

Attrition and Conditioning in Survey Panels

Session Chair: John Stevenson

Room: Chestnut Session: Concurrent Session E Time: Friday, 5/17/2019 04:15 PM Session Type: Paper Track: Survey Design

Participant Role	Details	Action
Submission	Evaluating Conditioning Effects on Survey Responses in Pew Research Center's American Trends Panel	View
Submission	Disentangling the Effects of Panel Conditioning and Panel Attrition	View
Submission	Decomposing Total Survey Error in U.S. Internet Panels	View
Submission	The power of online panel paradata to predict non-response and attrition	View
Submission	Minimizing Attrition in The National Longitudinal Study of Adolescent to Adult Health: Solutions and Ongoing Challenges	View



A Process for Decomposing Total Survey Error

A Case Study Comparing Health Statistics in U.S. Internet Panels

Jennifer Unangst Ashley Amaya Herschel Sanders Jennifer Howard Abigail Ferrell Sarita Karon Jill Dever

AAPOR 2019



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The power of online panel paradata to predict non-response and attrition

Sebastian Kocar, PhD Candidate A/Professor Nicholas Biddle, Primary Supervisor ANU Centre for Social Research and Methods The Australian National University

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Minimizing Attrition in The National Longitudinal Study of Adolescent to Adult Health: Solutions and Ongoing Challenges

AAPOR 2019—Toronto



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Panel Conditioning in Pew Research Center's American Trends Panel

Nick Hatley *Research Analyst*

American Trends Panel Overview

- National probability-based sample of adults who take surveys for us
- 100% online survey administration
- Non-internet households are provided tablets and data plan
- Conduct 1 to 2 surveys per month, each around 15-min long
- Created in 2014
- \$5 to \$20 for each survey
- Primary platform for Center domestic data collection



How we tested for conditioning...

In this talk, conditioning is the idea that being in the ATP and taking surveys changes behavior that we may want to measure.

The steps of the analysis were:

- 1. Matched panelists to the voter file.
- 2. Filtered to matched panelists who are citizens and over 25+.
- 3. Weighted the cohorts to be equivalent.
 - Weighted on demographics and self-report variables and 2012 turnout from the voter-file.

4. Compared turnout for cohorts that had been in the panel to cohorts that had not been in the panel.

It's important to remember that these estimates have not been adjusted for non-response and are not population estimates. They are comparisons of the recruitment groups.



Survey waves fielded on ATP

Colors Indicate Presence of Election Content





May 17, 2019



May 17, 2019



May 17, 2019



May 17, 2019



May 17, 2019



May 17, 2019

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May 17, 2019

Conclusions

- Tested for conditioning effects on turnout in three elections using voter file data.
- We only found evidence of an effect in the 2014 Congressional election.
- The first seven waves of the ATP that preceded the 2014 election was very heavy in election and other political content.
- No noticeable effects in 2016 or 2018 elections.
- This analysis focuses on political outcomes only, but we want to look at other topics in the future.





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Disentangling the Effects of Panel Conditioning and Panel Attrition

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- With an online survey panel, we have recruited a group of people who have agreed to take multiple surveys.
- While having panelists take multiple surveys (instead of just one) makes the recruitment effort more cost effective, it raises the question: Are survey respondents' answers affected by the act of repeatedly taking surveys?
- Panel conditioning can occur when repeated surveying affects:
 - Respondents' attitudes, behaviors, knowledge, or
 - Respondents' reporting of their attitudes, behaviors, knowledge



- Mechanisms for panel conditioning:
 - Repeated surveys could stimulate thinking and possibly generate more thoughtful responses among survey participants
 - Respondents could become more efficient in processing and answering questions, but possibly use more heuristic processing or mental shortcuts
 - Respondents could learn to become better survey-takers by parsing questions and responses more diligently



- Many investigations into panel conditioning focus on a subsequent measure of the same behavior or attitude – same questionnaire or questions asked of the same individuals at periodic intervals over time
 - Asking about voting increased likelihood to vote
 - The CPS unemployment rates higher in first wave compared to eighth wave
- With an online panel like KnowledgePanel[®]
 the same people are taking repeated surveys, but only a small number of questionnaires or questions are repeated over time. The vast majority of questions they are asked vary from survey to survey.
- We are regularly asked about panel conditioning and whether or not there's a need for concern under this condition, with survey questions covering wide-ranging topics.



- KnowledgePanel is the largest online panel in the US that has been designed to provide representative samples of the US population. Recruited largely with ABS.
- On average, our panelists completes 3 to 4 KP surveys per month.
- Their average tenure is about 3 to 4 years.
- Past investigations into panel conditioning on KnowledgePanel have found little cause for concern (Clinton 2001; Dennis 2001) but it has been quite a while and given our panel is now about 20 years old, we now have some panelists who have been with the panel for some time.
- So... should there be any concerns about panel conditioning with KnowledgePanel given the number of surveys our panelists complete?



METHODOLOGY Sample Design

- We designed a study, dividing the panel into cohorts by tenure and selecting demographically balanced samples within each tenure group. The balanced sample by subgroup helped separate out the effects of differential attrition and the concern that longer tenured panelists are demographically different from new panelists.
- With the newest panelists, those who completed fewer than 6 surveys, we had to use all available so they were not demographically balanced.

Tenure Group

New to panel – (<6 surveys completed)

Less than 1 year on panel (6 plus surveys)

1 to 3 years on panel

3 to 6 years on panel

6 or more years on panel



METHODOLOGY Sample Design

• Completion rate increased with panel tenure; the newest recruits had the lowest completion rate and the longest tenured had the highest:

			Completion
Tenure Group	Sample Size	Respondents	Rate
New to panel – (<6 surveys completed)	3,549	633	18%
Less than 1 year on panel (6 plus surveys)	2,603	1,223	50%
1 to 3 years on panel	2,693	1,630	61%
3 to 6 years on panel	2,710	1,874	69%
6 or more years on panel	2,708	1,997	74%



METHODOLOGY Weighting

- Respondents from each tenure group were each weighted separately using the March 2018 CPS Supplement estimates as targets for: age, sex, race/ethnicity, education, income, and census region. Same weighting methodology applied to each tenure group.
- The shortest tenure group was least demographically balanced, followed by the longest tenure group.

Tenure Group	Unequal Weighting Effect
New to panel – (<6 surveys completed)	3.2
Less than 1 year on panel (6 plus surveys)	1.2
1 to 3 years on panel	1.2
3 to 6 years on panel	1.2
6 or more years on panel	1.6



METHODOLOGY Analyses

Median survey length was 12 minutes and the questionnaire included a number of measures that could be compared to external benchmarks including:

CPS Volunteer Supplement

- Volunteerism
- Community Engagement

CPS Civic Engagement Supplement

- Express opinions online
- Contact with friends/family

National Survey on Drug Use and Health

• Marijuana ever use

General Social Survey

• Marijuana should be legalized

National Health Interview Survey

- Landline
- General health
- Recency of last doctor's appt
- Ability to medical bills
- Drinking alcohol
- Smoked 100 cigs lifetime
- Current smoker
- Ever used e-cig
- Current e-cig user
- Sleep 7+ hours



RESULTS Comparing Tenure Cohorts to Benchmarks

 Weighted results were not significantly different across tenure cohorts – average absolute difference from the 16 benchmarks ranged between 5.2% and 6.0% percentage points.

Average Absolute Difference





Panel Tenure

RESULTS Comparing Tenure Cohorts to Benchmarks

• Average absolute difference was lower for all tenure cohorts than weighted results for the parallel telephone survey, which should be free from panel conditioning

Average Absolute Difference



Panel Tenure

RESULTS Time to Complete by Tenure Cohort

• The newest panelists took the longest to complete the survey on average.

Median Time to Complete (minutes)





RESULTS Speed by Tenure Cohort

• The newest panelists had the fewest speeders compared to other tenure groups.

Fastest 5% of Completes



RESULTS Item Nonresponse by Tenure Cohort

• General KP policy is to not force respondents to answer questions. Rate of item nonresponse was not significantly different across tenure groups.

Skipped More than 1 Item



RESULTS Straightlining by Tenure Cohort

• No significant difference among tenure groups for those straightlining on two or more of four grids

Straightlined on 2 or more Grids



conclusions **Summary**

- Consistent with past investigations into concerns about panel conditioning and professional respondents, we did not find cause for concern about panel conditioning with panelists having varying degrees of survey experience – from having completed only a handful to having completed numerous surveys:
 - Results were comparable to benchmarks across tenure groups
 - No differences in data quality item nonresponse and straightlining
 - Did find that panelists with more experience completed the survey faster than those with less experience, but that did not affect data quality based on other indicators.
- Based on this research, we find that panels are able to provide high quality data, even with some panelists' higher levels of survey experience.
- Any given KnowledgePanel study will include panelists with a wide mix of tenure.

Thank you!

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