Response Burden: What Predicts It and Who is Burdened Out?

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Outline

- How is response burden defined?
- How is response burden measured?
- What are the effects of response burden?
- What causes response burden?
- What can be done to reduce or counteract negative effect of response burden?
Gaps in the field

“The topic of respondent burden is not a neat, clearly defined topic about which there is an abundance of literature” (Bradburn, 1978: p49)

“Response burden is not a straight forward area to discuss, measure and manage” (Jones, 2012: p1)
Gaps in the field

- Undeveloped conceptualization
- Lack of good measurement
- Lack of empirical research on
  - What predicts response burden
  - The impact of burden on data quality and statistical estimates
Perceived/Subjective Burden

- “...perceived response burden ... negative feelings such as annoyance, frustration or inconvenience which may be experienced by survey participants” (Frankel, 1980: p1)
- “...respondent burden ... the presumed hardships entailed in being a survey participant” (Sharp and Frankel 1983: p36)
- “...respondent’s experience...” (Haraldsen 2004: p398)
- “... perception of time and burden associated with the response task” (Giesen 2012: p1-2)
- “[T]he degree to which a survey respondent perceives participation in a survey research project as difficult, time consuming, or emotionally stressful...” (Graf 2008: p740)
How is response burden defined?

**Actual/Objective Burden**

- “... characteristic of research activity intervening between the survey instrument and response activity which, if increased, will decrease the probability of the respondent providing the full information required…” (Corbin 1977: p9)

- “... respondent can feel burdened whenever the question appears either threatening or difficult…” (Warriner 1991: p256)

- “the length of the interview” (Groves et al. 1991: p251)

- “the number and size of the respondent’s tasks” (Hoogendoorn and Sikkel 1998: p189)
How is response burden measured?

- **Characteristics of survey/tasks causing burden**
  - Length of interview (Groves et al. 1999; Singer et al., 1999; Hoogendoorn, 2004)
  - Frequency of interview (Hoogendoorn et al., 1998)
  - Difficulty of response tasks (Filton, 1981)

- **Rs’ attitude towards and beliefs about surveys**
  - Self-reports
    - Interest in survey (Sharp et al., 1983; Hoogendoorn, 2004; Fricker et al. 2011; 2012)
    - Importance of interview (Sharp et al., 1983)
  - Interviewer notes
    - Rs’ complaint about survey burden (Martin et al., 2011)

- **Effects of response burden**
  - Willingness to be re-interviewed (Sharp et al., 1983; Fricker et al., 2011; 2012)
  - Feeling of exhaustion (Stocke and Langfeldt; 2004)
What are effects of response burden?

- **Leading to unit nonresponse** (e.g., Groves et al. 1999; Rolstad, Adler, and Rydén 2011)
- **Leading to panel attrition** (e.g., Martin et al. 2001; Fricker et al. 2011)
- **Leading to item nonresponse** (e.g., Warriner 1991)
- **Leading to break-offs** (e.g., Galesic 2006)
- **Leading to delayed responses** (e.g., Giesen 2012)
- **Leading to inaccurate response** (e.g., Warriner 1991; Kennedy and Phipps 1995; Haraldsen and Jones, 2007; Giesen and Haraldsen, 2012)
- **Leading to negative evaluations of surveys** (Stocke and Langfeldt; 2004)
What causes burden?

Survey and Task Characteristics → Respondent Perception of Survey → Response Burden → Respondent Characteristics
This talk examines...

- Respondent level characters
  - Cognitive capacity
  - Motivation
  - (General) Attitude
  - Task difficulty

- Survey design characters
  - Mediation by perception of survey
  - Direct and Indirect paths
Data

- Consumer Expenditure Interview Survey (CE)
  - Longitudinal survey conducted by BLS
    - Providing information on buying habits of American consumers
      - Expenditures, income, consumer characteristics
      - Rotation panel design
        - Panel members are interviewed every quarter up to five times
        - In each interview quarter, 5 panels in different stage of panel life
  - Pooled cases who completed their 5th interviews between October 2012 and December 2012
    - A total of 5,143 cases used
Data and method

- Structural equation modeling (SEM)
  - To incorporate structural models and measurement models
  - To estimate direct and indirect paths
- PROC CALIS is used to conduct SEM
- ML estimation is used to estimate parameters
Structural Model

- Motivation
- Cognitive Capacity
- Attitude
- Recruitment Effort
- Task Difficulty

Perception of Content

Perception of Task

Response Burden
Results: Model fit statistics

- $x^2$ (93)=1697, $p<.0001$
- Standardized RMSR (SRMSR): 0.0454
- RMSEA Estimate: 0.0579
- Adjusted GFI (AGFI): 0.9379
- Bentler Comparative Fit Index: 0.9004
Measurement Model: Motivation

- Interviewer assessment of R’s level of effort
  - A lot of or moderate effort (=1) vs. bare minimum (=0)
- Interviewer assessment of R’s level of cooperation
  - Very cooperative (=1) vs. other (=0)
- Level of reluctance through door step concerns
  - Easy (=1) vs. busy or reluctant (=0)
- Whether or not R refused at least once to survey
  - Never refused (=1) vs. refused at least once (=0)

Motivation

- Effort: 0.65*
- Cooperation: 0.51*
- Reluctance: 0.37*
- Refusal: 0.39*
Measurement Model: Cognitive capacity

- Age: >60 (=0) vs. <=60 (=1)
- Education: high school or less (=0) vs. some college or more (=1)
Measurement Model: Attitude

- How sensitive did you feel the questions I asked you today were?
  - Not sensitive at all (=1) vs. other (=0)
- I trust that the U.S. Census Bureau to safeguard the information that I provided them
  - Strongly agree or agree (=1) vs. other (=0)

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Sensitivity</th>
<th>Confidentiality</th>
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<tbody>
<tr>
<td></td>
<td>0.49*</td>
<td>0.95*</td>
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Measurement Model: Survey Design Characteristics

- Contact attempts:
  - Equal to or less than median (=0) vs. more than median (=1)
- Personal visits
  - Equal to or less than median (=0) vs. more than median (=1)

Recruitment Effort

- # of contact attempts: 0.76*
- # of personal visits: 0.64*
Measurement Model: Task Difficulty

- **Size of household**
  - Multiple-person households (=1) vs. single-person households (=0)

- **Total time spent**
  - Longer than median (=1) vs. equal to or less than median (=0)

| Task Difficulty | 
|-----------------|-----------------|
| # of Household members | 21.78* |
| Total time spent on interview | 0.01* |
Measurement Model: Perception of Survey

- Perception of survey
  - Very or somewhat interesting (=1) vs. other (=0)
- Perception of questions
  - Very easy (=1) vs. other (=0)
Measurement Model: Perception of Survey

- **Perception of length**
  - Survey too short or about right (=1) vs survey too long (=0)

- **Perception of survey requests**
  - Reasonable number of interviews (=1) vs. too many interviews (=0)

Perception of Survey task

- Survey not too long: 0.72*
- Reasonable number of interviews: 0.85*
Results: Structural Model (1)

- Motivation: 0.13*
- Cognitive Capacity: -0.001
- Attitude: 0.86*
- Recruitment Effort: -0.005
- Task Difficulty: -0.0004
- Perception of Content

Response Burden: -0.01
Results: Structural Model (2)

Motivation

Cognitive Capacity

Attitude

Recruitment Effort

Task Difficulty

Perception of Task

Response Burden

0.32*

0.001

-0.59*

0.05*

-0.004*

-0.56*
Results: Structural Model (3)

- Motivation: $-0.07^*$
- Cognitive Capacity: $-0.001$
- Attitude: $-0.20^*$
- Recruitment Effort: $0.009$
- Task Difficulty: $-0.0002$
- Perceived Burden
## Conclusions

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<tr>
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<th>Total Effects</th>
<th>Direct Effects</th>
<th>Indirect Effects</th>
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<tbody>
<tr>
<td>Motivation</td>
<td>-0.26***</td>
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<td>Cognitive Capacity</td>
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<td>Recruitment Effort</td>
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<td>Perception of Survey task</td>
<td>-0.58*</td>
<td>-0.58*</td>
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*p<.10; *p<0.05; **p<0.01; ***p<0.001;
What causes response burden & who is burdened out?

- Survey and task characteristics have weak impact on response burden
- Respondent motivation and attitudes have strong impact on response burden
  - Unmotivated respondents
  - Respondents with positive attitudes
- Perception of survey task has strong impact on response burden
  - Those who perceived the survey as too long and too many
Limitations and Next Steps

- Model fit is not great
  - Modifying both measurement and structural models

- Interaction between respondent, survey, and task characteristics not considered
  - Including interaction terms in the structural models
Contact Information

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