RANDS 9 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 9 of the Research and Development Survey (RANDS), referred to as RANDS 9 in this documentation.

RANDS is designed to evaluate estimation approaches for health outcomes from recruited panels and quantitative methodologies for measuring error. In RANDS 9, the effects of different question or response formats, ordering of questions or response options, and the presence of a prompt statement preceding probe questions 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 9 probability sample. In addition, to gain better understanding about the population of Afro-Caribbeans and Middle Eastern or North Africans (MENA), a non-probability sample with an oversample of Afro-Caribbeans and MENA was also recruited and surveyed in web-mode in addition to the probability sample. This technical documentation describes the non-probability sample in RANDS 9.

To evaluate the question-response pattern as in previous rounds of RANDS, RANDS 9 included probe questions and six experiments. For each experiment, the non-probability panelists were assigned to the version of the question received using a random number generation process at the start of the survey.

1) Race-Ethnicity Response Order Experiment: Comparing responses from response options presented in two different orders. One group received the traditional order of response options with "White" listed as the first option, and the other group received response options ordered alphabetically.
2) Probe Prompt Experiment: Comparing responses to probe questions preceded with or without a prompt statement. The experiment was carried out on three probe questions: (1) respondents' definition of intellectual and developmental disability; (2) what respondents were thinking when answering questions related to perceived subjection to discrimination; (3) what respondents were thinking when responding to a statement related to diabetes or obesity stigma.
3) 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 reasons for perceived acts of discrimination.
4) Diabetes and Obesity Stigma Experiment: Comparing responses from four experiment groups that were presented with alternative statements related to diabetes or obesity stigma. Each diabetes or obesity stigma statement was presented to two or three groups.
5) Learning Difficulty Question Order Experiment: Comparing responses from two groups that were presented with learning difficulty questions in two different orders.
6) Intimate Partner Violence Question Format Experiment: Comparing responses from two question formats. One group received a total of two questions for this experiment, with one

question soliciting a yes or no response to one of the eight categories of physical violence acts and the other question soliciting a single yes or no response to the other seven categories. The other group received one question containing eight grid items for individual categories of physical violence acts with yes or no response options for each grid item.

The non-probability sample was recruited through Cint-Lucid's non-probability panel (https://www.cint.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 RANDS 9 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 RANDS 9 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 Cint-Lucid's non-probability panel, with oversamples of Afro-Caribbeans and MENA. To control the sample composition and reduce weight variation, NORC defined quota buckets for the defined strata that reflect known population distribution and worked with Cint to slowly recruit respondents over the field period to adequately fill each stratum. For the non-probability sample, RANDS 9 was administered in English via online web surveys. Responses from the non-probability panel were collected from December 2, 2023, to January 5, 2024.

In total, 8,973 panelists, including oversamples of 547 Afro-Caribbeans and 262 MENA, completed the RANDS 9 questionnaire. An additional 143 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 9 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, 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 four 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 Panel with weights to approximately match the sample proportions of the above-mentioned four variables to the stratum consisted of AmeriSpeak panelists. For practitioners to analyze the results of the embedded experiments among RANDS 9 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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