

INTRODUCTION

This report provides an overview of procedures used by Bardsley & Neidhart Inc. to administer the 2000 Population Survey for the Oregon State Population Survey Task Force. Bardsley & Neidhart Inc. is an impartial research and consulting firm based in Portland, Oregon.

The main objective of the project was to compile a base of current demographic and socioeconomic information to assist the Demographic Task Force in accurately assessing the social and economic population characteristics of Oregonians.

Three surveys were conducted:

- A base survey, in which all households in Oregon with telephones had an equal chance of being included;
- An ethnic extension, which consisted of the same questionnaire as the base survey, but only included members of specific racial and ethnic groups; and
- A supplemental survey, in which a portion of the base survey respondents were recontacted to complete an additional survey.

SCOPE OF WORK

Questionnaire Design

Questionnaire design was a joint effort between the Task Force and Bardsley & Neidhart Inc. Every attempt was made to keep questions consistent with those asked in previous Population Surveys, and with the upcoming 2000 Census. Wherever possible, the same questions and answer categories were used to assure comparability. However, some modifications were made in an effort to improve upon the accuracy of survey results.

The base and supplemental questionnaires were pre-tested in all sectors of the state. Results of the pre-tests were reviewed with the Task Force and questionnaire revisions were made as needed. Copies of the final questionnaires are located in the Appendix.

Survey Administration

All facets of the project were conducted in-house by Bardsley & Neidhart Inc. Interviewing was completed using our CATI (Computer Assisted Telephone Interviewing) system, which allows for a great degree of quality control and minimizes data entry error.

All questions, coding and skip logic were programmed into the CATI system and pretested before fielding began. The CATI system prevents input of any data beyond the coded bounds and allows for constant testing for inconsistencies in the data. Continuous monitoring by trained supervisors ensured that all surveys were completed completely and correctly.

Sampling Plan

In the base survey, a total of 3,633 Oregon households were interviewed. A target of at least 400 interviews was created in each of nine regions. The number of interviews per county was determined by ascertaining the proportion of that county's population as compared to the population of the entire region. All Oregon counties are included in the sample and were grouped into the following regions:

- Region 1: Clackamas, Multnomah, Washington
- Region 2: Clatsop, Columbia, Tillamook
- Region 3: Marion, Polk, Yamhill
- Region 4: Benton, Lane, Lincoln, Linn
- Region 5: Coos, Curry, Douglas, Jackson, Josephine
- Region 6: Gilliam, Hood River, Sherman, Wasco, Wheeler
- Region 7: Crook, Deschutes, Jefferson
- Region 8: Klamath, Lake
- Region 9: Baker, Grant, Harney, Malheur, Morrow, Umatilla, Union, Wallowa

Additionally, sample extensions were conducted to increase sample sizes for members of four ethnic/racial groups: African-Americans, Asian-Americans, Native Americans and Hispanics.

For the supplemental survey, 800 interviews were conducted with base survey respondents who agreed to participate in a follow-up study. Sample quotas were proportional, by county, within the group of respondents who agreed to be recontacted for the supplemental survey. Again, all counties in Oregon were included in the sample.

Sampling Variability

Every survey is subject to ranges of variability, which refers to the chance variation that can occur when a sample is employed, rather than a census (the entire population). This variability is known as “standard error” and is the difference between sample findings and those which would accrue from a 100% enumeration of each universe using the same questionnaire and research procedures.

The sample provides a maximum sampling variability of $\pm 1.6\%$ at the 95% confidence level for statewide sample, and at most $\pm 4.9\%$ in each of the eight regions. Ranges of sampling variability are presented below for various sample sizes, computed at the 95% confidence level. These are maximum ranges, and most findings tend to cluster closer to the actual figures as they exist in the universe.

Standard Error Ranges

Percentages Close to:	Plus/Minus Range Variation		
	Regions (400)	Statewide (3,633)	Supplemental (800)
5% or 95%	$\pm 2.1\%$	$\pm 0.7\%$	$\pm 1.5\%$
15% or 85%	$\pm 3.5\%$	$\pm 1.2\%$	$\pm 2.5\%$
25% or 75%	$\pm 4.2\%$	$\pm 1.4\%$	$\pm 3.0\%$
35% or 65%	$\pm 4.7\%$	$\pm 1.6\%$	$\pm 3.3\%$
45% or 55%	$\pm 4.9\%$	$\pm 1.6\%$	$\pm 3.4\%$
50%	$\pm 4.9\%$	$\pm 1.6\%$	$\pm 3.5\%$

Example: Statewide, eighty-eight percent of respondents are covered by some type of health insurance. Chances are 19 out of 20 that this figure (88%) is within $\pm 1.2\%$ of the result which would accrue from a complete census of adult Oregonians.

Example: In Region 2 (sample size of 412), ninety-three percent of respondents are covered by some type of health insurance. Chances are 19 out of 20 that this figure (93%) is within $\pm 2.1\%$ of the result which would accrue from a complete census of adults in Region 2.

Respondent Selection

The statewide sample was derived using a random digit sample purchased from Strategic Sampling Inc. This method ensures that the sample is representative of

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the entire “telephone household” population, including those with new and unlisted numbers, not just those who are listed in telephone directories.

Data was collected from our in-house telephone facility in Portland. All phases of the interviewing process were closely supervised and monitored to assure strict adherence to quality control standards and sample quotas. Interviewing was conducted at times when adult Oregonians are most likely to be at home, 4:00 p.m. to 9:00 p.m. on weekdays, 10:00 a.m. to 6:00 p.m. on Saturdays and 12:00 p.m. to 6:00 p.m. on Sundays.

In the base survey, Interviewers followed a rigid system of respondent selection which targeted the member of the household with the most recent birthday. This method is widely accepted in the research community as a method of respondent selection which minimizes selection bias.

Sample for the supplemental survey consisted of base survey respondents who agreed to be recontacted for a survey later in the summer.

Call Backs

In each survey, interviewers attempted at least three times to reach the targeted respondent. If contact with a targeted respondent was not made on the initial call, interviewers made at least two callbacks. Each interviewing day was broken into two shifts--early and late--and only one call to a respondent was made in a single shift. This scheme minimizes non-response error by insuring that contacts are made on different days and at different times of the day.

Data Processing

In this phase, we modified the code book from 1998, coded the responses and cleaned the data.

Data in the tables have been weighted to cast their proper representation in the universe. Weighting schemes have also been implemented to adjust for the under-representation of single-person households, which is common with telephone surveys. Additionally, weighting has been applied to correctly apply the proportions by regional population, racial groups, ethnic groups and age groups (<65 years old and 65+ years old) in the statewide population.

The Task Force reviewed and approved the data sets and the weighting scheme before they were presented in their final form. A description of the weighting scheme is in the Appendix.

In addition, certain commonly used household-level variables, such as income and poverty, were imputed to all members of the household to allow for person-level analysis of these factors. With these exceptions, no imputation of data was performed.

We provided the raw data to the Task Force in SPSS format.

SURVEY LIMITATIONS

It is important to remember that this is a household survey and does not include a representative sample of those in institutions, dormitories or other group living facilities.

The use of a telephone survey also presents limitations. Collecting data over the telephone excludes those that do not have a working telephone in their home and tends to over-represent the elderly population.

FOR FURTHER INFORMATION

We hope that this provides you with an overview of the 2000 Oregon Demographic Survey conducted by Bardsley & Neidhart Inc. Please feel free to call Phil Crawford or Chuck Sigmund (503-248-9058) with questions about sampling, data collection and presentation of results.

DESCRIPTION OF INTERVIEWING PROCESS

All interviewers attended a two-and-a-half hour training session designed to familiarize them with the project and the questionnaire. Included in the training was a thorough explanation of the survey instrument and related instructions, a mock interview, a group discussion of anticipated difficult scenarios and general questions. Standard Bardsley & Neidhart interviewing procedures and expectations were reviewed, emphasizing the importance of reading all questions completely and verbatim, clarifying responses and recording responses thoroughly, and techniques to minimize refusals on the survey in general and/or on specific questions.

A maximum of 15 interviewers were scheduled per shift. The Field Director and four Supervisors and Monitors were also assigned to each shift. The Field Director was responsible for the overall operation of the phone room: ascertaining that all equipment was functional, scheduling work hours, controlling the paperwork for the project overall and seeing that the data collection process proceeded smoothly.

The Supervisors answered specific questions for interviewers (and occasionally for respondents), maintained the sample and assigned it with regard to filling specified quotas, and managed the paperwork for each shift.

The Monitors assisted interviewers by listening to their calls and providing feedback on their performance in order to maintain the highest possible level of quality and consistency. In addition, Monitors verified a minimum of 10% of calls as interviews were conducted.

Periodic data cleaning was performed to determine that the highest quality information was being collected. Each interview was inspected and if clarification was necessary, the survey was returned for a call-back. Specially trained interviewers were designated to handle clarification call-backs.

At the beginning of each shift, general feedback from the previous day's work was given to the interviewers by the supervisory staff. Specific instructions were reiterated, and questions or problems from the group were addressed.

Sample Selection

In order to assure a representative number of male and female respondents in various age groups, interviewers were instructed to speak with the head of household who had the most recent birthday. A minimum of three attempts were made to reach the appropriate respondent at each phone number. The county of residence was verified to ensure proper representation by region. For the original

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statewide survey, interviewers were provided with sample drawn at random from the Random Digit Dialing pool which consisted of a telephone number and a county code.

DESCRIPTION OF DATA PROCESSING

Coding

Coding was completed by a specially trained Bardsley & Neidhart staff member with close supervision and verification completed by the Project Leader. To the extent possible, the codes used were the same as those used in 1998 to provide compatibility between data sets. All the codes used in the study are included in the questionnaire located in this Appendix.

Data Cleaning

Need for data cleaning and verification was minimized due to the use of our CATI system for interviewing. However, extensive checks on ranges, rules, skip patterns and cleaning parameters were used to check the veracity of the data. Skip patterns were double-checked through frequencies and rules, as were the data ranges for each variable. The Task Force also reviewed and approved the data files.

Creating Tables

All data processing, including creation of data tables and merging of data to create the data files, was completed using SPSS for Windows. Several Bardsley & Neidhart staff members with extensive data processing experience created and proofed the tables thoroughly before they were finalized.

Weighting

Bardsley & Neidhart applied weights based on 2000 Census figures. A very brief description of the weighting is given below.

Sampling weights for the 2000 Oregon Population Survey incorporate adjustments for geography, age, race/ethnicity and household size. These post-stratification adjustments are made to account for potential sampling error during the data collection process and to adjust for oversampling that took place.

Weighting for the *Respondents Only* data file was based on household population figures, while weighting for the *All Oregonians* data file was based on actual population figures. Both sets of figures were derived from the 2000 US Census.

The end result is a set of combinatorial weights within each of 9 geographic regions that are created by the various groupings of single vs. multi-person households, age (65 vs. 65+) and race/ethnicity (White Hispanic, White Non-Hispanic, Non-Hispanic African American, Non-Hispanic Asian/Pacific Islander, Non-Hispanic American Indian and Multiple Race/Other). In the *All Oregonians*

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data file, additional adjustments were made to correct for proper gender and age representation compared to the 2000 US Census.

Sampling weights are calculated as the ratio of the proportion of people with the specific characteristics of interest in the state (P) to the number of interviews completed with people with these characteristics (p) or (P/p) .