Q44. If you were contacted this week to participate in a government survey about (Topic rated Not too/Not at all Important by Respondent), how likely would you be to participate?
Base: At least one topic was not too or not at all important
Total N=922   Not too important N=820   Not at all important N=102
Q39/Q44. If you were contacted this week to participate in a government survey about (Topic Importance), how likely would you be to participate?

Very important N=1510  Somewhat important N=366  Not too important N=820  Not at all important N=102
How Does Propensity to Respond Translate into Response Rate?

- Assess the behavioral intent (propensity) to respond to a survey by topic
- Estimate the population size for each category of behavioral intent
- Convert behavioral intent to likely behavior based on market research practice (e.g., purchase likelihood)
  - Definitely would = 90%
  - Probably would = 45%
  - Probably would not = 0
  - Definitely would not = 0
- For each segment, multiply intent by likely behavior to estimate response rate
- Add response rate across each segment to produce a total population response rate
Effect of Topic Salience on Likelihood of Responding to Survey

<table>
<thead>
<tr>
<th>Topic</th>
<th>Stated Propensity to Respond</th>
<th>Ratio of Stated to Actual</th>
<th>Estimated Response</th>
<th>Stated Propensity to Respond</th>
<th>Ratio of Stated to Actual</th>
<th>Estimated Response</th>
<th>Total Estimated Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely Would</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Important</td>
<td>47.0%</td>
<td>90.0%</td>
<td>42.3%</td>
<td>36%</td>
<td>45%</td>
<td>16.2%</td>
<td>58.4%</td>
</tr>
<tr>
<td>Somewhat Important</td>
<td>10%</td>
<td>90.0%</td>
<td>9.0%</td>
<td>35%</td>
<td>45%</td>
<td>15.8%</td>
<td>24.8%</td>
</tr>
<tr>
<td>Not too Important</td>
<td>5%</td>
<td>90.0%</td>
<td>4.5%</td>
<td>19%</td>
<td>45%</td>
<td>8.6%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Not Important At All</td>
<td>6%</td>
<td>90.0%</td>
<td>5.4%</td>
<td>11%</td>
<td>45%</td>
<td>5.0%</td>
<td>10.4%</td>
</tr>
</tbody>
</table>

Q39/Q44. If you were contacted this week to participate in a government survey about (Topic Importance), how likely would you be to participate? Very important N=1510  Somewhat important N=366  Not too important N=820  Not at all important N=102
Conclusions about Topic Salience and Propensity to Respond

- The likelihood of responding to a survey is directly related to the importance of the topic to the respondent.

- The importance of the seven topics varies across the population:

- Consequently, researchers should consider tailored protocols to compensate for population segments with lower interest in the survey topic (or any topic).

- Since topic importance can be partially predicted by demographics and lifestyle, sample information and paradata may be somewhat useful in a tailored design to optimize topic salience and alternative appeals to the target audience.

- However, more powerful predictors of underlying propensity to respond and salience of design features require additional information about the individual or household to better target design features.

- These could be provided by limited screening information obtained during the contact process.

- The enhanced paradata within an evidence-based, response propensity model would permit a much more effective responsive/adaptive design for survey data collection.
Thank You.

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