Supplemental Online Content

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eMethods
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This supplemental material has been provided by the authors to give readers additional information about their work.

eMethods

SSRS conducted a survey of Muslim respondents, Jewish respondents, and the General Population for the Institute for Social Policy and Understanding from January 8 through January 28, 2019. The study investigated the opinions regarding the government, the most important issues facing the country, faith customs and religious/race/gender discrimination.

For the survey, SSRS interviewed 804 Muslim respondents, 360 Jewish respondents, and 1,212 General Population respondents. We interviewed a total of 2,376 respondents. This report details the methodological components of the study: sample design, questionnaire design, programming, field operations, data processing, and weighting. The interviews were completed by phone and web panels. Four hundred and twenty-one interviews were completed with Muslim respondents over the phone and 383 were completed via web panel. All 360 surveys of Jewish participants were by phone. The General Population completed 1,108 interviews via the SSRS probability panel and 104 completes by phone with non-Internet respondents. Non-Internet respondents are respondents who do not use the Internet and do not have access to the Internet.

Sample Design

The sampling procedures were designed to efficiently reach the target populations of interest. These procedures are listed below:

1) SSRS pulled sample prescreened as Muslim households from the years 2012-2018 of its weekly national omnibus survey to recontact for this study.
2) SSRS pulled sample prescreened as Jewish households from the years 2016-2018 of its weekly national omnibus survey to recontact for this study.
3) SSRS purchased listed sample in both landline and cell phone frames. The landline sample was purchased from Experian and the cell phone sample was purchased from Consumer Cell. Experian and Consumer Cell are sample providers with specific characteristics flagged for each piece of sample. Experian and Consumer Cell provided sample with flags for Muslim and Jewish households.
4) In an effort to supplement the number of Muslim respondent interviews that we were able to complete in the given time frame and with the amount of available prescreened sample, SSRS employed a web panel and completed the final 383 Muslim respondent interviews via an online survey with sample from a non-probability panel.
5) SSRS used their sample in the probability panel to administer the General Population portion of the survey. These are respondents who have completed a survey through the SSRS Omnibus and signed up for the probability panel.

6) In an effort to balance out the General Population probability panel SSRS interviewed 104 non-Internet respondents through the Omnibus, which uses a fully-replicated, stratified, single-stage, random-digit-dialing (RDD) sample of landline telephone households, and randomly generated cell phone numbers. Sample telephone numbers are computer-generated and loaded into on-line sample files accessed directly by the computer-assisted telephone interviewing (CATI) system.

In total, 499 interviews were completed via cell phones, 386 via landline, and 1,491 via web survey.

Questionnaire Design

The questionnaire was developed by the Institute for Social Policy and Understanding in consultation with the SSRS project team. Prior to the field period, SSRS programmed the study into Survox, for both the phone/Computer Assisted Telephone Interviewing (CATI) and web portions of the study. Extensive checking of the programs was conducted to ensure that skip patterns and sample splits followed the design of the questionnaire. SSRS project directors checked randomly generated data as an additional confirmation of program accuracy.

Field Procedures

Pretesting

One night of pretesting for the 2019 American Muslim Poll took place on January 3, 2019. A total of 8 interviews were collected, two with Muslim respondents and six with the General Population. Overall, the questionnaire flowed smoothly, and respondents provided thoughtful and reasonable responses to the questions. As a result of the pretest, SSRS recommended a few changes to the instrument that were approved and implemented prior to launch on January 8. ISPU also made changes due to the overall length of the survey and deleted some of the questions.

Survey Administration

The field period for this study was January 8 through January 28, 2019. Eight hundred and eighty-five interviews were completed using the CATI system. The remainder, 1,491, were completed via web survey. Both CATI and Web programs ensured that questions followed logical skip patterns and that complete dispositions of all call attempts were recorded.

CATI interviewers received written materials about the survey instrument and received formal training for this particular project. The written materials were provided prior to the beginning of the field period and included an annotated questionnaire that contained information about the goals of the study as well as, detailed explanations as to why questions were being asked, the meaning and pronunciation of key terms, potential obstacles to be overcome in getting good answers to questions, and respondent problems that could be anticipated ahead of time, as well as strategies for addressing the potential

problems. Due to the sensitive nature of some of the questions, interviewers were given specific instructions on how to cope with respondents who seemed agitated or distressed by the questions.

Interviewer training was conducted immediately before the survey was fielded. Call center supervisors and interviewers were walked through each question from the questionnaire. Interviewers were given instructions to help them maximize response rates and ensure accurate data collection.

In order to maximize survey response, SSRS enacted the following procedures during the field period:

- An average of seven follow-up attempts were made to contact non-responsive numbers (e.g. no answer, busy, answering machine).
- Each non-responsive number was contacted multiple times, varying the times of day, and the days of the week that call-backs were placed using a programmed differential call rule.
- Interviewers explained the purpose of the study and, when asked, stated as accurately as possible the expected length of the interview (approximately 18 minutes).
- Respondents were offered the option of scheduling a call-back at their convenience.
- Specially trained interviewers contacted respondents who had initially refused to participate in the survey and attempted to convert them into completed interviews.

Screening Procedures

The target population for the Muslim and Jewish respondents portion of the study was specified as people who identify their religion as either Muslim or Jewish. For landline respondents, if the person who answered the phone neither self-identified as Muslim nor Jewish, we asked if anyone in the household considered him or herself to be a different religion than the respondent and, if so, what religion that would be. If another household member self-identified as Jewish or Muslim, we then asked to speak with that person. If no person in the household fit the religion criteria, we terminated the interview. Any cell phone respondent who was not a Muslim or Jewish respondent was immediately screened out of the survey since cell phone respondents are considered individual households for the purposes of the selection process.

The target population for the General Population portion of the study was specified as people who identify their religion as any religion or none at all. For those completing by phone for this portion, they also had to not use the Internet and not have access to the Internet.

Response Rate

Response rate for the ISPU survey was calculated using AAPOR's Response Rate 3 formula. This percentage divides the number of completed interviews in each sampling frame by the estimated number of eligible phone numbers in the frame.

Weighting Procedures

Survey data were weighted to: 1) adjust for the fact that not all survey respondents were selected with the same probability, and 2) account for non-response across known demographic parameters for the Jewish and Muslim adult populations.

1. Base Weight:

- **TOTAL PROBABILITY OF SELECTION WEIGHT=**

  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 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:

  LLprob=Pphone*Pselect
  Cellprob=Pphone

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

  1/(LLprob+Cellprob-LLprob*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.

The final base-weight is fully calculated for those from the phone portion of this study. Since we are unable to calculate probability of selection for those from the web, those respondents were given a base-weight of 1.

2. Post stratification weighting:

Following application of the above base-weight, the full sample was post-stratified and balanced by key demographics such as age, race, sex, region, education, marital status, number of adults in the household, voter registration, and political party identification within the Jewish and Muslim respondents portions of this study, separately, for the adult population 18 years of age and older. The sample was also adjusted by the distribution of phone usage of the Jewish and/or Muslim population (that is, by the proportion of those who are cell phone only, landline only, and mixed users).

Weighting was accomplished using SPSSINC RAKE, an SPSS extension module that simultaneously balances the distributions of all variables using the GENLOG procedure. The sample was balanced to match estimates of the Jewish and/or Muslim populations determined from 2 years of data collected through our SSRS Omnibus as well as informed by PEW estimates. This process of weighting was repeated 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 were: 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 or Other non-Hispanic; Black non-Hispanic; Hispanic); marital status (single; married; other), registered voter (Yes/No), political affiliation (Republican; Democrat; Independent/Other), Number of Adults (1/2/3 or more), and phone-usage (cell phone only, landline only, both).

To handle missing data among some of the demographic variables we employed a technique called hot decking. Hot deck imputation replaces the missing values of a respondent randomly with another similar respondent without missing data. These are further determined by variables predictive of non-response that are present in the entire file. We used an SPSS macro detailed in 'Goodbye, Listwise Deletion: Presenting Hot Deck Imputation as an Easy and Effective Tool for Handing Missing Data' (Myers, 2011).

Weight truncation ('trimming'): Weights were trimmed to prevent individual interviews from having too much influence on the final results. The Jewish and the Muslim respondent samples were truncated at the 2nd and 98th percentiles.

Effects of Sample Design on Statistical Inference[2]

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. SSRS calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or deff represents the loss in statistical efficiency that results from systematic non-response.

SSRS calculates the composite design effect for a sample of size *n*, with each case having a weight, w_i as:

$$deff = \frac{n \sum w_i^2}{(\sum w_i)^2}$$

In a wide range of situations, the adjusted *standard error* of a statistic should be calculated by multiplying the usual formula by the square root of the design effect (√*deff*). Thus, the formula for computing the 95% confidence interval around a percentage is:

$$\hat{p} \pm \left(\sqrt{deff} \times 1.96 \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} \right)$$

where p̂ is the sample estimate and *n* is the unweighted number of sample cases in the group being considered.

The survey's *margin of error* is the largest 95% confidence interval for any estimated proportion based on the total sample— the one around 50%. For example, the margin of error for the entire Jewish respondent sample is ±7.6 percentage points. This means that in 95 out every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than ±7.6 percentage points away from their true values in the population.

General Population

1. Total Probability of Selection Weighting

The study was 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

[2] Margins of error are typically calculated on probability-based samples and are not technically correct for non-probability online samples. We supply them here to provide a general assessment of error ranges that may be associated with the data.

and cellphones answered by respondents and their households, as well as the probability associated with the random selection of an individual household member.

(1) Probability of Selection (P_{phone}): 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.

(2) Probability of Respondent selection (P_{select}): 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), and for landlines, divided by the number of adults in the household. Thus, for each respondent a probability can be calculated for being reached via landline (LL_{prob}) and for being reached via cell phone ($Cell_{prob}$). These calculations are:

$$LL_{prob}=P_{phone}* /Pselect$$
$$Cell_{prob}=P_{phone}$$

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

$$1/(LL_{prob}+Cell_{prob}-LL_{prob}*Cell_{Prob})$$

Due to the introduction of internet-only respondents via the panel, additionally, the sample was balanced at 10.4% non-internet according to the American Community Survey (ACS) 2017 (Ruggles, 2017).

2. Post stratification weighting:

The second stage of the weighting balanced the demographic profile of the sample to target population parameters. To handle missing data among some of the demographic variables we employed a technique called hot decking. Hot deck imputation replaces the missing values of a respondent randomly with another similar respondent without missing data. These are further determined by variables predictive of non-response that are present in the entire file. We used an SPSS macro detailed in 'Goodbye, Listwise Deletion: Presenting Hot Deck Imputation as an Easy and Effective Tool for Handing Missing Data' (Myers, 2011).

Weighting was accomplished using SPSSINC RAKE, an SPSS extension module that simultaneously balances the distributions of all variables using the GENLOG procedure. The sample was balanced to match estimates derived from the 2018 Census Bureau's Current Population Survey (CPS) (Flood, 2018). 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 (Cellphone only, Dual frame, Landline only) (National Center for Health, 2018).

Weights were trimmed at the 2nd and 98th percentiles to prevent individual interviews from having too much influence on the final results. The use of these weights in statistical analysis ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the state population.

Effects of Sample Design on Statistical Analysis

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. SSRS calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or *deff* represents the loss in statistical efficiency that results from a disproportionate sample design and systematic non-response. The total sample design effect for this survey is 1.66.

SSRS calculates the composite design effect for a sample of size n, with each case having a weight, w as:

$$deff = \frac{n \sum w^2}{(\sum w)^2}$$

In a wide range of situations, the adjusted standard error of a statistic should be calculated by multiplying the usual formula by the square root of the design effect (√*deff*). Thus, the formula for computing the 95% confidence interval around an estimate is:

$$\hat{p} \pm \sqrt{deff} \times 1.96 \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$$

where p̂ is the sample estimate and n is the unweighted number of sample cases in the group being considered.

The survey's margin of error is the largest 95% confidence interval for any estimated proportion based on the total sample — the one around 50%. For example, the margin of error for the entire sample is ±3.6 percentage points. This means that in 95 out every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 3.6 percentage points away from their true values in the population. Margins of error for subgroups will be larger. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording, and reporting inaccuracy, may contribute additional error of greater or lesser magnitude.

eReferences

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