

# Wait, What? Lessons Learned from Conducting Concurrent Surveys Using an Online Opt-in Panel and a Mail Address-Based Sample

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## Introduction

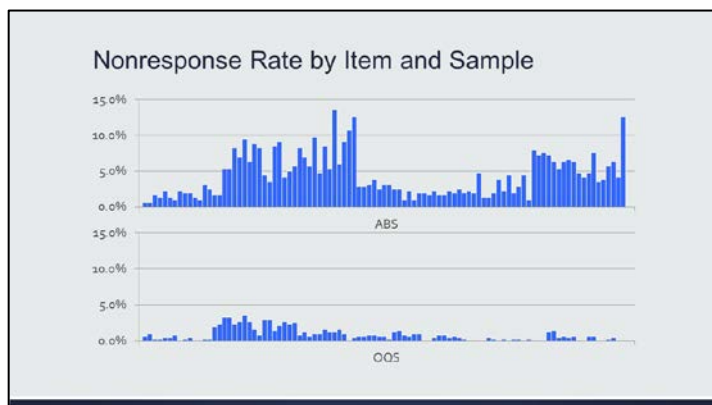
- Online surveys using opt-in panels are fast and inexpensive but questions remain about their credibility
- A validation study was conducted using a probability address-based sample (ABS) as a benchmark for a nonprobability opt-in quota sample (OQS) for concurrent surveys on the topic of climate change
- The study compares 1) survey yield and data collection duration, 2) item responses rates, and 3) response distribution after post-stratification weighting

## Methods

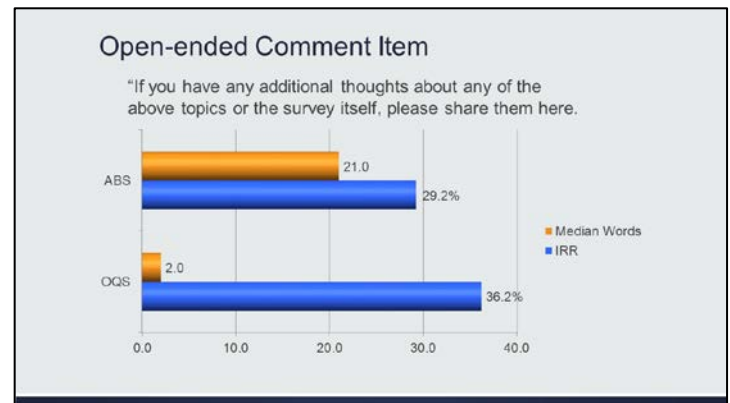
- The benchmark data was collected using a mail and web/mail mixed-mode survey while the quota sample was obtained by contracting with a survey services vendor
- The survey instruments was constructed from previously developed items using a unified-modal design to provide a consistent stimulus and administered concurrently
- As reported by many researchers, the online opt-in quota sample yielded the contracted set of responses in just a week while the ABS mail/mixed-mode survey took several months
- 514 (6.2%) responses obtained from 8,253 invitations and 856 opening the OQS survey and 318 (17.0%, RR2) responses from 2000 invitations for the ABS survey

## IRR Higher for OQS

- The overall item response rate for the OQS was 99.2%, somewhat higher than the 95.% for the ABS
- Opt-in panel incentives may contribute to low item nonresponse

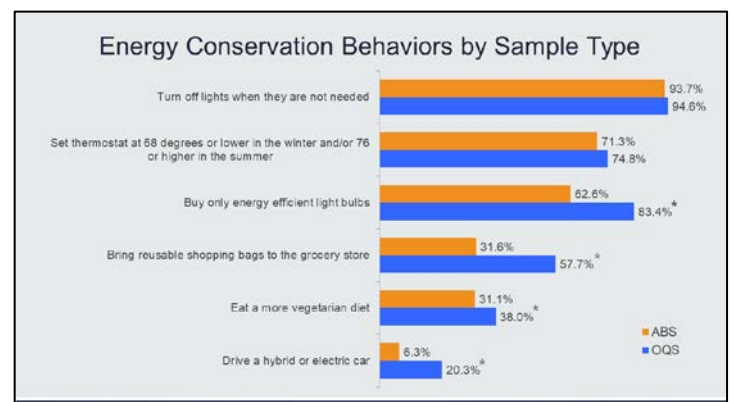
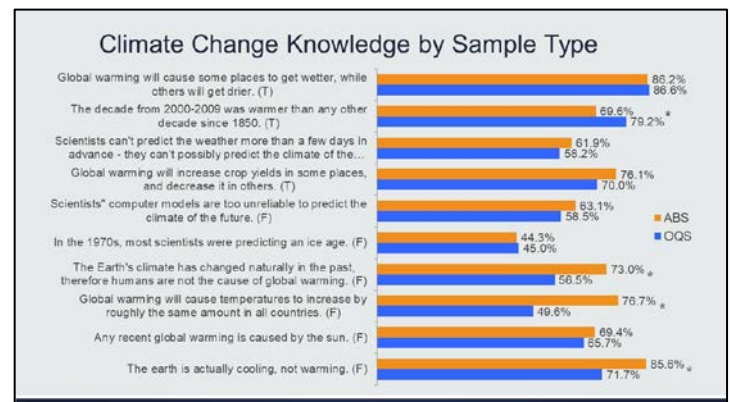


- Longer and more substantively relevant comments were obtained with the ABS survey



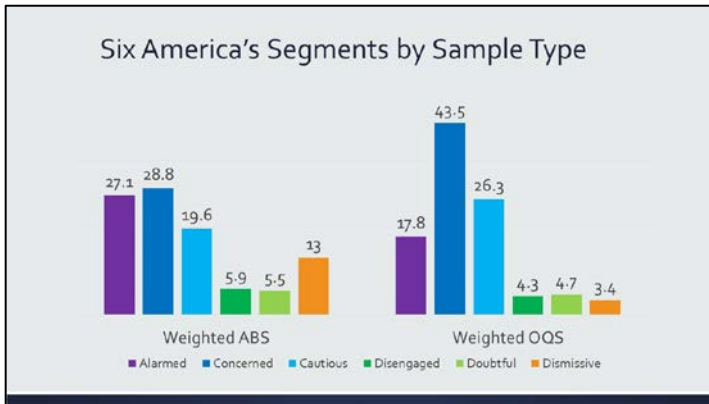
## Item Distributions Often Differ

- OQS respondent correctly answered fewer true/false items than ABS respondents
- OQS respondents reported higher percentages of energy conservation behaviors
- Suggests OQS have more bias toward positive responses



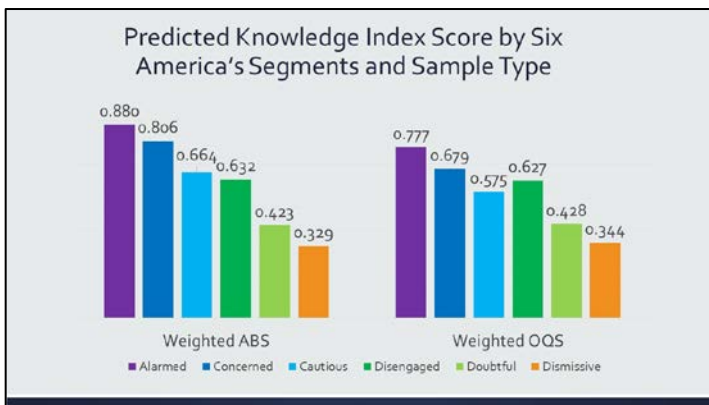
## Index Distributions Differ

- Distributions for the 15-item Six America's Scale<sup>1</sup> differed substantially



## Knowledge by Segment Relationship Similar but ABS Was Stronger

- OQS and ABS showed similar trends for knowledge scores across the Six America's segments
- ABS knowledge scores were significantly higher for Alarmed, Concerned and Cautious segments compared to OQS
- Average adjusted R<sup>2</sup> (across 10 imputations) was .566 for the ABS and .213 for the OQS



## Differences in Other Relationships

- Knowledge by interpersonal communication (4-item index) was significant for ABS but not for OQS
- Average adjusted R<sup>2</sup> (across 10 imputations) was .086 for the ABS and .000 for the OQS

## Conclusions & Lessons Learned

- Opt-in panels using quota samples collect data quickly and cheaply (~ 1 week & ~\$5/response)
- Data collection for OQS respondents was fast (most within 3 days; completed in a week)
- Item response rates for closed-ended questions were high for both OQS and ABS surveys
- Median response time for OQS was 12.3 minutes while the 25 ABS web respondents' median was 19.4 minutes

- Substantive conclusions were not always the same
- Shallower cognitive process and higher measurement error suggested by:
  - Rapid response time
  - non-substantive answers to comment item
  - pattern of answers to knowledge and behavior items
- Given these findings, OQS is not recommended for estimating population parameters or testing models
- Low response rates and nonresponse bias threaten ABS probability samples and weighting with demographics may not be sufficient
- OQS surveys can be useful for experiments that test question design and survey procedures
- OQS surveys also useful for pilot tests of question wording and response options
- Although methodologists are studying ways to adjust online nonprobability samples, no clear solution has emerged
- Likewise, probability samples face hurdles with response rates and, as this study demonstrates, researchers will need to carefully weigh the strengths and weaknesses to arrive at the best "fit for purpose" methodology

## Reference

<sup>1</sup> Maibach, E. W., Leiserowitz, A., Roser-Renouf, C., Mertz C. K., & Akerlof, K. (2011). *Global Warming's Six Americas screening tools: Survey instruments; instructions for coding and data treatment; and statistical program scripts*. Yale University and George Mason University. Yale Project on Climate Change Communication, New Haven, CT. Retrieved from <http://climatechangecommunication.org/SixAmericasManual.cfm>

## Acknowledgement

This research is part of Florida Agricultural Extension Station project FLA-AEC-005352 and supported in part by the USDA-NIFA, Accession No: 1003138. Poster presented at the 73<sup>rd</sup> annual meeting of the American Association for Public Opinion Research, Denver, CO, May 2018.

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