

RANDS 8 Non-Probability Sample Technical Documentation

Overview

The National Center for Health Statistics (NCHS) Division of Research and Methodology (DRM) contracted NORC at the University of Chicago (NORC) to conduct round 8 of the Research and Development Survey (RANDS), referred to as RANDS 8 in this documentation.

RANDS is designed to evaluate estimation approaches for health outcomes from recruited panels and quantitative methodologies for measuring error. In RANDS 8, different question wording, response scales, response formats or administrations of questions related to disability, gender identity, aspects of life, emotional well-being, and the reason behind perceived acts of discrimination were examined through split-sample experiments. To increase the scope of potential respondents and to evaluate mode effects in panel surveys, both phone-mode and web-mode panelists were included in the RANDS 8 probability sample. In addition, to gain better understanding about the population of gender minorities, a non-probability opt-in sample with an oversample of gender minority was also recruited and surveyed in web-mode in addition to the probability sample. This technical documentation describes the non-probability sample in RANDS 8.

To evaluate the question-response pattern as in previous rounds of RANDS, RANDS 8 included probe questions and five types of experiments. For each experiment, the non-probability opt-in panelists were assigned to the version of the question received using a random number generation process at the start of the survey.

- 1) Disability Question Format Experiment: Comparing responses from three different question formats on whether the respondent has a disability condition. One group received separate questions on seeing, hearing, cognition, walking or climbing stairs, dressing or bathing, communications, and doing errands alone, with each question soliciting a yes or no response. The second group received one single question stating, “do you have serious difficulty seeing, hearing, walking, remembering, making decisions, or communicating?”, with yes and no response options. The third group received one question asking, “do you have serious difficulty doing any of the following?”, with separate grid items of hearing, seeing, walking or climbing stairs, cognition, dressing or bathing, doing errands alone, along with yes and no response options for each item.
- 2) Open-Ended Probe vs. Closed-Ended Probes: Comparing responses from the open-ended question-type versus the question-type with closed-ended response options on the reason behind perceived acts of discrimination.
- 3) Gender Identity Experiment: Comparing responses from two different administration of questions. One group received a question on the sex assigned at birth, followed by a question on the current gender with three or four closed-ended response options (depending on whether the responding panelist is or is not an American Indian or a Native Alaskan) and an open-ended option for the respondent to make one single selection or to write-in. The other group received a general self-identification question with three closed-ended gender identity

response options for the respondent to make one or more selections, followed by the question on the sex assigned at birth.

- 4) Aspects of Life Experiment: Comparing responses from three different question wordings. While all groups received an introductory text and a frequency question along with three grid items for respondents to choose a frequency term for each grid item, one group received the introductory text with examples of aspects of life and grid items containing the phrase, “aspects of life”, while the second group received the introductory text with examples of aspects of life but grid items not containing the phrase, “aspects of life”, and the third group received no examples of aspects of life in the introductory text and grid items not containing the phrase, “aspects of life”.
- 5) Response Scale Experiments: Comparing responses with two different scales. (a) For questions related to emotional well-being, respondents were asked about their certainty or confidence level to carry out certain tasks under emotional stress. For a total of 24 grid items presented in two separate questions, one group responded with four-level response options on the confidence level for each grid item, and the other group responded with a numerical scale from zero to ten for each item. (b) For the question related to aspects of life, respondents were presented with three grid items with response options of five-level frequency indicators or a numerical scale from zero to ten for each grid item.

The non-probability sample was recruited through CINT’s Lucid Panel (<https://www.cint.com>). In addition, an oversample of gender minorities was recruited from both the Lucid Panel and Community Marketing and Insights’ (CMI) Panel (<https://communitymarketinginc.com>). This documentation describes the data collection and the development and suggested use of balancing weights (WEIGHT_OPTIN_BALANCED) for the non-probability sample. Note that while the RANDES 8 non-probability sample does not have a known survey sampling design and cannot be used to produce nationally or sub-nationally representative estimates, the balancing weights were developed to combine the RANDES 8 probability and non-probability samples to evaluate the results of the embedded experiments among respondents.

Summary of Field Work

The target population for this study consisted of the general population of the United States aged 18 and older. The source of the non-probability sample for this study was the Lucid Panel, with an oversample of gender minorities from the Lucid and the CMI Panels. To control the sample composition and reduce weight variation, NORC provided CINT and CMI with specified quotas of complete surveys by key demographic groups, including a quota of 500 for gender minorities. For the non-probability sample, RANDES 8 was administered in English via online web surveys. Responses from the non-probability panels were collected from June 8, 2023, to July 24, 2023.

In total, 9,791 panelists, including 526 gender minorities, completed the RANDES 8 questionnaire. An additional 192 panelists were removed from the dataset prior to weighting adjustment due to either completing the survey in less than one third of the median duration and/or high refusal/skipping rates (defined as refused/skipped more than 50% of eligible questions).

NCHS did not provide an incentive for participation in RANDS.

Development and Suggested Use of Balancing Weights

When examining a combined RANDS 8 dataset consisting of both the probability and the non-probability samples for questions involved in split-sample experiments, some potential confounding factors could be different in distribution between these two types of samples. To avoid interpretations of experimental results biased by potential confounding factors, variables of age, race/Hispanic ethnicity, education, marital status and metropolitan status were applied to balance the two samples using inverse propensity scores. As the sampling procedures of the probability sample are well documented, the probability sample was treated as a benchmark for the non-probability sample to match. A logistic regression using the above-mentioned five variables determined propensity scores suitable for creating balancing weights (WEIGHT_OPTIN_BALANCED) for the non-probability sample. This weighting operation results in the creation of a pseudo-sample consisting of two strata: one stratum consisting of AmeriSpeak panelists with unit weights (weight of 1 for each respondent), and a non-probability stratum consisting of panelists from the Lucid and CMI Panels with weights to approximately match the sample proportions of the above-mentioned five variables to the stratum consisted of AmeriSpeak panelists. For practitioners to analyze the results of the embedded experiments among RANDS 8 probability and non-probability respondents, the probability and non-probability files can be horizontally concatenated and analyzed with the balancing weight (WEIGHT_OPTIN_BALANCED). This pseudo-sample can be treated as a complex survey design structured as “weighted simple random sampling with replacement” within strata. Please note that the pseudo-sample cannot be used to produce nationally and sub-nationally representative estimates, and the balancing weight in the non-probability sample should not be used with any other weights in the probability sample.

Suggested Citation

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