

Benefits and Drawbacks of Using Crowdsourcing Techniques for Cognitive Testing

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Cognitive Testing

- **Cognitive testing**

- Process of understanding the cognitive process of survey respondents and how they think about questions
- Identifying issues with question wording, comprehension, or measurement
- Important to get feedback from your target population
- Improves data quality and measurement

- 2 primary types of cognitive testing:

1. In-person interviewing
2. Crowdsourcing



In-person interviewing

- **In-person interviews**

- Traditional method of cognitive testing
- Cognitive understanding is learned through observation and both scripted and unscripted probes
- Administration of survey questions in interview setting, with follow up questions to probe on respondent understanding of items and thought process when responding



- Volunteers either complete online screener survey or call to be screened
- Researchers call and set up appointments with eligible respondents
- Respondents come into RTI office (or convenient location) for in-person interview
 - ~1 hour interview
 - Paid cash

Crowdsourcing

- **Crowdsourcing**

- Used to obtain information from a large number of people typically using the internet
- Pre-registered panel members who are looking to complete menial tasks for minimal compensation
- Recruit participants based on demographics characteristics
 - Race, Hispanic origin, age, gender, citizenship
- The online platform directs participants to a survey of select items and follow-up questions
 - Can ask the respondent to provide open-ended comments about the questions, including any difficulty understanding specific terms or recommendations for improvements
 - Also, can ask respondents to provide an open-ended narrative to determine if questions are capturing phenomena/measuring concepts (which is helpful when classifying different types of crime)



Crowdsourcing as an effective method of testing

- Crowdsourcing techniques have been used with success in the development of multiple BJS collections, including the Campus Climate Survey Validation Study and National Crime Victimization Survey (NCVS) Supplemental Fraud Survey
- Crowdsourcing findings resulted in useful improvements and clarifications of survey questions

- Examples:

- Where drop-down boxes were needed instead of open-ended fields
- Response option revisions due to a lot of “don’t know” responses
- Places where “don’t know/uncertain” response options were needed
- **Revisions and reorganization of screening questions**
- **Refinement of question wording for clarity**

Unique benefits of each method

Crowdsourcing

Speed – quick and efficient

Low cost or no cost

Diversity of respondents/can select specific demographic characteristics

Receive information on measurement using open-ended questions

No transcribing – responses are provided in open-ended text boxes

Traditional in-person interviewing

Build rapport for questions on sensitive topics

Can probe at any time

Not likely to yield a representative sample of respondents

Able to respond to non-verbal cues

Can ask more questions

Example comparison (NCVS SFS cognitive testing)

Crowdsourcing	Traditional in-person interviewing
N = 300	N = 18
\$1.66/interview	\$40/interview
~ 5 minutes	~ 60 minutes
Completed in a few days	Completed in a few weeks
Recruitment included in cost	Recruitment must be done by researchers
Cognitive data gathered through closed- and open-ended web survey questions	Cognitive data gathered through probes; either scripted or spontaneous based on participant actions and responses

Quality of crowdsourced information

- Crowdsourcing allows researchers to gather a lot of information in a short amount of time but is it *quality* information?
- What did we learn about crowdsourcing data quality when testing for the NCVS Supplemental Fraud Survey (SFS)?
 - Information from open-ended responses
 - Did open-ended responses contradict closed-ended survey items?
 - Responses provided further clarification on experience which helped to revise the closed-ended survey items
 - Comparison of in-person interviewing and crowdsourcing

Topics better suited for one method or another

Crowdsourcing

Topics with a variety of respondent characteristics
(e.g., a survey of non-US born citizens; patient studies)

Topics that apply to the general population
(e.g., demographic questions; accessibility of services)

Hard to reach populations
(e.g., Spanish-only speakers; people with disabilities)

Traditional in-person interviewing

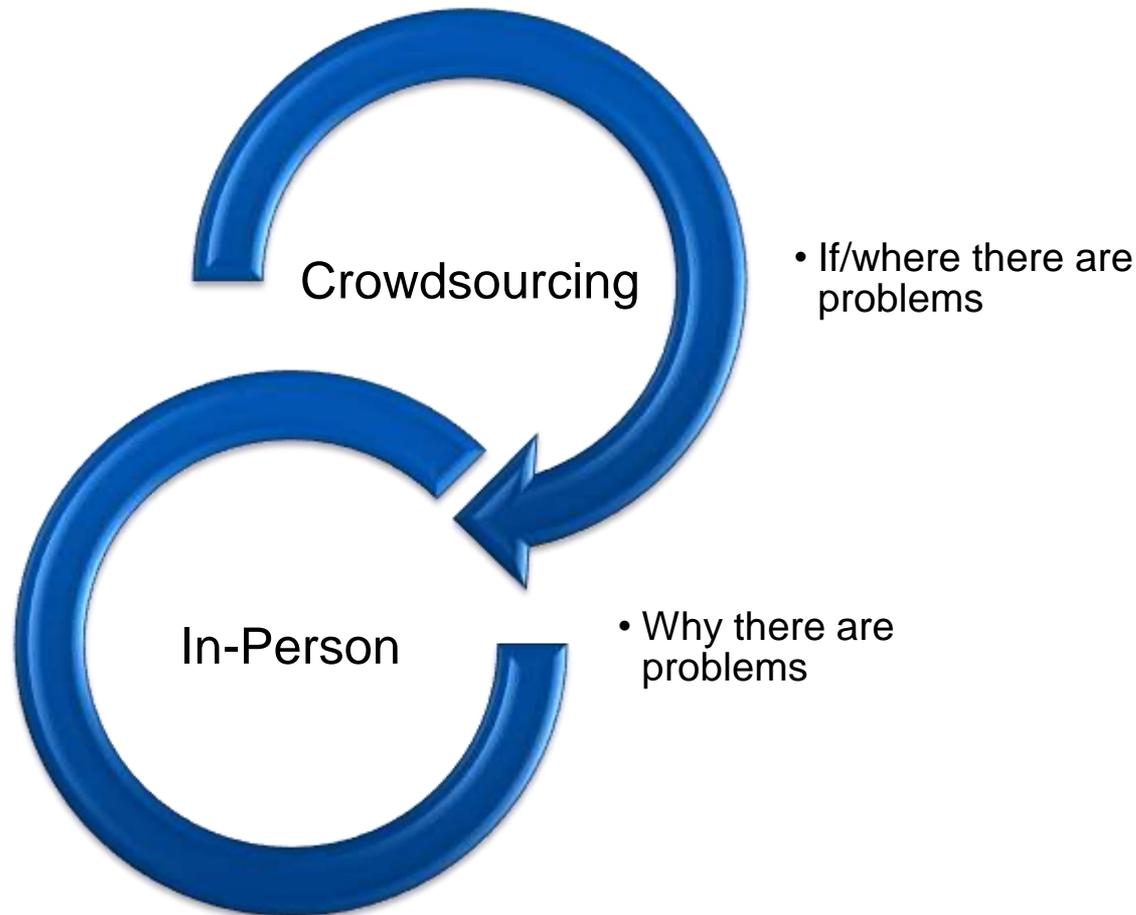
Complex topics or topics with many steps
(e.g., fraud victimization; home buying process)

Sensitive topics
(e.g. physical/sexual assault victimization; women who have had miscarriages)

Conceptually difficult topics
(e.g., anything that is not “common knowledge”; attitudes towards GMOs)

Using both methods effectively

Crowdsourcing and in-person methods of cognitive testing can be used together to maximize efficiency and information when pretesting



More Information

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