

Benefits and Drawbacks of Using Crowdsourcing Techniques for Cognitive Testing

Sarah Cook, RTI International

Rachel E. Morgan, Bureau of Justice Statistics

Christopher Krebs, RTI International

Lynn Langton, Bureau of Justice Statistics

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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

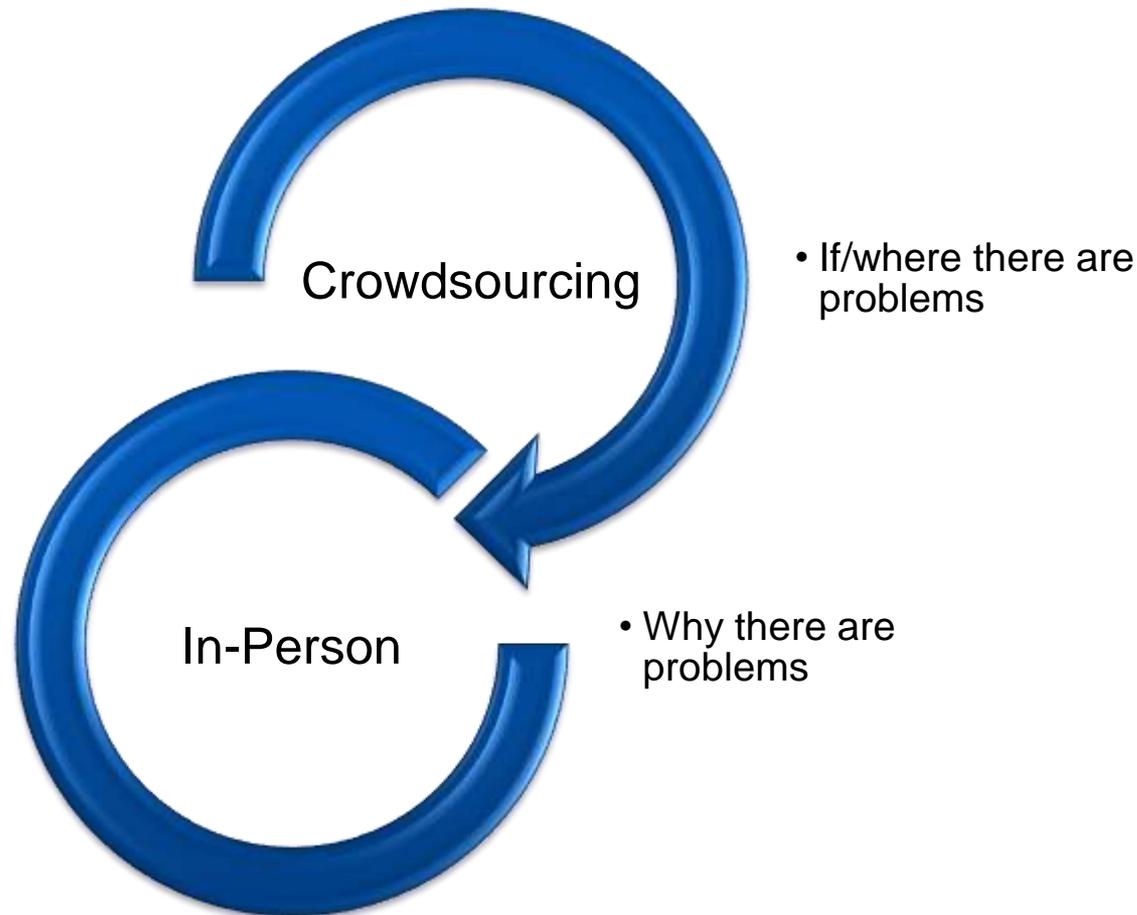
Complex topics or topics with many steps
(e.g., fraud victimization; home buying process)

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

Sarah Cook

Research Public Health Analyst

RTI International

919.514.1236

scook@rti.org

Rachel E. Morgan

Victimization Statistics Unit

Bureau of Justice Statistics (BJS)

202.616.1707

rachel.morgan@usdoj.gov