Online Surveys: Opportunities and Challenges

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Overview

- We have come a long way
- We have learned a lot
- But there is much still to learn

- Note: my focus is relatively narrow
  - Web surveys for high-quality surveys of the general population
  - Specifically, the transition from FTF to Web and the development of mixed-mode designs
  - Not a review of all Web surveys

Goals of This Talk

- Selective review of state of knowledge
  - "Known knowns"*
  - High level and idiosyncratic
  - Try to dispel some myths and misconceptions
- Identify key gaps in knowledge
  - "Known unknowns"*
- Help set research agenda

*Rumsfeld quote

Are You an Optimist or a Pessimist?

Looking Back: The Internet

- We have come a long way in a very short time
- Remember, the Internet itself is still relatively new technology
  - The first graphical WWW browser (NCSA Mosaic) began in 1993
  - Google was launched in 1998
  - Social media did not exist (Facebook founded in 2004; Twitter in 2006)
  - The first iPhone was introduced in 2007

Looking Back: Web Surveys

- Enormous growth in Web surveys, both in volume and variety
- Since 2000, hundreds of papers and several books have been written on the design and implementation of Web surveys
- We have seen the rise and decline of online opt-in or access panels
- Non-probability Web surveys dominate the commercial and academic research sectors

The Present

- Web surveys* are an increasingly important tool in the survey researcher's toolkit
  - It is a mature mode of data collection
- After initial concerns, smartphone are accepted devices for completing Web surveys
- However, a lot more work remains

*CAWI rant

Coverage

- While we have seen phenomenal growth in Internet (and subsequent smartphone) penetration, the digital divide persists
  - See, e.g., Couper et al. (2018)
- The rise of smartphones has reduced some of these divides, but important differences remain
- To focus only on the "have's" (as marketers do) means to miss important constituencies of "have-not's"
- These may be more relevant for some types of studies than for others
  - E.g., health, aging, social support

Nonresponse

- While a lot of research has focused on increasing response rates to Web surveys, rates still lag behind those of mail and face-to-face surveys
  - See Wengrzik et al. (2017)
- The use of smartphones has not compensated for lower response rates among important subgroups (like young adults)
- Suggests that the mode (or device) does not have a big impact on who responds
  - Generally cooperative people respond no matter the mode

Measurement

- Here's where I think we have made the greatest progress
- A lot of research on Web survey design has focused on minimizing measurement error
- (In many cases) We have seen measurement improvements in data quality over other modes
- But there remain some important gaps (see later)

Known Knowns

What Have We Learned?

Sequential Mixed-Mode Designs

- Starting with Web in a sequential approach in a longitudinal study works
  - *Understanding Society* response rates
  - Similar evidence from HRS, PSID, SHP
- But what does "work" mean?
  - Increasing proportions of respondents going online
  - Response rates not negatively affected; nonresponse bias largely unchanged
  - Data quality seems comparable (but see later)

GGP MM study

Survey Length

- Initial concern that people would not be willing to complete long surveys online
- No evidence of higher breakoffs on longer surveys
  - But, respondents do complete in multiple sessions
  - Among HRS 2018 Web completes, 41.1% completed in a single session, while 19.6% took 4 or more sessions
- Conclusion: long surveys work, as long as …
  - People know up front how long it will take
  - Appropriately motivated (intrinsically or extrinsically)
  - Can start and stop the survey when they like
- This is not an invitation to increase the length of surveys – all surveys are too long

Modular Design

- In part related to the belief that people unwilling to do long surveys online, push for modular approaches
- Emerging evidence suggests this does not work
  - Peytchev et al. (2019)
    - National Postsecondary Student Aid Study
    - 30 mins (59.5% RR) vs. 15+15 mins (53.1% RR)
  - Liao et al. (2019)
    - AddHealth panel study
    - Two modules of ~25 mins each vs. single ~50 minute module
    - Mixed mode (Web and mail)
  - Toepoel and Lugtig (2018)
  - Swiss experiment on EVS
- Alternative: make it easy to suspend and resume

Web Surveys Not Faster than CAI

- Contrary to expectation, Web surveys are not completed in less time
  - No evidence of reduction in burden
- HRS 2018 median response times (preliminary estimates):
  - Web: 109.1 mins
  - CATI: 106.6 mins
  - CAPI: 98.4 mins
- *Understanding Society* W8 median response times:
  - HH questionnaire: Web 17.1 mins, CAPI 14.2 mins
  - Individual adult Q: Web 35.5 mins, CAPI 33.4 mins

Completing Web Surveys on Mobile Devices (Smartphones) Works OK

- Not as bad as we feared, but maybe not as good as we hoped
  - Lower response rates, higher breakoffs, and longer completion times than PC Web
  - But data quality comparable to PC Web
  - See Couper, Antoun, and Mavletova (2017)
- Does not seem to solve the coverage and nonresponse problem
- Promise of in-the-moment measurement not yet realized
  - Near-ubiquitous use of smartphones does not means people will want to do our surveys at any given moment
- "Passive" measurement and app use still face many challenges

Using E-Mail Works

- Collecting e-mail addresses and supplementing mail invitations with e-mail increases the proportion going online
  - See Cernat and Lynn (2018); Patrick et al. (2018)
- Those who provide a valid e-mail address tend to be more cooperative than those who don't
  - See Carpenter & Burton (2018)
- But SMS (texting) doesn't seem to help much more
  - Toepoel and Lugtig (2018)
  - Patrick et al. (in preparation)

Known Unknowns

Where are the Gaps in Our Knowledge?

Mixed Mode In Cross-Sectional Surveys

- We know less about the effectiveness of mixed-mode designs in cross-sectional surveys or the first wave of longitudinal surveys
  - But see GGP-Germany (Schumann et al. 2019)
  - Also see SHP-IV test (Voorpostel et al. 2019)
  - Other examples?
- Especially true of surveys …
  - Where eligibility needs to be determined
  - Where random selection of sample persons within households is needed

Household Rosters

- Related to the previous slide, challenge of gathering a household roster to identify eligible sample persons
  - NHES example, NSFG example
  - But SHP-IV test shows good correspondence between HH grid and individual Q
  - Challenge of switching respondents if initial R not selected
- Updating household composition online in a longitudinal survey
  - HRS roster example

Dependent Interviewing

- Initial concerns about feeding forward data, given risk that other HH members may see answers
- Surveys of individuals (e.g., *Understanding Society*) are doing this with no apparent negative consequences
- But surveys of households (e.g., HRS, PSID) still concerned about extent of doing this
- No research evidence to date

Industry and Occupation Coding

- Can respondents reliably report information to facilitate accurate coding?
- How much better/worse is this than interviewers or central office coders?

*I&O rant

Measuring Cognition

- Measures of cognition differ significantly between CAI and Web
  - Generally higher levels of cognitive performance on the Web
  - See Ofstedal, McClain, and Couper (2019)
- It's not just interviewer-administration
  - Also true of CASI
  - See Al Baghal (2019)
- Challenge remains of finding equivalent measures for a mixed-mode world
  - Straightforward mode adjustments not easy

Physical Measures and Biomarkers

- Physical measures (height, weight, grip strength, standing/waking tests, etc.) and biomarkers (blood, saliva, etc.) hard to do on the Web
  - Some exceptions: self-administered blood spots and saliva
  - Also difficult to do by phone! (HRS)
- For surveys where these are essential, a blended approach may be needed

Consent to Record Linkage

- Evidence of substantially lower consent rates for Web respondents than CAI respondents
  - See Jäckle et al. (2019)
- Also true of social media linkage
  - See Al Baghal et al. (2019)
  - 40.5% consent rate for CAPI, 24.3% for Web

Mode Effects on Measurement

- While results are generally comparable across modes, there are some exceptions
  - See, e.g., Cernat, Couper, and Ofstedal (2016); Klausch, Schouten, and Hox (2017); Schouten et al. (2013)
- These are not easily explained or predictable
  - Existing theories don't fully account for the differences we see
  - Effects not as consistent as expected
- More work needed on when and why measurement differences arise

Cost Savings

- We still know relatively little about how much we save by including Web in a mixed-mode protocol
  - See Carpenter and Burton (2018) for some examples
  - See Bianchi, Biffignandi, and Lynn (2017)
- Even if mail is the other mode, cost savings may not be large
  - See Patrick et al. (2018)
- Cost of converting existing instruments and systems often not considered
- Related challenge: managing field interviewers with declining and unpredictable numbers of CAPI cases

Summary and Conclusions

Where Do We Go From Here?

I'm More Optimistic Now

Summary

- We have come a long way in a relatively short time
- Web surveys continue to evolve but they are here to stay, and continue to grow
  - We're still working out the best ways to implement them
- We're likely to be mixing modes for the foreseeable future
  - Web-only unlikely to meet the quality needs for national statistics
- Key challenges remain
  - Given our recent progress, I'm optimistic we can overcome these
- Don't underestimate how much time and effort it takes to convert to Web
- Careful iterative testing recommended

Selected Key Challenges (Known Unknowns)

- Determining eligibility and within-HH selection
- Maximizing efficiency of mixed-mode fieldwork
  - Better predictive models of mode choice and adaptive designs
- Physical measures and biomeasures
- Measurement challenges
  - Cognition and (possibly) other standardized tests
  - Life history calendars
  - Other specific question types (e.g., budget reconciliation?)
- Record linkage consent

Comments, Questions, Objections, (Rants)?

Are There Other Known Knowns?
What About Known Unknowns?
(Any Unknown Unknowns?)

Thank you!

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