



The SSRS Probability Panel

Methodology Statement
July 2017





THE SSRS PROBABILITY PANEL

The SSRS Probability Panel is an online panel designed to be representative of and projectable to the U.S. population. SSRS Probability Panel members are recruited randomly from a dual-frame random digit dial (RDD) sample, through the SSRS Omnibus survey. The SSRS Omnibus survey is a national (50-state), bilingual telephone survey designed to meet standards of quality associated with custom research studies. The SSRS Omnibus runs six waves each month. Each wave consists of 1,000 interviews, of which 600 are obtained with respondents on their cell phones, and over one-third of Hispanic interviews completed in Spanish.

Because the SSRS Probability Panel recruitment relies on an existing, high-quality survey platform, the result is an affordable probabilistically-sourced sample. Respondents of the SSRS Omnibus represent the full U.S. adult population (English and Spanish speaking). From this base, SSRS screens for Internet access and then recruits those who have access to be part of the SSRS Probability Panel.

From each SSRS Omnibus wave of about 1,000 respondents, approximately 85% are identified as having Internet access and are invited to participate in the panel. Of these, approximately 45% agree to participate in the SSRS Probability Panel and provide their email address. These numbers vary slightly from wave to wave.

DATA COLLECTION

Surveys conducted using the SSRS Probability Panel are self-administered web surveys. Respondents are invited by email, which includes survey log-in credentials that are unique to each respondent. In appreciation for their participation, panelists receive a modest incentive for participation (in the form of an electronic Amazon gift card or cash sent via postal mail according to respondent preference). Depending on the field period, reminder emails are sent to panelists who do not complete the survey after being sent the initial invitation.

DATA PROCESSING AND WEIGHTING

After the completion of data collection using the SSRS Probability Panel, the data are thoroughly cleaned through use of a computer validation program written by one of SSRS's data processing programmers. This program establishes editing parameters in order to locate any errors. After these quality control procedures have been carried out, top-line frequency distributions and arrays are run, as needed.

Each SSRS Probability Panel survey is weighted to provide nationally representative and projectable estimates of the adult population 18 years of age and older (or other population, depending on the study needs). The weighting process takes into account the recruitment of panelists through SSRS Omnibus, thus the disproportionate probabilities of household and respondent selection due to the number of separate telephone landlines and cellphones answered by Omnibus respondents and their households, as well as the probability associated with the random selection of an individual household member.



The weighting procedures included the following steps:

1. Total Probability of Selection Weight (Wps):

The process to calculate the Wps is outlined below.

SSRS OMNIBUS BASWEIGHT

The original SSRS Omnibus inserts were weighted to provide nationally representative and projectable estimates of the adult population 18 years of age and older. The weighting process takes into account the disproportionate probabilities of household and respondent selection due to the number of separate telephone landlines and cellphones answered by respondents and their households, as well as the probability associated with the random selection of an individual household member.

Probability of Selection (Pphone): A phone number's probability of selection depends on the number of phone-numbers selected out of the total sample frame. So for each respondent whose household has a landline phone number, this is calculated as total landline numbers dialed divided by total numbers in the landline frame and conversely for respondents answering at least one cell phone number, this is calculated as total cell phone numbers divided by total numbers in the cell phone frame.

Probability of Contact (Pcontact): The probability that the sampling unit (households on landlines or respondents on cell phone) will be reached is a product of the number of phones (by type) a respondent or their household answer.

Probability of Respondent selection (Pselect): In households reached by landline, a single respondent is selected. Thus, the probability of selection within a household is inversely related to the number of adults in the household.

Total Probability of Selection: This is calculated as the phone number's probability of selection (by frame), multiplied by the number of devices of each type the respondent answers, and for landlines, divided by the number of adults in the household.¹ Thus, for each respondent a probability can be calculated for being reached via landline (LLprob) and for being reached via cell phone (Cellprob). These calculations are:

$$\begin{aligned} \text{LLprob} &= \text{Pphone} * \text{Pcontact} * \text{Pselect} \\ \text{Cellprob} &= \text{Pphone} * \text{Pcontact} \end{aligned}$$

The sample weights derived at this stage are calculated as the inverse of the combined probability of selection, or:

$$1/(\text{LLprob} + \text{Cellprob} - \text{LLprob} * \text{CellProb})$$

¹ To avoid extremely large or small weights, the maximum number of devices for each type of phone, and the maximum number of adults was capped at 3.



SSRS PANEL BASWEIGHT

The SSRS Probability Panel baseweight process takes into account the recruitment of panelists through SSRS Omnibus, thus incorporating the disproportionate probabilities of household and respondent selection due to the number of separate telephone landlines and cellphones answered by Omnibus respondents and their households, as well as the probability associated with the random selection of an individual household member. In addition, a propensity score is integrated into the base-weight to project from Internet respondents to all adults.

The SSRS Probability Panel can reach non-Internet households by conducting telephone interviews of these panelists. For researchers who choose to just conduct interviewing of Internet panelists, SSRS applies a propensity model to model non-Internet households so that estimates can be projectable to the full U.S. population. Propensity scores are estimated by fitting a regression of the panel response status on a range of demographic and attitudinal covariates. Adjustments for each panel participant are then calculated as the reciprocal of the estimated response propensity found from the model. The final SSRS Probability Panel baseweight is then calculated as the product of the panel adjustment and omnibus baseweight, divided by the summated mean of the panel adjustment and omnibus baseweight.

3. Post stratification weighting: With the base-weight applied, the sample underwent the process of iterative proportional fitting (IPF), in which the sample was balanced to match known adult-population parameters based on the most recent March Supplement of the U.S. Census Bureau's Current Population Survey (CPS). This process of weighting will repeat until the root mean square error for the differences between the sample and the population parameters is 0 or near-zero.

The population parameters used for post-stratification are: age (18-29; 30-49; 50-64; 65+), gender, Census region (Northeast, North-Central, South, West), Education (less than high school, high school graduate, some college, four-year college or more); race/ethnicity (white non-Hispanic; Black non-Hispanic; Hispanic; Other non-Hispanic); and phone-usage (cell phone only, landline only, both).

4. Weight truncation ('trimming'): To ensure the consistency of the population estimates produced week-to-week by Excel, the weights will undergo truncation (or 'trimming') so that they do not exceed 3.5 or fall below under 0.2 the survey.