Decision Research: National Risk Survey

Summary of Survey Methodology

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Introduction

Decision Research periodically conducts a nationwide risk perception survey. For their 1997/98 risk perception survey Decision Research contracted with the Oregon Survey Research Laboratory (OSRL) to conduct the field portion of the research. Working closely with Decision Research investigators, OSRL planned, pre-tested and implemented a telephone survey of 1,228 residents of the United States. This report summarizes the survey methodology.

Survey Methodology

Survey Instrument

The survey instrument was designed by Decision Research and pre-tested by OSRL, first on survey experts and then on a sample of the American population. Following pre-testing OSRL met with representatives of Decision Research and participated in revisions of the instrument. Some of the survey questions are direct parallels to those from previous Decision Research surveys, but most are Decision Research originals.

The survey instrument was programmed into OSRL's computer-aided telephone interviewing (CATI) system and further pre-tested. All interviews were completely anonymous, and human subjects approval was obtained.

Sample and Data Collection

Interviewer training was conducted on September 25, 1997. Interviewing begin on September 27, 1997 and was conducted from 7:00 AM until 9:00 PM, Monday through Saturday and from 9:00 AM until 9:00 PM on Sunday, until the target sample sizes of 1,200 was exceeded. Altogether, OSRL interviewers made 84,756 random-digit-dialed telephone calls to complete 1,228 interviews between September 25, 1997 and February 4, 1998. After completion of the survey a small number of respondents were removed from the data, primarily because interviewer notes indicated inability of the respondent to comprehend the interview, or because of important missing data. Up to 50 calls were made to each valid telephone number. Originally household randomization was used by the "last birthday" method. Because of the relative unwillingness of respondents to participate in the survey, Decision Research and OSRL agreed to drop household randomization on December 13, 1997. All American households, with telephones, had an equal chance of being selected. The net response rate was 43% and the refusal rate was 34%. The average length of the interviews was 35 minutes. See the enclosed sample report, disposition codes and response rate formulas.

The target sample of 1,200 respondents was designed to include as large a random sample of American households as possible, but also to include oversampling of Black, Hispanic, and Asian households. The goal was that the final sample would include 200 Black households, 200 Asian households, and 100 Asian households, in addition to all other households. In order to accomplish this OSRL started with a general population sample of 3,888 randomly generated telephone numbers covering the entire United States. Later a second general sample of 700 telephone numbers was added. From these general samples a number of Black, Hispanic and Asian interviews were conducted. The response rate from the general sample was 49% and the refusal rate was 35%. See the enclosed response rate report for the general sample.

However, in order to reach the ethnic oversample target quotas, it was necessary to add samples designed to included a disproportional number of each ethnic population targeted.

On November 14, 1997 1,600 pieces of sample were randomly generated using telephone exchanges in census tracts with incidents of Hispanic population over 80%. This oversample covered 12.7% of the Hispanic population of the United States. From the Hispanic oversample an additional 118 respondents were interviewed, to complement the Hispanic respondents interviewed from the general population samples. Out of all Hispanic interviews 70 were conducted in Spanish and 8 using Spanish mixed with English. A literal Spanish translation was created for these interviews and all Spanish speaking interviewers meet with a Decision Research representative prior to the start of the survey to insure that the translation was a accurate representation of the survey questions. The response rate for the Hispanic oversampling was 54% and the refusal rate was 29%. See the enclosed Hispanic response rate report.

On November 14, 1997 1,600 pieces of sample were randomly generated using telephone exchanges in census tracts with incidents of Black population over 80%. This oversample

covered 12.6% of the Black population of the United States. From the Black oversample an additional 139 respondents were interviewed, to complement the Black respondents interviewed from the general population samples. The response rate for the Black oversampling was 42% and the refusal rate was 40%. See the enclosed Black response rate report.

On November 6, 1997 540 pieces of sample were randomly generated using telephone exchanges in census tracts with incidents of Asian population over 75%. This oversample covered 14.0% of the Asian population of the United States. On January 7, 1998 700 pieces of sample were added from Genesys Sampling System, Inc. The sample from Genesys was randomly generated by last name from all American telephone exchanges and had a purported incidence of 90%. One hundred and seven Asian respondents were interviewed from the Asian oversamples. The response rate for the Asian oversampling was 33% and the refusal rate was 46%. See the enclosed Asian response rate report.

Sampling Error

Survey sampling errors are calculated to assist data users in assessing how much confidence to place in a particular survey result. Large random samples, as in this study, reduce sampling error. Results for survey questions in which there is low variability also have less sampling error; for example, a variable with a 50/50 proportional split has wider confidence intervals than a variable with a 5/95 proportional split. For this study the general population sample resulted in 864 completed interviews. The sampling error, when the general population sample is used, is $\pm$3.3 percentage points on a variable with a 50/50 proportional split (at the 95% confidence level). For a variable with a 5/95 proportional split, the sampling error is $\pm$1.5 percentage points.

Because of the smaller number of ethnic target respondents the sampling errors are larger for those populations. The sampling error, when the Hispanic or Black population sample is used, is $\pm$6.9 percentage points on a variable with a 50/50 proportional split (at the 95% confidence level). For a variable with a 5/95 proportional split, the sampling error for the Black or Hispanic population is $\pm$3.0 percentage points. The sampling error, when the Asian population sample is used, is $\pm$9.8 percentage points on a variable with a 50/50 proportional split (at the 95% confidence level). For a variable with a 5/95 proportional split, the sampling error for the Asian population is $\pm$4.3 percentage points.

Weighting

Because the ethnic oversampling creates a final sample that has a disproportionate number of the ethnic target respondents, it was necessary to create weights in order to normalize the final sample back to the United States population. Working with Decision Research, OSRL created weights utilizing United States Census data and current Census estimations as a baseline. Three weights were created: 1) WTRACE weights oversamples back to their respective proportion in the U.S. population as a whole; 2) WTSEX2 weights

race/ethnic groups to their male-female proportion within each group; 3) WTRBSY2 combines the first two weights and is used when analyzing data for the U.S. population as a whole, by gender only, and by whites vs. nonwhites. Weighting the ethnic groups back to their respective proportion in the U.S. population as a whole, results in a weighted sample size of 861. The sampling error for this weighted sample would be identical to the sampling error for the general population sample described above.