**Prepared by Sherry Xian, Ron Meyers, and Yasamin Miller**
**Survey Research Institute**

## Introduction

This report outlines the methodology used for the 2013 Cornell National Social Survey (CNSS), a general survey of continental United States residents that was managed and conducted by the Survey Research Institute (SRI). Since it was founded in 1996, the Survey Research Institute has grown into a premier survey research facility and now comprises more than 60 staff and 22 Computer-Assisted Telephone Interviewing (CATI) stations.

The CNSS is an omnibus national survey, initiated in 2008 by the Office of the Provost for the Social Sciences at Cornell University, with the objective of providing Cornell researchers the opportunities to:

- Test survey questions on a national sample.
- Collect survey data for inclusion in grant proposals, thus enhancing the likelihood of investigator's achievement of external funding.
- Enhance current and/or future research efforts.
- Measure trends over time.
- Have access to a national data set for use in classroom instruction.

The survey was conducted in two ways, the complete survey was conducted via phone interviews, and a subset of the questions was conducted online. The data consist of standard demographic variables in addition to questions submitted by researchers at Cornell University.  To get a copy of the codebook and data set please go to: sri.cornell.edu/sri/CNSS.cfm

## CNSS Omnibus Modules

The CNSS includes questions developed by Cornell University faculty and researchers who are interested in surveying continental United States residents on special topics. Unlike other surveys, in which researchers pay a nominal fee to include questions on the survey (see, for example, the Empire State Poll at www.sri.cornell.edu/sri/esp.introduction.cfm), participation in the CNSS is on a competitive basis and is free of charge.

Researchers at Cornell were encouraged to submit survey questions related to their research. Those who demonstrated that participation would supplement and enhance their research activities were given priority in the competitive review process.

The SRI Advisory Committee, comprising of social survey experts in a wide range of disciplines, reviewed all submitted proposals and made the final decision on the successful applicants. Their selection of modules for the 2013 CNSS includes:

- Non-alcoholic carbonated beverages
- Caregiving burdens
- Climate change policy
- Data privacy vs. accuracy
- Economic issues and mobility
- Health literacy and disaster planning
- Hunting and wildlife attitudes
- Hydrofracturing
- Medical treatment planning
- Perceived socio-economic position
- Political and ideological opinions
- Racial attitudes, religious belief, and presidential voting behavior
- Technology and purchasing behavior, privacy, and wellbeing

## Sampling Methodology

The CNSS telephone sample consisted of randomly selected households generated by random digit dial (RDD) sampling of all telephone exchanges within the continental United States and included both listed unlisted households and cell phones. Marketing Systems Group of Horsham, PA (a widely used full-service sampling company that provides samples to survey research organizations) supplied the sample, which excluded known business telephone numbers, disconnected numbers, and non-household numbers.

Selection of individual respondents came in two steps: a household was randomly selected and then a household member who was at least 18 years old was randomly selected using the "most recent birthday" selection method.[1]

[1] *O'Rourke, D., Blair, J., "Improving Random Respondent Selection in Telephone Surveys," Journal of Marketing Research, Vol. XX (November 1983), 428-32.*
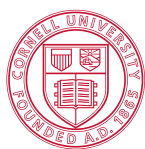
These selection procedures ensured that every household with a telephone had an equal chance of being included in the survey; and once a household was selected, each adult in the household had an equal chance of being chosen.

## CNSS Data Collection

Data collection commenced on August 7, 2013 and was completed on November 14, 2013. All interviews were conducted using a Computer-Assisted Telephone Interviewing (CATI) software system, with an average interview length of 24 minutes. The survey was administered in English only.

SRI survey interviewers are employed throughout the year. All interviewers undergo rigorous training by the SRI training staff and then complete four weeks of probationary interviewing and follow-up training. For each survey project, including CNSS, interviewers are given a survey-specific orientation in addition to training on the survey instrument.

All interviewing staff are monitored and supervised at all times by an SRI supervisory team. The SRI employs a computer-based proxy system that allows for audio and video monitoring of all interviewer stations. Supervisors regularly monitor interviewers to maintain data collection quality, provide immediate feedback, and troubleshoot issues as they arise.

SRI utilizes a Computer-Assisted Telephone Interviewing (CATI) system called CASES (Computer-Assisted Survey Execution System). CASES is developed, distributed and supported by the Computer-Assisted Survey Methods (CSM) Program at the University of California, Berkeley and commissioned by the U.S. Census Bureau. For more than 20 years, CASES has been one of the most widely used interviewing systems by survey centers in the United States. SRI employs programmers to support the CATI software and survey operations and to ensure data collection quality.

For the CNSS, the core demographic questions and the omnibus modules were administered to all respondents. Overall, the cooperation rate (which is often referred to as the response rate) was 63.3% and the American Association of Public Opinion Research definition (3) of response rate was 21.1%. Additional data are detailed in Table 1.

**Table 1** Final Telephone Sample Status for CNSS

|  | Total |
|---|---|
| Completed Survey | 1000 |
| Refusal | 428 |
| Active | 1640 |
| Physical/Language Problem | 211 |
| Ineligible/Not a Household | 262 |
|  |  |
| *Total* | *8260* |
| Response Rate[2] | 21% |
| Cooperation Rate[2] | 70% |

[2] *American Association for Public Opinion Research (AAPOR) response rate and cooperation rate calculations. The response rate is the total number of survey completions divided by the total eligible sample (total sample minus all ineligible, non-households, and estimated proportion of households where eligibility was not determined). Cooperation rate is the total number of survey completions divided by the number of potential interviews (this includes all instances where contact was made with a properly selected person, but not including those instances where the respondent was incapable of cooperating due to language or physical limitations).*

## Sampling Error

The sampling error for the CNSS assumes the traditional 95% confidence level, which is equivalent to a "significance level" of .05. This means that for questions with approximately 1000 respondents there is no more than a one in twenty chance that variations in the respondent sample will cause the CNSS results to deviate by more than 3.1 percentage points when respondents are asked yes/no questions and an even distribution of responses is assumed (i.e., 50% say "yes" and 50% say "no"). Furthermore, the sampling margin errors differ according to incentive status, such that there is a one in twenty chance of a sampling error greater than 5.2 percentage points for the sample offered an incentive, compared to 3.9 for respondents not offered an incentive (numbers not presented in Table 2).

Sampling error is determined by the assumed distribution of responses and by the size of the sample. An extreme distribution of question responses has a smaller error range. If the distribution of responses were 80/20, for example, the sampling error would be 2.5% for the total sample of 1000. See Table 2 for additional distributions and sampling error calculations. The size of the sample or subpopulation is also important because the margin of sampling error increases as the sample size decreases.

The margin of error from responses of demographically distinct subgroups within the CNSS will vary depending on the size of the group in question. Again, Table 2 provides some standard sampling errors for different size groups.
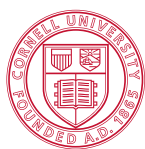
**Table 2** Sampling Error Margins by Question Response Distribution and Sample Size[3]

| | | Size of Sample (N) | | | | |
|---|---|---|---|---|---|---|
| | | 1000 | 800 | 600 | 400 | 200 |
| *Question Response Distribution (%)* | 50/50 | *3.1* | *3.5* | *4.0* | *4.9* | *6.9* |
| | 60/40 | *3.0* | *3.4* | *3.9* | *4.8* | *6.8* |
| | 70/30 | *2.8* | *3.2* | *3.7* | *4.5* | *6.4* |
| | 80/20 | *2.5* | *2.8* | *3.2* | *3.9* | *5.5* |
| | 90/10 | *1.9* | *2.1* | *2.4* | *2.9* | *4.2* |

[3] *Calculations made using the Survey System sample size calculator. http://www.surveysystem.com/sscalc.htm*

Lastly, besides the possible sample error mentioned above, all public opinion polls may incur other sources of error associated with telephone data collection procedures, including the sampling error from the systematic exclusion of households without telephones, question wording, question order, and interviewer-induced bias.

## Respondent Demographics

The accuracy of the CNSS can be evaluated by comparing selected characteristics of the survey respondents to data from the U.S. Census. Table 3 compares the distribution of all 1000 CNSS respondents' characteristics with the actual continental distributions as drawn from the 2010 census and the 2010 American Community Survey 3-year estimates of the U.S. Census and Bureau of Labor Statistics (BLS).

The CNSS ensures accurate reporting of race by allowing respondents to select multiple races. Consequently, the CNSS and U.S. Census/ACS[4] percentages in Table 3 will not sum to 100.

**Table 3** Key Respondent Demographics for CNSS (% reported)

| Characteristics | Telephone (N=1000) | US Census/ACS[4] |
|---|---|---|
| *Age* | | |
| 18-24 | 12 | 13 |
| 25-34 | 15 | 18 |
| 35-44 | 18 | 18 |
| 45-54 | 20 | 19 |
| 55-64 | 15 | 16 |
| 65 and older | 19 | 17 |
| *Gender* | | |
| Male | 50 | 49 |
| Female | 50 | 51 |
| *Race* | | |
| White | 84 | 72 |
| Black | 12 | 13 |
| Other | 8 | 15 |
| *Ethnicity* | | |
| Hispanic | 8 | 16 |
| Non-Hispanic | 92 | 83 |
| *Employment Status* | | |
| Employed | 64 | 59 |
| Unemployed | 16 | 6 |
| Not in labor force | 21 | 35 |
| *Annual Household Income* | | |
| Less than $10,000 | 3 | 7 |
| $10,000-49,999 | 35 | 41 |
| $50,000-99,999 | 35 | 31 |
| $100,000 or more | 27 | 21 |
| *Education (18 yrs+)* | | |
| Less than Bachelor's Degree | 57 | 72 |
| Bachelor's Degree or higher | 43 | 28 |

* Notes: Percentages are based upon un-weighted calculations that exclude non-responses.

[4] *Estimates made using the 2010 census and the 2010 American Community Survey 3-year estimates of the U.S. Census and Bureau of Labor Statistics. http://www.census.gov*

Cornell University
Survey Research Institute