Is a Proxy Response Good Enough? Using Paired Cognitive Interviews to Assess the Accuracy of Proxy Responses

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Outline

- Within household proxy reporting overview
- Recent CSM research using paired cognitive interviews
- Proposed guidelines for conducting paired cognitive interview research
- Examples and suggestions of analysis of paired cognitive interview data
- Conclusions and next steps

WITHIN HOUSEHOLD PROXY REPORTING – AN OVERVIEW

Within Household Proxy Reporting

- One household member responds to a survey about self and provides information for all other household members
- Advantages
  - Reduced costs (compared to self response) due to fewer visits to sampled household; faster data collection
  - Some evidence of greater data quality compared to self reports
- Disadvantages
  - Proxy motivation may differ, may lead to differences in effort, and higher response error
  - Potentially a tradeoff between reduced costs and data quality

Existing Research

- The proxy and target respondent are rarely both interviewed to determine if their responses align (Cobb & Krosnick, 2009)
- Limited existing research -
  - Explores the types of questions that can be more accurately answered by proxies (Krosnick et. al, 2015)
  - Evaluates pretesting approaches to determine a question's suitability for proxy response
- Blair et al. (1991) propose using a cognitive interviewing approach to evaluate questions by asking identical questions to pairs of respondents, and assessing their response strategies

RECENT CSM RESEARCH

Recent CSM Research

- Two supplements of the Current Population Survey:
  - Civic Engagement & Volunteerism (CIVIC)
  - Computer and Internet Use (COMPUTER)
- Sponsors
  - Bureau of Labor Statistics
  - Corporation for National and Community Service
  - National Telecommunications and Information Administration

CIVIC	COMPUTER
<u>Survey Content</u> • Interactions with friends, family, community • Political involvement; group membership & volunteering • Donations	<u>Survey Content</u> • Internet-connected devices • Locations of Internet use • Activities conducted using the Internet • Privacy and security concerns

<u>Survey Administration</u>
• Respondent first answers entire questionnaire about self
  • Provides response for each additional adult household member (age 18+)
	<u>Survey Administration</u>
	• Respondent first answers household level questions
	  • Provides person-based responses for one section (internet activities)

<u>Cognitive Testing Design</u> • 2 rounds • 21 pairs: 11 related / 10 unrelated	<u>Cognitive Testing Design</u> • 2 rounds • 14 pairs: 7 related / 7 unrelated

PROPOSED GUIDELINES FOR RESEARCH USING PAIRED COGNITIVE INTERVIEWS

Recruiting and Screening

- Difficult to recruit unrelated household members
  - Some respondents would represent their household structure as roommates when they were non-marital partners, and thus considered related pairs by our definition
- Screened participants who called in and got contact numbers for adult household members
  - Should also ask screening questions of household member to monitor recruiting goals and to collect demographic data

Scheduling and Interviewing Procedures

- Initial scheduling plan: interview pairs on the same day with the same interviewer
  - Respondents did not always have similar availability
  - May have affected our ability to recruit
- Revised scheduling plan: optional scheduling extension allowing respondents to be interviewed within 3 days of each other and by different interviewers
  - Increased potential for cancellations and ‘’no shows’’
  - Possibility of discussion of survey content with other member of pair

Interview Protocol

- Self-Response Probes
  - Question comprehension
  - Meaning of terms, phrases
- Proxy-Response Probes
  - How did respondent come up with answers for other household members?
  - How confident was respondent in answers for other household members?
  - Which questions were more challenging to provide a proxy response for?
  - Was it more challenging to provide a proxy response for one household member vs. another?

SUGGESTIONS AND EXAMPLES OF ANALYSIS OF PAIRED COGNITIVE INTERVIEW DATA

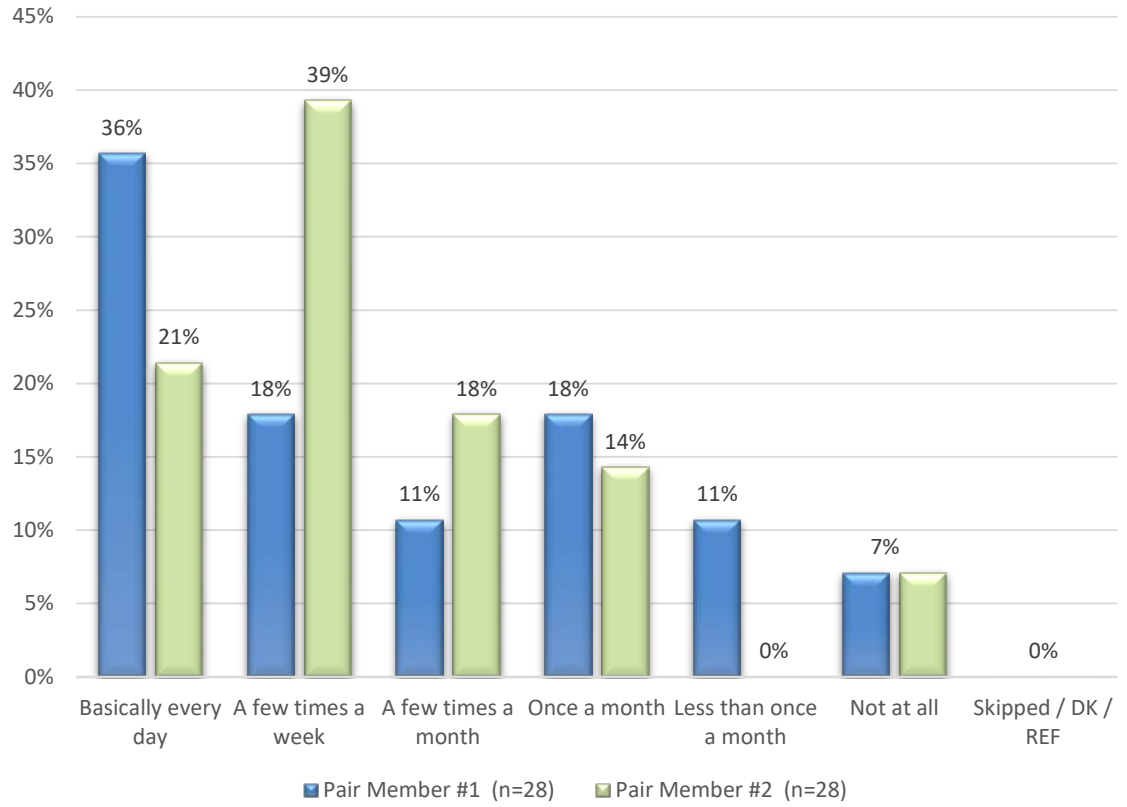
Analysis of Paired Cognitive Interview Data
- An Overview -

- Relies on quantitative, qualitative, and other roster and respondent data
- A variety of analyses can help demonstrate the degree of similarity between self and proxy reports
  - Frequency distributions among pair members
  - Rates of matching and near matching responses
- Note that assessing rates of matching responses does not provide information about the accuracy of these responses

Frequency Distributions Among Pair Members

- Example from CIVIC Round 2 Data -

- Demonstrates how the response distribution would vary depending on who reported for the household
- Pair Member #1s' responses for themselves and other household members are tallied for each question
  - Responses for Pair Member #2s are tallied separately and compared



Q2: How often did [you/[NAME]] discuss political, societal, or local issues with friends or family?

Calculating Exact Match Rates

- Calculate at the question level -
  - For each person-level response, code whether two reports match
  - Divide the number of matching responses by the total number of responses for that question to determine the question's exact match rate
- Can be calculated among pairs of respondents and for other household members who did not provide a self response, but for whom a response was provided by both respondents in the pair
- Match rates can be calculated for questions with closed or open response options

Exact Match Rates by Question Response Format
- Related and Unrelated Pairs -

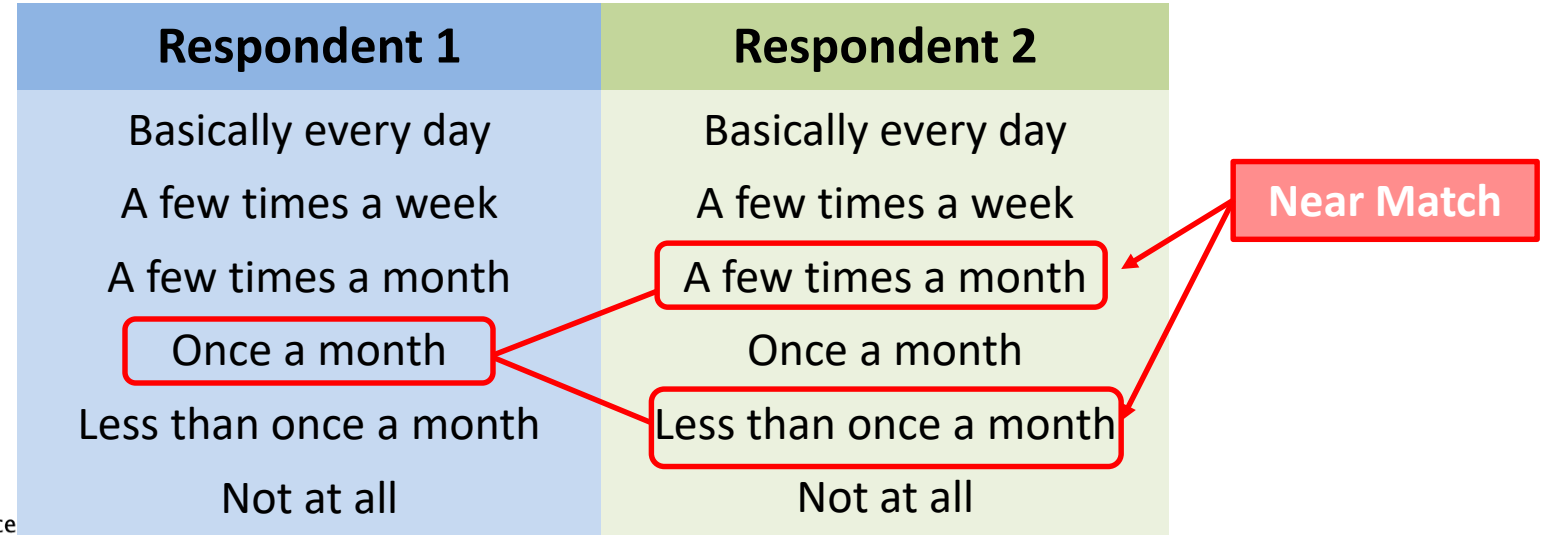
Question Response Format	# of Questions	Avg. Match Rate*	Related Pairs Match Rate*	Unrelated Pair Match Rate*
CIVIC response option formats	21	51%	49%	52%
6-Category, close-ended	11	41%	36%	46%
Yes / No	8	70%	72%	67%
Open-ended numeric	2	25%	26%	24%
COMPUTER Yes / No response format	40	72%	70%	75%

** Match rate data is calculated across both rounds of testing*

6-Category, Close-Ended Response Options	
(10 Questions) (1) Basically every day (2) A few times a week (3) A few times a month (4) Once a month (5) Less than once a month (6) Not at all	***(1 Question)*** (1) All activity is in person (2) Activity is more in-person than online (3) Activity is evenly split between in-person and online (4) Activity is more online than in-person (5) All activity is online (6) I am a member but not active with any groups, organizations or associations.

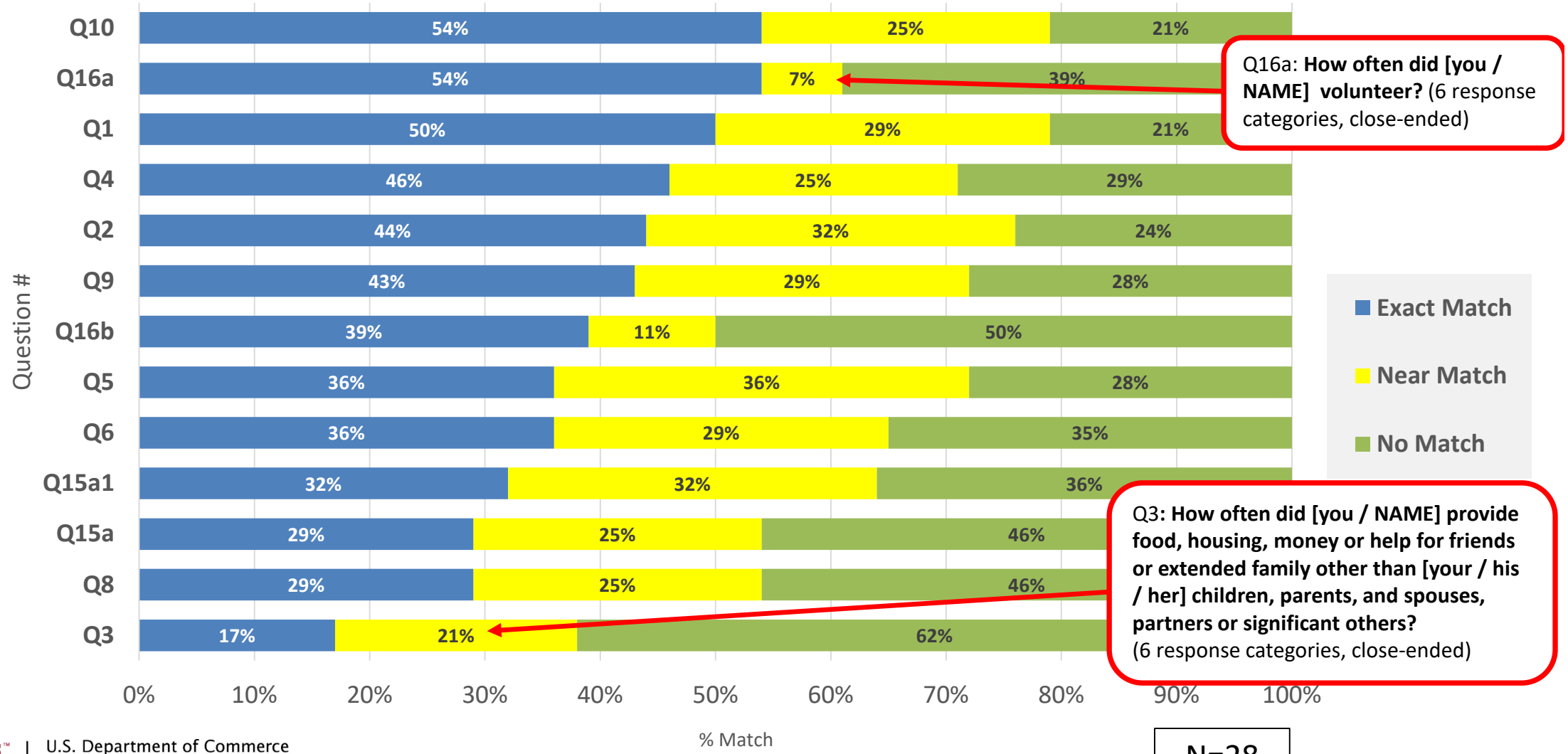
Rates of Near Matches using Quantitative Data

- For questions with more than two response options
- Near matches are responses provided for the same question by two respondents *that are not identical*, but are only one or more response categories apart
  - Number of categories apart is at the discretion of the researcher
  - Should reflect question design and goals
- May be especially useful if researchers are considering collapsing some response options during survey administration or analysis



Rates of Exact Matches & Near Matches

- CEV Round 1 Categorical and Open-Ended Questions -



Conclusions

- Pairs from related households appear to be no better able to provide matching responses than those from unrelated households
- Across two rounds of testing, the overall match rate was slightly above 50% for all questions in the Civic Engagement & Volunteerism survey
  - Match rates were lowest for open-ended and 6-category response options
- Across two rounds of testing for Computer & Internet Use, only 4 of 40 yes/no questions had matching responses below 50%
  - The overall match rate was 72% for questions with yes / no response options

Next Steps for Paired Cognitive Interview Research

- Explore additional analyses for data from both projects
  - Perceived levels of confidence and difficulty
  - Characteristics of proxy respondents that influence ability to provide matching responses
  - Characteristics of questions that are easier / more difficult to answer
- Examine use of administrative records to evaluate accuracy of responses for self and proxy

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APPENDIX

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