

Improving Healthy Chicago Survey Respondent Representativeness with Alternative “Next Birthday” Applications

Survey Design Seminar

Team 4:

**Chia Wen Cheng, Sihle Khanyile, Noah R Marcotte,
Wenqing Qian, Nicolas Rodriguez, Ellena Sempeles**

February 14, 2024

Statements of Problems |

- Improving the Accuracy of the Within-Household Selection through the Next Birthday Method in the Address-Based Healthy Chicago Surveys
- Evaluating sample composition in the selection procedures
 - Enhancing representation of Asian, Hispanic, and Black respondents

Methods

Research Topic Segmentation from the Problem Statements:

1. Alternative within-household selection methods
2. Refinements of the contact materials
3. Targeting minority and hard-to-reach populations

Approaches:

- Reviewed 2022 HCS methodology report
- Conducted literature reviews
- Reviewed other organizations' survey protocols and methodology reports

Issues with the “Next Birthday” Method

Advantages

- Low burden
- Decent randomization
- Less intrusive
- Cost-efficient
- Smooth Transition from RDD design
- Comparable probability

Disadvantages

- Representation issues
- Lack of IWER support
- Demographic disparities
- Low cooperation rates
- Decreased RRs
- Not fully randomized (AAPOR Task Force Report, 2019)

Solution Proposal (1): Alt. W/I-HH Selection Methods

- Next birthday method with a verification question at the beginning of the survey (Wells et al., 2018)
- Asking the oldest or youngest person in the household to report (Bosa et al., 2017; DeBell et al., 2017; Wells et al., 2018)
- Non-probability selection methods (Yan et al., 2015)
- Household roster method (Villar & Fitzgerald, 2017)
- Asking any knowledgeable reporter to report for the household (Battaglia et al. 2008; Elkasabi et al. 2014; Brick et al. 2016; Biemer et al. 2018)

Solution Proposal (2): Refining Contact Materials

- Bold the next-birthday instruction in the letters (Health Information National Trends Survey, 2017)
- Cover letter to include explicit yes/no question asking whether the individual is the adult in the household who will have the next birthday (Olson & Smyth, 2017)
- Sending a targeted incentive mail with “Thank the adult with the next birthday.” (Smyth, Olson & Stange, 2019)

Solution Proposal (2): Refining Contact Materials (cont'd)

- Add a subject line to the contact materials (Kaplowitz et al., 2012)
- A pre-survey voluntary invitation to have precommitted respondents and customize their contact materials as a group different from those not volunteered (Paraschiv, 2013)
- Showcase previous successful transformations/evolutions in policies inspired by the surveys instead of “for example, ...will...” (Paraschiv, 2013)
- Change the contact method timeline (Paraschiv, 2013)

Solution Proposal (3): Increasing Minority Representation

- Increase incentives (West et al., 2023; Ahlmark et al., 2015) + different mailing methods (envelope type, couriers) for minorities (Wagner et al., 2023)
- Targeted minority household telephone NRFU if phone numbers known (West et al., 2023; Ngo-Metzger et al., 2004)
- Multilingual support: more language options (Lagana et al., 2011)
 - Multilingual call center (Westat, 2017)
- Conduct focus groups in ethnic communities for qualitative insights (Kakar, 2006)

Our Recommendations

Current strategies that we like:

- Oversampling on the minority populations.
 - The oversample strategies have successfully identified and recruited minority participants (Ofstedal and Weir, 2011).
- Current incentive plan of \$2 for pre-survey token, \$20 for web surveys, and \$10 for paper surveys appreciations.
 - Visible cash in initial mail invitations may improve response rate (DeBell et al., 2020, Zhang et al., 2023).

Our Recommendations (cont'd)

New strategies we find may be helpful in addressing the issues:

- Formalize the invitations with clear subject lines and bolded “next-birthday” instruction
 - Cognitive testing
- Next birthday method with a verification question at the beginning of the survey
 - Use ATD dashboard to monitor response rates and characteristics of respondents, add targeted minority data collection if needed

References

- American Association for Public Opinion Research. (2019). Transition from telephone surveys to self-administered and mixed-mode surveys. Retrieved from https://www.aapor.org/getattachment/Education-Resources/Reports/AAPOR_Report_1_SingleColumn_Finalv2.pdf.aspx.
- Ahlmark, N., Algren, M. H., Holmberg, T., Norredam, M. L., Nielsen, S. S., Blom, A. B., ... & Juel, K. (2015). Survey nonresponse among ethnic minorities in a national health survey—a mixed-method study of participation, barriers, and potentials. *Ethnicity & health*, 20(6), 611-632.
- Battaglia, M. P., Link, M. W., Frankel, M. R., Osborn, L., & Mokdad, A. H. (2008). An evaluation of respondent selection methods for household mail surveys. *Public Opinion Quarterly*, 72(3), 459–469. <https://doi.org/10.1093/poq/nfn026>.
- Biemer, P. P., Murphy, J., Zimmer, S., Berry, C., Deng, G., & Lewis, K. (2018). Using bonus monetary incentives to encourage web response in mixed-mode household surveys. *Journal of Survey Statistics and Methodology*, 6(2), 240-261.
- Brick, J. M., Andrews, W. R., & Mathiowetz, N. A. (2016). Single-phase mail survey design for rare population subgroups. *Field Methods*, 28(4), 381-395.
- Bosa, K., Gagnon, F., & Caron, P. (2017). Comparison of Three Methods to Select a Respondent for Household Online Surveys Using Mailed Invitations. In *72nd Annual Conference of the American Association for Public Opinion Research, New Orleans, LA*.

References (cont'd)

- DeBell, M., Jackman, S., Maisel, N., Amsbary, M., Meldener, V., Brick, J. M., ... & Peterson, E. (2017). Methodology and Findings of the ANES 2016 Recruitment Pretest Study. *American National Election Studies ANES Technical Report No. nes006978*.
- Debell, M., Maisel, N., Edwards, B., Amsbary, M., & Meldener, V. (2020). Improving Survey Response Rates with Visible Money. *Journal of Survey Statistics and Methodology*, 8(5), 821-831.
- Elkasabi, M., Suzer-Gurtekin, Z. T., Lepkowski, J. M., Kim, U., Curtin, R., & McBee, R. (2014). A comparison of ABS mail and RDD surveys for measuring consumer attitudes. *International Journal of Market Research*, 56(6), 737-756.
- Gaziano, C. (2005). Comparative analysis of within-household respondent selection techniques. *Public Opinion Quarterly*, 69(1), 124–157. <https://doi.org/10.1093/pog/nfi006>.
- Kakar, S. (2006). Understanding the causes of disproportionate minority contact: Results of focus group discussions. *Journal of Criminal Justice*, 34(4), 369-381.
- Kaplowitz, M. D., Lupi, F., Couper, M. P., & Thorp, L. (2012). The Effect of Invitation Design on Web Survey Response Rates. *Social Science Computer Review*, 30(3), 339-349. <https://doi.org/10.1177/0894439311419084>.
- Keusch, F. (2012). How to Increase Response Rates in List-Based Web Survey Samples. *Social Science Computer Review*, 30(3), 380-388. <https://doi.org/10.1177/0894439311409709>.
- Laganà, F., Elchereth, G., Penic, S., Kleiner, B., & Fasel, N. (2013). National minorities and their representation in social surveys: which practices make a difference?. *Quality & Quantity*, 47, 1287-1314.

References (cont'd)

- Liu, M., Kuriakose, N., Cohen, J., & Cho, S. (2016). Impact of web survey invitation design on survey participation, respondents, and survey responses. *Social Science Computer Review*, 34(5), 631-644.
- Ngo-Metzger, Q., Kaplan, S. H., Sorkin, D. H., Clarridge, B. R., & Phillips, R. S. (2004). Surveying minorities with limited-English proficiency: does data collection method affect data quality among Asian Americans?. *Medical Care*, 893-900.
- Ofstedal, M. B., & Weir, D. R. (2011). Recruitment and retention of minority participants in the health and retirement study. *Gerontologist*, 51(SUPPL. 1). <https://doi.org/10.1093/geront/gnq100>.
- Olson, K., & Smyth, J. D. (2017). Within-Household Selection in Mail Surveys: Explicit questions are better than cover letter instructions. *Public Opinion Quarterly*, 81(3), 688–713. <https://doi.org/10.1093/pog/nfx025>.
- Olson, K., Stange, M., & Smyth, J. (2014). Assessing within-household selection methods in household mail surveys. *Public Opinion Quarterly*, 78(3), 656-678.
- Paraschiv, DC. (2013). Timing in a web based survey: an influential factor of the response rate. *Marketing From Information to Decision*, 6, 200-209.
- Smyth, J. D., Olson, K., & Stange, M. (2019). Within-Household Selection Methods: A Critical Review and Experimental Examination. *Experimental Methods in Survey Research: Techniques that Combine Random Sampling with Random Assignment*, 23-45.
- Villar, A., & Fitzgerald, R. (2017). Using mixed modes in survey research: Evidence from six experiments in the ESS. In *Values and identities in Europe* (pp. 299-336). Routledge.

References (cont'd)

- Wagner, J., West, B. T., Couper, M. P., Zhang, S., Gatward, R., Nishimura, R., & Saw, H.-W. (2023). An Experimental Evaluation of Two Approaches for Improving Response to Household Screening Efforts in National Mail/Web Surveys. *Journal of Survey Statistics and Methodology*, 11(1), 124–140. <https://doi.org/10.1093/jssam/smac024>.
- Wells, B. M., Hughes, T., Park, R., CHIS Redesign Working Group, Rogers, T. B., & Ponce, N. (2018). Evaluating the California Health Interview Survey of the future: Results from a methodological experiment to test an address-based sampling mail push-to-web data collection.
- National Cancer Institute. (2017). Health Information National Trends Survey 5 (HINTS 5) Cycle 1 Methodology Report.
- West, B. T., Zhang, S., Wagner, J., Gatward, R., Saw, H. W., & Axinn, W. G. (2023). Methods for improving participation rates in national self-administered web/mail surveys: Evidence from the United States. *Plos one*, 18(8), e0289695.
- Yan, T. (2009). A meta-analysis of within-household respondent selection methods. *AAPOR*, 17. <https://www.researchgate.net/publication/266442885>.
- Yan, T., Tourangeau, R., & McAloon, R. (2015). A Meta-analysis of within-household respondent selection methods on demographic representativeness. *AAPOR*, 17, 6134-6146.
- Zhang, S., West, B. T., Wagner, J., Couper, M. P., Gatward, R., & Axinn, W. G. (2023). Visible Cash, a Second Incentive, and Priority Mail? An Experimental Evaluation of Mailing Strategies for a Screening Questionnaire in a National Push-to-Web/Mail Survey. *Journal of Survey Statistics and Methodology*, 11(5), 1011–1031. <https://doi.org/10.1093/jssam/smac041>.

Q & A

JPSM Survey Design Seminar

Chia Wen Cheng, Sihle Khanyile, Noah R Marcotte,
Wenqing Qian, Nicolas Rodriguez, Ellena Sempeles