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Partnership and Marketing Program Evaluation

FINAL REPORT

This evaluation reports the results of research and analysis undertaken by the U.S. Census Bureau. It is part of a broad program, the Census 2000 Testing, Experimentation, and Evaluation (TXE) Program, designed to assess Census 2000 and to inform 2010 Census planning. Findings from the Census 2000 TXE Program reports are integrated into topic reports that provide context and background for broader interpretation of results.

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EXECUTIVE SUMMARY

As part of Census 2000, the Census Bureau is conducting a comprehensive program of evaluations designed to measure how well its programs, operations, and procedures performed. This report is about the evaluation of the Census 2000 Partnership and Marketing Program (PMP). The Census Bureau contracted with the National Opinion Research Center to evaluate whether the program actually (1) increased the public's awareness of the census, and (2) increased mailback response rates, especially among historically undercounted populations.

To perform its task, the National Opinion Research Center implemented a before, during, and after research design with three waves of interviewing. Wave 1 occurred in Fall 1999 before the launch of the education phase of the advertising program and before most partnership activities had commenced; Wave 2 took place in Winter 2000 before the mail-out of census forms, but after much of the motivation phase of the ad campaign; and Wave 3 interviewing began in Spring 2000 following Census Day and continued into June during the census nonresponse followup operations. The wave-to-wave trends from this design may be used to study the growth in awareness of Census 2000, the growth in intended participation, and their correlates.

Across the three waves of data collection, the National Opinion Research Center completed just under 10,000 interviews of American households. The surveys sought to interview the person in the household who opens the mail or the one most likely to open and answer the census form.

The research design incorporates representative samples of several race/ethnicity populations, including Hispanics, non-Hispanic Blacks, non-Hispanic Whites, Asians, American Indians, and Native Hawaiians. It enables separate analysis and conclusions about the effectiveness of the Census 2000 Partnership and Marketing Program for the aforementioned race/ethnicity populations as well as for the total population.

The design also incorporates an exact match of the survey responses to the actual census returns for the households interviewed in Waves 2 and 3. From these data, we are able to determine which households actually returned the census form by mail, while from the survey questions themselves, we are only able to determine which households said they would or said they did.

The evaluation study addresses and answers a number of critical questions about the Census 2000 Partnership and Marketing Program.

1. *How effective was the Census 2000 Partnership and Marketing Program, as a whole, in increasing general awareness about the Census? Among hard-to-enumerate populations? How effective were mass-media and community-based communications in increasing general awareness about the Census? Among hard-to-enumerate populations?*

Overall awareness of communications about Census 2000 increased significantly over time. It was greater after the Census 2000 Partnership and Marketing Program than before the onset of the program.

Awareness of communications about Census 2000 increased for all six of the race/ethnicity populations that we studied separately, including historically hard-to-enumerate populations such as Hispanics, non-Hispanic Blacks, and American Indians. It appears that the program was effective for all targeted populations in stimulating awareness.

The effects of census marketing and partnership activities are confounded with one another. As such, it was impossible for the Census 2000 Partnership and Marketing Program Evaluation to measure their effects separately. The study did examine, however, the public's recall of eighteen sources of census communications, e.g., television and census information from religious organizations, each of which exhibits a combination of advertising and partnership influences. To strengthen the analysis, we combined the eighteen sources into two composite measures: mass-media and community-based communications.

In our analysis, mass-media communications included television, magazine, radio, newspaper, and billboard ads. Community-based communications included religious groups, community or government organizations, informal conversations, schools you attended, schools your children attended, census job announcements, conference exhibit booths, signs inside buildings, speeches, articles, the Internet, paycheck or utility bill and participation on a complete count committee.¹ We found significant evidence that awareness of both types of communications was greater after the Census 2000 Partnership and Marketing Program than before the onset of the program.

Most of the targeted race/ethnicity populations recalled most of the components of mass-media communications. Five populations – Hispanics, non-Hispanic Blacks, non-Hispanic Whites, Asians, and Native Hawaiians – exhibit significant positive trends for television, radio, newspapers, and billboard ads, while trends for magazines are occasionally not significant. American Indians display trends in census awareness similar to those of the other race/ethnicity populations. However, some of the trends from Wave 2 to 3 are not significant, perhaps because of higher sampling variability (than for the other targeted populations). For most populations, recall of television is at a higher level with a stronger positive trend than recall of other mass-media sources.

Most race/ethnicity populations display significant positive trends in awareness due to community-based communications. Among the components, informal conversations, census job announcements, and signs or posters inside buildings, tend to generate the highest levels of recall. Among sources of community-based communications, our data do not display strong positive trends in awareness due to the Internet, paycheck or utility bill, and conference exhibit booths.

We find a significant difference between English- and other-language-speaking Asians in regards to awareness of census communications. In each wave of the evaluation survey, the English speakers reported higher mean general awareness of census communications than did other-

¹ Participation on complete count committees was included as an activity on the survey questionnaire for purposes of completeness but the actual purpose of the complete count committees was to serve as planning groups. Not all planning groups referred to themselves as complete count committees, so this data should not be used to interpret the effectiveness of the Census 2000 Partnership and Marketing Program on encouraging participation on complete count committees.

language speakers. For other race/ethnicity populations, there is a broad, but not statistically significant, pattern of lower estimated awareness in the non-English-speaking populations.

2. How effective was mass-media in positively changing attitudes/beliefs about the Census among the general public? How effective were community-based communications in positively changing attitudes/beliefs about the Census among the general public? Among the hard-to-enumerate populations?

The research examined a variety of beliefs that people might hold relevant to participating in the census. An example was the survey item "Filling out the census will let the government know what my community needs." Confidence in the conclusion that the Census 2000 Partnership and Marketing Program was successful is enhanced if changes in these beliefs are observed that are consistent with the trends in awareness of census communications and intentions to return the census form. This was the case for most targeted populations. Only the American Indian population showed no change in their beliefs from before to after the onset of the program. We found evidence of some significant associations between census awareness and various (positive) census beliefs, signifying that the Census 2000 Partnership and Marketing Program reached people and positively shifted attitudes. We also found a significant association between self-reported participation and the belief that census "lets government know what my community needs." However, there is little evidence that census beliefs shifted after census day.

3. What impact did the Census 2000 Partnership and Marketing Program, as a whole, have on the likelihood of returning a Census form? Specifically, what was the impact of mass-media? Of community-based communications?

Four race/ethnicity populations indicated that they were more likely to return the census form (increased mean intended participation) after the Census 2000 Partnership and Marketing Program than before its onset. The groups whose intentions grew more positive were non-Hispanic Blacks, non-Hispanic Whites, Asians, and Native Hawaiians. We were not able to demonstrate from our data that the Hispanic and American Indian populations intended to return the census form any more after the Census 2000 Partnership and Marketing Program than before it. The evidence suggests, however, that intentions to return the census form increased for English-speaking American Indians.

Higher awareness of communications about Census 2000 correlates with a greater likelihood or intention of returning the census form for five of the targeted populations, including Hispanics, non-Hispanic Blacks, non-Hispanic Whites, Asians, and Native Hawaiians. Hispanics show this effect even though their mean intended participation did not increase from before to after the Census 2000 Partnership and Marketing Program, suggesting that the program had less impact on them. For non-Hispanic Blacks, non-Hispanic Whites, Asians, and Native Hawaiians, it appears that people in these groups became more aware of census communications and that this awareness was linked to intentions to return the census form. We were not able to demonstrate these effects for the American Indian population. Yet there may have been real, favorable effects for American Indians that we were not able to discover because of larger sampling variability.

The Census 2000 Partnership and Marketing Program achieved mixed success in favorably impacting actual participation in the census. Through cross-sectional, logistic regression models, we find that the Wave 2 and 3 data are consistent with the hypothesis that mass media and community-based communications had no effect on the odds of mail return for the Asian, American Indian, and Native Hawaiian populations. Further, we find differential communications effects by language spoken at home, age, and race/ethnicity. The data support a conclusion that census communications were less effective for the other-languages population than for the English population, and less effective for younger adults than for older adults. Census communications were equally effective for the Spanish- and English-speaking populations. Community-based communications were more effective in reaching non-Hispanic Blacks than non-Hispanic Whites.

4. *Were differences in awareness, knowledge, and attitudes before and after the Census 2000 campaign significantly different from those measured before and after the 1990 campaign (which had no paid advertising)?*

The Census Bureau developed and implemented an Outreach Evaluation Survey at the time of the 1990 Census with objectives similar to those of the Census 2000 Partnership and Marketing Program Evaluation. Yet it is nearly impossible to make exact comparisons between the two studies, because of various non-comparabilities. In approximate terms, awareness of the impending Census 2000 started at a relatively low level at Wave 1, a point in time for which there is no corresponding data from the 1990 Outreach Evaluation Survey. By mid-winter before Census Day, awareness in 2000 seems to eclipse awareness of the impending 1990 Census. Furthermore, in terms of mean number of sources of information cited by respondents, the Census 2000 Partnership and Marketing Program Evaluation reflects higher levels following census day than does the 1990 Outreach Evaluation Survey at the same point in time. Interestingly, the percent who heard recently about the census is lower following Census Day in 2000 than in 1990, perhaps reflecting literal reporting by Census 2000 Partnership and Marketing Program Evaluation respondents or differences in timing of being in the field.

According to our data, attitudes towards census confidentiality declined at the close of the 20th Century. Favorable attitudes started at a low level prior to Census 2000 and never recovered to the levels reported in 1990. On the other hand, respondents' views of the importance of participating in the census remained quite stable: both censuses exhibited similarly favorable attitudes, and neither displayed a trend from wave to wave within the census period. Finally, the Census 2000 Partnership and Marketing Program seems to have achieved greater success than comparable efforts in 1990 to create a favorable attitude that the census cannot be used against you.

5. *Was awareness or intended participation influenced by census controversies or by other special events of census publicity?*

Evidence about such questions is quite limited due to sampling variability and possibly other factors. What evidence we have suggests no substantial intervention in awareness or intended participation due to census controversies or other special events, such as the controversy arising from the census advance letter.

In light of these findings, we humbly offer the following recommendations for consideration by those planning the 2010 Census.

- R1. The Census 2000 Partnership and Marketing Program was generally successful in promoting awareness and intent to participate in the census. Even though the program had a limited and mixed impact on peoples' actual behavior, we recommend this program of mass-media and community-based communications be repeated in general form, content, and intensity for Census 2010. Some minor adjustments to the program, as follows, may achieve superior results.
- R2. The Census 2000 Partnership and Marketing Program demonstrated that, in general, mass-media and community-based communications did reach people. However, some sources of census communications were more effective than others. As Census 2010 approaches, the Census Bureau should evaluate the then current communications channels in America, with an eye towards optimizing the allocation of Census 2000 Partnership and Marketing Program resources among the various channels. In particular, the Census Bureau should reevaluate use of the Internet, magazines, conference exhibit booths, and paycheck or utility bill inserts. The first in this list of channels may be increasing in importance, while remaining channels may be decreasing in importance. Other channels, such as television, radio, and schools you attend will probably continue to be as important in 2010, as they were in 2000. Furthermore, the Census Bureau should examine opportunities to tailor census messages to the source of communications.
- R3. Awareness of census communications may have declined slightly after Census Day 2000. The Census Bureau should conduct additional study of this matter, to confirm its validity and consequences. The end purpose of the study should be to determine whether a stronger post-Census-Day communications program would have achieved favorable results at an acceptable price.
- R4. As Census 2010 approaches, the Census Bureau should reevaluate what promotional messages resonate best with the American population overall, and with targeted race/ethnicity populations. Based on the 2000 experience, a traditional message -- census confidentiality can be trusted -- seems to be declining in effectiveness. Meanwhile, two newer messages

- Answers cannot be used against you
- Lets government know what my community needs

appear to be increasing in effectiveness. Use of the right messages will optimize the effectiveness of the 2010 Census Partnership and Marketing Program. In view of the demonstrated sophistication of the Census 2000 Partnership and Marketing Program, the Census Bureau should go on to explore use of even more subtle beliefs for Census 2010.

- R5. Mass-media and community-based communications effectively reached the Black community during Census 2000, and communications changed census beliefs. For this population, the 2010 Census Partnership and Marketing Program should build on the success of the Census 2000 Partnership and Marketing Program.
- R6. For Census 2010, the Census Bureau should reevaluate the communications approach for the Hispanic, Native Hawaiian and especially the American Indian populations. The Census 2000 Partnership and Marketing Program changed census awareness for these populations, but there is little or no significant evidence that it impacted intent to participate. For American Indians, mean census beliefs were unchanged from before the onset of the Census 2000 Partnership and Marketing Program through Census Day. To better reach these populations, the Census Bureau may develop new communications messages, deliver more frequent messages at the time of the census, or communicate on more of an ongoing basis throughout the decade. The Census Bureau may identify beliefs that are truly critical to peoples' behavior in these communities, and formulate communications messages accordingly. The reevaluation should consider the design and outcomes of the Census 2000 Partnership and Marketing Program and whether further refinements would be successful.
- R7. English-speaking Asians changed census beliefs as a result of the Census 2000 Partnership and Marketing Program, but non-English-speaking Asians apparently did not. For 2010, the Census Bureau should develop and implement communications channels and messages that get through to this population.
- R8. The Census 2000 Partnership and Marketing Program cost money, and the current evaluation study demonstrated only a limited linkage between the Census 2000 Partnership and Marketing Program effort and improvements in actual mail return behavior. During early stages of planning for Census 2010, the Census Bureau should conduct a formal cost-benefit analysis, attempting to demonstrate the tradeoffs between increased expenditures on Census 2000 Partnership and Marketing Program activities and reduced followup costs. The analysis may be used as one small part of the base of information the Census Bureau uses to justify its plan for Census 2010. If evaluation of the 2010 Partnership and Marketing Program is undertaken, in light of 2000 experiences, then it would be desirable to develop some specific hypotheses that can be tested directly.
- R9. Ultimately, once congressional appropriations have been finalized, during late stages of planning for Census 2010, there will be a fixed amount of money to support Census 2000 Partnership and Marketing Program activities. The Census Bureau will be faced with the daunting task of allocating this fixed pie among the many worthy components of the program. In making this allocation, the Census Bureau should continue to be guided by the twin goals of (1) increasing the overall mail return rate and (2) reducing the differential undercount, weighted by size, of historically undercounted populations.
- R10. Future research should use an experimental design to measure the effectiveness and benefit of a partnership and marketing program

1. BACKGROUND

The Census Bureau implemented a five-pronged, integrated marketing strategy to promote Census 2000. The five components were

- *The paid advertising campaign* generated awareness, educated people about Census 2000, and encouraged individuals to return their Census 2000 forms;
- *The Partnership Program* encouraged mail response by those people who were not persuaded by direct mail, advertising, or other promotion methods;
- *The Promotions and Special Events component* included exciting, fun, and educational activities, sponsored by the Census Bureau, in communities and schools, particularly in areas with historically undercounted populations;
- *The media relations component* ensured that electronic and print media reinforced the Census 2000 messages generated by community events, endorsements from partners, advertisements, the Census in Schools project, and other promotional events; and
- *The Direct Mail Pieces component* communicated several specific key pieces of information: expect a form in the mail (communicated in the advance letter), the law mandates response (communicated on the envelope and cover letter of the mailing package), and the law mandates that the Census Bureau keep census data confidential (in the cover letter of the mailing packages).

In this report, we describe a recently conducted evaluation of the first two of these components, known collectively as the Partnership and Marketing Program (PMP).

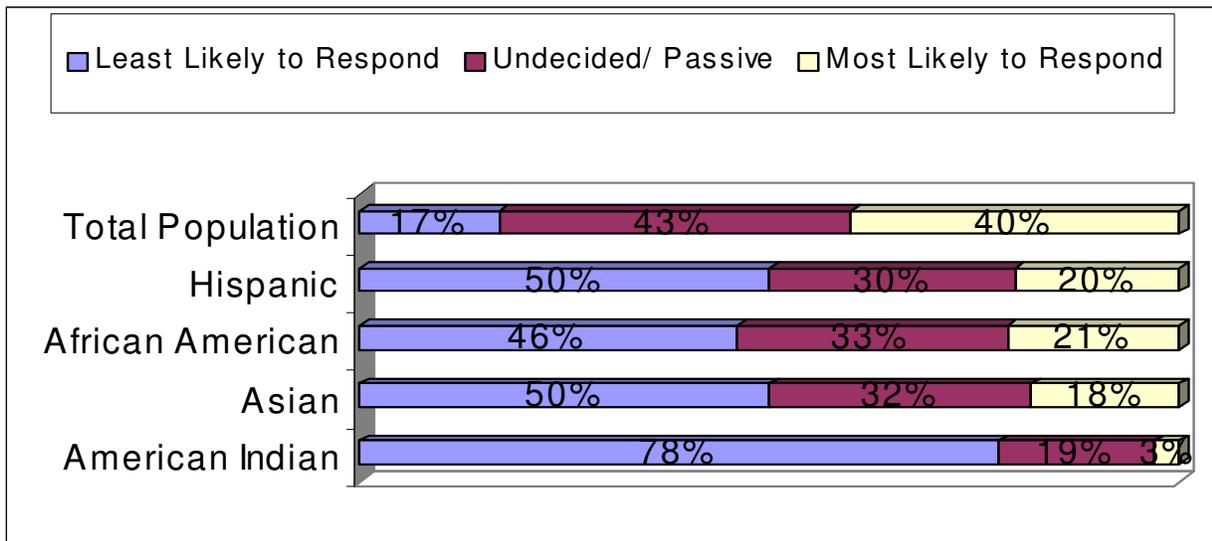
The advertising firm of Young and Rubicam, Inc. (Y&R), under contract to the Census Bureau, developed a persuasive paid advertising campaign designed to stimulate mail response to Census 2000. Y&R delivered its campaign in three general phases: (1) an education phase done in late Fall 1999, (2) a motivation phase done in Winter 2000 prior to the mailout of census forms, (3) and a nonresponse followup phase done following census day and designed to encourage nonresponders -- both in the general population and in targeted subpopulations -- to participate in the census.

The goals of Y&R's advertising campaign were to increase awareness of the census; to increase knowledge of the census; and ultimately to shift attitudes toward the census so as to achieve a mailback response of greater than 61 percent and increased receptivity to partnership efforts. The basic premise of the advertising program was the hypothesis that people who are more involved in their communities or who participate in civic activities are more likely to respond to the census than others who do not. Starting from this hypothesis, Y&R conducted analysis and determined a partition of the total population with three basic groups or segments. They classified people at the high end of the spectrum (five or more civic activities) as *most likely to respond* to the census, and people at the low end (zero civic activities) as *least likely to respond*. Y&R labeled the middle segment (people with one to four civic activities) as *undecided/passive*.

The paid advertising campaign targeted the "Diverse America" audience, among others. Diverse America refers to the audience that consumes English-language media. It cuts across all race/ethnicity populations.

Figure 1 presents the Y&R likelihood spectrum developed for the Diverse America audience that resulted from this segmentation analysis. This likelihood spectrum became the central organizing principle for the paid advertising campaign. Note that historically difficult to count groups, such as Hispanics and African Americans, are disproportionately represented in Y&R's least-likely-to-respond segment.

Figure 1: Depiction of the Y&R Diverse America likelihood spectrum: percent of population



One of the great challenges of the PMP was to attempt to reach the entire census “market”, namely the entire US population. To address this challenge, Y&R developed an approximate demographic profile of the people in each segment of the census “market”. They found that those most likely to respond tend to be age 35 +, college educated, white collar, household income greater than or equal to \$50,000, married with children, and to own their housing unit. Undecided/passive tend to be age 18-34, high-school diploma or less, blue collar, low to average household income, married/single/divorced with children, and to rent their housing unit. Finally, the least likely to respond tend to be age 18-34, less than high-school diploma, blue collar, low household income, single/divorced/widowed, and to rent their housing unit.

The likelihood spectrum also profiled the three segments of the population by attitudes towards the census and by the role of advertising. Table 1 summarizes this information for the Diverse America audience. At the high end, advertising should simply reinforce the presumed positive propensity to mailback the census form. While at the low end, it must overcome fear, pave the way for partnership efforts, educate people about the census, and change negative beliefs.

Table 1: Diverse America likelihood spectrum: attitudes and role of advertising by segment

	Least Likely to Respond	Undecided/Passive	Most Likely to Respond
Attitudes Towards Census	Fear Distrust Completely unaware	Apathetic Not very familiar	Familiar Intend to participate
Role of Advertising	Lower resistance to pave way for community programs Motivate Educate Remind	Provide information Provide reason to complete Motivate Educate Remind	Reinforce positive behavior Instill sense of urgency Motivate Remind

Y&R developed an approach to advertising with specific actions targeted at the specific segments. For the most-likely-to-respond segment, their approach called for extensive use of the national media. They supplemented the national media plan with additional select national media for the undecided/passive group, including Sunday and late-night programming. For the least-likely-to-respond segment, they planned a further additional overlay, including daytime TV and out-of-home sources. They created these plans by race/ethnicity.²

Y&R also organized their approach into the three discreet time phases mentioned earlier. Table 2 gives a brief summary of the advertising plan by phase.

Table 2: General advertising plans by phase*

	Education phase	Motivation phase	Nonresponse followup phase
Vehicles	Print Radio Television	Print Radio Television Out of home	Radio Television
Time Period	November 1 to January 30	February 28 to April 9	April 17 to May 14
Activity Weeks	Broadcast: 9 weeks Print: 2 months	Broadcast: 6 weeks Print: 2 months Out of home: 2 months	Broadcast: 4 weeks

*For the Diverse America audience, those most likely to respond were not targeted during the education and nonresponse followup phases.

² Since the 1940 Census, the Census Bureau has produced formal analysis of the number of people missed by the census: the census undercount. During the past 60 years statisticians and demographers have established that the percent of people missed varies by race/ethnicity and by variables correlated with race/ethnicity, such as income, housing conditions, migrant status, and socio-economic status. Populations such as Hispanics, non-Hispanic African Americans, and American Indians have exhibited disproportionately high undercount, and a correspondingly low relative propensity to mailback census forms. Thus, the Census Bureau and other census experts have taken to calling these race/ethnicity populations "hard to count." The PMP was focused, in part, on these populations, and as we shall see, the current evaluation of the PMP uses disproportionately large samples of these populations to determine whether the PMP worked for them.

The Census Bureau conceived, developed and executed a comprehensive partnership program for Census 2000. A significant priority for Census 2000 was to build partnerships at every stage of the process to motivate people to respond such that the Census Bureau could provide population counts needed to apportion seats in the U. S. House of Representatives, determine state legislative district boundaries and meet critical national data needs for the next decade. Because the Census Bureau could not effectively conduct the census alone, it gathered strong partners that helped accomplish its goal of achieving a complete count. Partnerships existed with state, local and tribal governments, non-governmental entities including national and community organizations, various businesses, and the media.

The following are some but not all of the activities that partners conducted:

- held press conferences
- wrote letters and articles
- provided brochures and handouts
- issued public statements of endorsements
- developed local plans of action
- provided formal partnership agreements
- initiated and participated in local events, and
- implemented special projects and initiatives.

The projects and initiatives included Complete Count Committees, Census in Schools, Religious Organizations, Tribal and Governors' Liaisons, Media and Promotional Materials, and National Partnerships.

The Partnership Program was a means of encouraging mail response by those people who were not persuaded by direct mail, advertising or other methods. It complemented traditional methods by spreading information about the census, by assuring people that it was beneficial to participate and by providing help if needed.

The mission of the Partnership Program was to develop an aggressive and comprehensive program that incorporated the efforts and resources of governmental units, community-based organizations, religious groups and businesses in assisting the Census Bureau to conduct an efficient, accurate census.

The goals of the integrated PMP were to:

- increase mail response rates
- reduce differential undercounts, and
- communicate a consistent Census 2000 message.

Notably, the actual proportion of the population that mailed back their census forms in 2000 exceeded the expected mailback rates. Was this apparent success due to the PMP or to other factors in the environment?

During planning stages for the PMP, the Census Bureau sought and Congress provided funds to pay for the advertising campaign, an unprecedented step, as it had relied exclusively on *pro bono* advertising for prior censuses in the modern era. With this decision, and to answer the question above, it became crucial to design and execute an evaluation of the effectiveness of the PMP. The Census Bureau contracted with the National Opinion Research Center (NORC) to conduct this program evaluation independently of Y&R and census partners. NORC's evaluation was to answer two basic questions: (1) did public awareness of Census 2000 increase as a result of the PMP, and (2) was the PMP successful in motivating households to complete and return their census forms.

For the Partnership and Marketing Program evaluation (PMPE) NORC conducted a household survey in three waves, using a combination of both personal-visit and computer-assisted telephone interviewing (CATI). The first wave occurred prior to the education phase of the PMP in early Fall 1999, while the second wave was implemented in Winter 2000 concurrently with the motivation phase. The third and final wave was fielded following Census Day and finished by the close of the census nonresponse followup operations in June 2000.

The Census Bureau sponsored similar evaluation studies of advertising for the 1980 Census, the 1990 Census, and the 1998 Dress Rehearsal. See Moore (1982), Bates and Whitford (1991), Fay, Bates, and Moore (1991), Bates and Buckley (1999), and Roper Starch Worldwide (1999). NORC's current evaluation study is built, in part, on these prior studies, using similar but not identical research designs and questionnaires. Later in this report we make a few comparisons between the 2000 results and the 1980 and 1990 reference points. Many essential survey conditions changed to varying extents over the years, including mode of data collection, sampling techniques, the questionnaire/interview, and the time period between data collection and exposure to census outreach. We strongly recommend the reader use the comparisons for their impressionistic content, rather than attempt to make formal tests of differences between the censuses.

In this report, we present the final analysis of the 2000 evaluation survey data. A description of the research design and of the survey methodology appears in Section 2. We highlight several data or design limitations of the study in Section 3. We give key results of the analysis itself in Section 4. Finally, we close with a general summary of key research questions and findings in Section 5. Several appendices provide details of various aspects of the design and analysis.

2. METHODOLOGY

NORC conducted the evaluation using a before, during, and after research design, as summarized in the following table:

Table 3: Summary of three waves of data collection

Wave	Time of Field Period	Completed Interviews	Purpose
1	September 1 – November 13	3,002	To capture census awareness and other factors like civic participation and other beliefs that bear on census cooperation prior to the launch of the <i>educational campaign</i> of the PMP and to establish a baseline measure to use for comparison to subsequent waves of data collection
2	January 17 – March 11	2,716	To capture census awareness and other factors that bear on census cooperation during the <i>motivation campaign</i> of the PMP and prior to the mailout of census forms
3	April 17 – June 17	4,247	To capture census awareness and other factors that bear on census cooperation following the mailout of census forms and prior to the completion of nonresponse followup operations during the <i>nonresponse followup campaign</i>

Given the design, trends from Wave 1 to 2 are intended to reveal effects of the education phase of the PMP; trends from Wave 2 to 3 are intended to reveal effects of the census mailout and cumulative effects of the education and motivation phases; and trends from Wave 1 to 3 are intended to reveal cumulative effects of all phases.

NORC designed and implemented a brief screening questionnaire with the primary objectives of determining the correct household respondent (the person who usually handles the mail) and the race/ethnicity of this person. We used the screener to screen-out ineligible cases and to subsample eligibles. See Appendix I for details.

The Census Bureau developed (with input from NORC staff) a survey instrument for each of the survey waves, or three survey instruments overall. Facsimiles of the three instruments appear in Appendices D, E, and F, respectively. The instruments include questions related to media use; awareness of government agencies and programs; awareness of community agencies and programs; recall of exposure to the mass media; recall of exposure to partnership-sponsored activities; recall about sources of information; knowledge and attitudes about the census; aided recall of specific advertising; aided recall of specific partnership activities; census form receipt, handling, and mailback behavior; and demographic information. The instruments are modeled after previous Census Bureau surveys of a similar nature conducted at the time of the 1980 Census, the 1990 Census, and the dress rehearsal for Census 2000.

NORC designed all three waves to achieve oversamples of five race/ethnicity populations: Hispanic, non-Hispanic African American, Asian, Native Hawaiian, and American Indian. In fact, the research design actually employed four different samples within each of the three waves. The *core sample* covered the total population and it also allowed separate analyses of the Hispanic, non-Hispanic African American, and non-Hispanic White populations. The American Indian, Asian, and

Native Hawaiian populations were each covered by a separate sample. The numbers of complete interviews by wave and sample appear in Table 4. A detailed description of the four samples and of the three waves of interviewing appears in Appendix A.

Table 4: Sample sizes and completed interviews by wave and race/ethnicity populations

Sample Type	Wave 1	Wave 2	Wave 3
Core			
Sample size	11,105	2,600	3,729
Occupied households	5,442	2,122	3,079
Completed screening interview	2,209	2,122	3,079
Cases screened in	1,833	2,122	3,079
Completed interview	1,536	1,227	1,989
Hispanic	446	425	687
Non-Hispanic African American	553	373	634
Non-Hispanic White	457	364	544
Other race/ethnicities	80	65	124
Asian			
Sample size	4,528	5,932	8,748
Occupied households	4,286	4,895	7,399
Completed screening interview	4,286	4,117	6,721
Asians screened in	951	549	1,269
Completed interview	517	471	778
American Indian			
Sample size	3,182	3,345	4,581
Occupied households	1,428	2,120	2,716
Completed screening interview	1,427	1,628	2,418
American Indians screened in	790	537	919
Completed interview	510	498	770
Native Hawaiian			
Sample size	10,900	4,250	6,345
Occupied households	5,159	3,274	4,562
Completed screening interview	2,353	2,835	3,805
Native Hawaiians screened in	506	1,198	1,444
Completed interview	438	520	710

NORC and the Census Bureau agreed on a plan to select all samples from a sampling frame extracted from the Decennial Master Address File (DMAF). Such a frame would provide nearly complete coverage of the target population, and it would facilitate linkage of the survey responses to the households' actual mail-back behaviors (that is, did they or did they not mail back their census forms). The plan was to collect most data via Computer-Assisted Telephone

Interviewing (CATI), with personal-visit interviewing for addresses where a valid telephone number could not be obtained or where the interview was refused by telephone.

At the launch of the project, Census and NORC managers learned that the DMAF would not be ready in time to support most of the sampling operations for Wave 1. In response, we quickly redesigned the wave using a nationally representative, random digit dialed (RDD) sample for the core sample; a supplementary area-probability sample in five primary sampling units (PSUs) for the core sample; an area-probability sample for the Asian sample; an area-probability sample for the American Indian sample, except for five reservations where the DMAF extract obtained a sufficiently high proportion (≥ 75 percent) of complete physical addresses; and an RDD sample for the Native Hawaiian sample.³ The supplementary area-probability sample for the core sample was thought to be useful for judging any biases in the RDD sample due to nontelephone households. Table 5 summarizes the revised design and the methods of data collection.

Table 5: Summary of sampling frames and data-collection methods by wave and sample

Sample	Wave	Sampling Frame	Method of Data Collection
Core	1	RDD	CATI
		Area-probability in five PSUs	Personal visit
	2	DMAF	CATI and personal visit
	3	DMAF	CATI and personal visit
Asian	1	Area-probability in five cities	Personal visit
	2	DMAF	Personal visit
	3	DMAF	Personal visit
American Indian	1	Area-probability in 16 reservations	Personal visit
		DMAF in five reservations	Personal visit
	2	Area-probability in 16 reservations	Personal visit
		DMAF in five reservations	Personal visit
	3	Area-probability in 16 reservations	Personal visit
		DMAF in five reservations	Personal visit
Native Hawaiian	1	RDD	CATI
	2	DMAF	CATI and personal visit
	3	DMAF	CATI and personal visit

During operations for Wave 1, we learned that the DMAF was sufficient for sampling operations in the five American Indian reservations, but was not adequate, and would never be so, in the remainder of the American Indian sample (16 reservations). The addresses were simply too incomplete to enable field interviewers to find them, or to enable anyone to obtain telephone numbers to contact them. Further, telephone penetration was thought to be low in many of these areas. We also became concerned prior to and during Wave 1 about the likely success of

³ An *RDD sample* implies a random sample of households obtained by random selection of telephone numbers and by telephone interviews of adult residents linked to those numbers. An *area-probability sample* implies a random sample of households obtained by a random selection of housing units within a random sample of census blocks. Usually, one or two stages of sampling of geographic areas are used prior to the sampling of blocks. Often, area probability samples entail personal-visit interviews of the adult residents of the selected households. We use the term *supplemental area-probability sample* to designate a smaller area-probability sample selected independently of a larger, main area-probability sample. The express purpose of a supplemental sample is the sampling of households in a targeted subpopulation, such as Asian households.

conducting Asian interviews by telephone. It seemed to us that language problems and cultural traditions concerning survey cooperation could have an adverse effect on telephone interviews, leading to low cooperation rates. Thus, we decided to change our original plan, and we extended personal-visit interviewing to Waves 2 and 3 for both the Asian and American Indian samples.

For Waves 2 and 3 for the core sample, we used personal-visit interviews for (1) telephone refusals and (2) cases for which we were not successful in getting a telephone number, as planned. For these waves for the Native Hawaiian sample, we used personal-visit interviews for a subsample of cases for which we were not successful in getting a telephone number. To reduce travel costs, we did not use personal-visit interviewing for telephone refusals.

To reduce biases, if any, we weighted the survey data using a three-step procedure. The base weights consisted of the reciprocals of the probabilities of selection. Base weights were adjusted within cells to account for noninterviews. Finally, we poststratified the weights to 1990 Census counts of households by race/ethnicity of the householder.

We applied quality assurance procedures throughout the creation of this report. They encompassed how we determined evaluation methods, created specifications for project procedures and software, designed and reviewed computer systems, developed clerical and computer procedures, analyzed data, and prepared this report. For a description of these procedures, reference "Census 2000 Evaluation Program Quality Assurance Process.

3. LIMITATIONS

This evaluation study has limitations due to sampling error, survey nonresponse, frame undercoverage, response error, and the nonexperimental nature of the study (including the confounding of partnership and advertising effects). Indeed, all surveys are limited by the first four sources of error, including the subject surveys. In this report, we account for sampling and response variability through presentation and appropriate use of estimates of variability.

The overall response rates for Waves 1, 2, and 3 were 48.4 percent, 64.5 percent, and 67.7 percent, respectively. The low response rates experienced in Wave 1 were due to the RDD designs and the oversampling used in that wave with no field followup. We give a detailed analysis of the survey response rates in Appendix B, including all three waves and all four sample types. Because the response rates are not high, there is the potential of bias in the PMPE findings. Wave 1 is especially at risk because of its relatively low response rate. On the other hand, a low response rate, in and of itself, is not a guarantee of important bias in our statistics. Bias would be present to the extent that nonresponders differ from responders with respect to the issues under study in the PMPE. We have no conclusive evidence one way or the other regarding the extent of such differences, and thus of nonresponse bias. Indeed, one rarely has conclusive evidence of this sort in a real sample survey. In Section 4, we demonstrate that various distributions of the PMPE samples accord reasonably well with benchmarks from the Current Population Survey (CPS). This material allows us a small portion of confidence that nonresponse bias in the PMPE may not be important.

Frame undercoverage arises primarily as the result of the RDD designs employed in Wave 1. The core and Hawaiian samples are biased to some unknown degree due to the undercoverage of nontelephone households. The Hawaiian sample covered Native Hawaiians in the state of Hawaii. For the Asian sample, we used a conventional area-probability design, and thus we may assume this survey is subject to little or no undercoverage with respect to the sampling universe of five cities. Of course, inferences to the national population of Asians could be biased to the extent that the five cities are nonrepresentative. The American Indian sample presents challenges in all three waves. The corresponding DMAF was available in time to be used for sampling for Wave 1, and indeed we used it in five of the 21 sample reservations. For the remaining 16 reservations the DMAF addresses were so incomplete that they were essentially useless for sampling purposes. In these reservations, we implemented area probability sampling in each of the three waves. We conclude that undercoverage for the survey of American Indians should be comparable to that achieved for this population in Census 2000 itself. The American Indian sample covered American Indians on reservations.

Response error could bias the survey data to some unknown degree. In the core sample, we have both telephone and field interviews in all three waves, while in the Native Hawaiian sample, we have telephone interviews in Wave 1 and both telephone and field interviews in Waves 2 and 3. If there are differential mode effects, then each of these samples, and the trends between them, could contain bias. The Asian and American Indian samples were done entirely via field interviews and thus will display no such differential mode bias.

Further, the evaluation may be limited by response error due to favorable context effects created by the wording and ordering of various questions in the survey questionnaires. Responses to questions 15 and 17, which seek respondents' opinions about the census, could create a favorable impression of the census in their minds, and thereby tend to encourage socially desirable responses to the questions that follow.

An exceedingly challenging goal of the project was to try to establish the separate effects of the paid advertising campaign and the partnership program on awareness and intent to cooperate. The fact of the matter is that we are working with data from an observational study, not an experimental design. Most exposed households were exposed to elements of both programs, while few households were exposed only to advertising or only to partnership activities. Households exposed to both programs presumably exhibit varying degrees of exposure to each, with some skewed towards advertising exposure and some towards partnership exposure. In light of this expected blurring or mixing of the two programs, it is impossible to clearly separate the effects of the programs.

In a similar vein, the survey questionnaires asked respondents whether they recalled being exposed to various sources of census communications, such as television commercials, magazine ads, census job announcements, and complete count committees. Respondents may have forgotten the communications they heard, misattributed the exposure to a different source of communications, or misjudged the extent of their exposure. Unless census communications were highly salient for the respondent, his or her awareness of exposure to such communications may be contaminated by a variety of errors. Reporting or memory error may contaminate any analytical effort to link census behavior to specific communications channels or messages. It is also important to note that participation on a complete count committees was included as an activity on the survey questionnaire for purposes of completeness but the actual purpose of the complete count committees was to serve as planning groups. Not all planning groups referred to themselves as complete count committees so this data should not be used to interpret the effectiveness of the Census 2000 Partnership and Marketing Program on encouraging participation on complete count committees.

A similar problem arises from television news reports about the census, which undoubtedly serve to increase public awareness of the census. Because it is virtually impossible for survey respondents to differentiate in their minds between census news and exposure to PMP communications, there is risk that our estimated effects of PMP communications could be overstated.

Since little can be done at this point to measure or adjust for response errors (including context and mode effects), undercoverage, or nonresponse errors, and little can be done to redress the nonexperimental nature of the study and to disentangle confounded effects of census news, users of this evaluation should interpret the findings with appropriate caution.

4. RESULTS

As previously noted, the main objective of our work is to evaluate the impact of the PMP on census awareness and cooperation. We begin, in Section 4.1, by examining several basic characteristics of the American population, including demographic characteristics, socio-economic status, civic knowledge and participation, and media habits. This work is a preface to our main work on the impact of the PMP. It simply examines the representativeness of the study samples and paints a picture of how the population is changing, if at all, during the nine-month period of the evaluation study.

To organize the balance of our analysis, we present a basic, hypothesized communications model in Figure 2 that describes how PMP activity may have impacted Census 2000. The premise of the model is that PMP communications drove an increasing level of awareness of Census 2000 in the American population. Awareness of the census coupled with defined PMP messages translated into increasingly favorable beliefs about the census, and these beliefs in turn led to positive changes in people's intent to participate in the census. Ultimately, people either mailed back their census forms or they did not. Increased mail returns resulted from increased intent to participate or other direct influences of increased awareness or beliefs. The purpose of our analysis is to determine whether the evaluation survey data are consistent with these hypotheses.

Figure 2: Hypothesized model of PMP's impact on census behavior

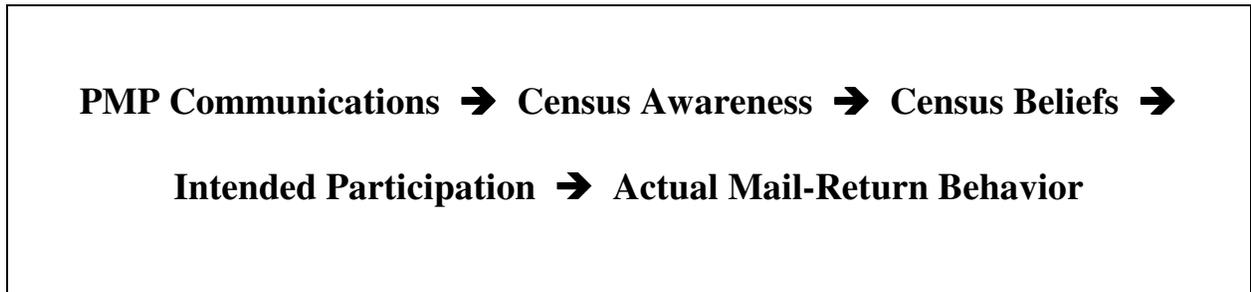


Table 6 provides a "roadmap" that may assist readers navigate through our main analyses.

Table 6: Organization of the main analyses

Element of the Analysis	Section
Is awareness of Census 2000 and of various sources of census communications increasing with time?	4.2
Are there increases over time in intent to participate in the census?	4.3
Are there positive associations between awareness of the census and intent to participate in the census?	4.3
Are there increases over time in favorable beliefs about the census?	4.4
Are there positive associations between awareness of the census and beliefs about the census?	4.4
Are there positive associations between beliefs about the census and intent to participate in the census?	4.4
Is increasing awareness of the census due to the PMP or to other factors in the environment?	4.5
How is actual mail-return behavior related to awareness of census communications?	4.6
How does awareness of the 2000 Census compare to awareness of the 1980 and 1990 Censuses?	4.7
Were there any events of special census publicity that substantially impacted awareness or intent to participate?	4.8

In Sections 4.2 through 4.4 we examine three of the factors in our hypothesized communications model -- that is, awareness, beliefs, and intent to participate -- and the linkages between them. Section 4.5 attempts to shed light on the linkage between the aforementioned factors and the PMP. That is, it addresses the question of whether PMP or some other factor in the environment brought favorable changes in awareness, beliefs and intent to participate. In Section 4.6 we examine the impact of census communications, and of other factors, on peoples' actual mail-return behavior. This section essentially completes our examination of the hypothetical model and of the linkages between the factors in the model. We close in Section 4.7 and 4.8 with analysis of some secondary issues. To the limited extent that is possible, we compare Census 2000 to the censuses of 1980 and 1990 with respect to awareness and favorable beliefs, and we attempt to show whether any special events of Census 2000 publicity may have impacted awareness or intent to participate in this census.

Throughout, we emphasize separate analysis of the total population and six race/ethnicity populations: Hispanic, non-Hispanic African American, non-Hispanic White, Asian, American Indian, and Native Hawaiian. We use the core sample to study the total population and the first three race/ethnicity populations. We also carve out of the core sample an all other population (non-Hispanic, non-African American, non-White), but this is based upon a small sample size and empirical results should be interpreted with considerable caution. The last three race/ethnicity populations are supported by their own targeted samples, and because they are, we suppress explicit discussion of the core sample's other population in the text.

Before proceeding further, we observe three conventions that apply to all of the statistics in the following sections. First, in tabular displays, we follow the standard practice of citing the estimated standard errors in parentheses adjacent to the statistics to which they refer. For

example, in Table 7, the value of the first statistic in the upper left corner happens to be 1.60, with an estimated standard error of 0.057. Thus, a normal-theory, 90-percent confidence interval for the true underlying mean would be $1.60 \pm 1.645(0.057) = (1.51, 1.69)$. We estimated all standard errors via a Taylor series, ultimate cluster approach, employing the software package SUDAAN.

Table 7: Mean general awareness of census communications

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	1.60 (.057)	2.54 (.104)	3.02 (.064)	<.0001 *	<.0001 *	<.0001 *
Hispanic	1.67 (.081)	2.49 (.095)	2.78 (.104)	<.0001 *	.1249	<.0001 *
Non-Hispanic						
African American	1.62 (.086)	2.74 (.070)	3.17 (.072)	<.0001 *	<.0001 *	<.0001 *
Non-Hispanic White	1.61 (.088)	2.50 (.145)	3.02 (.093)	<.0001 *	.0070 *	<.0001 *
Other	1.38 (.177)	2.54 (.259)	3.19 (.145)	.0007 *	.0801 *	<.0001 *
Asian	1.46 (.052)	2.28 (.068)	2.78 (.053)	<.0001 *	<.0001 *	<.0001 *
American Indian	1.52 (.080)	2.23 (.132)	2.68 (.126)	<.0001 *	.0439 *	<.0001 *
Native Hawaiian	1.36 (.047)	1.99 (.092)	2.86 (.071)	<.0001 *	<.0001 *	<.0001 *

NOTE: Estimated standard errors appear in parentheses. An asterisk signifies a trend that is significantly different from zero at the $\alpha = .1$ level.

Second, we cite p-values for all tests of statistical hypotheses, instead of simply rejecting or not rejecting the implied null hypotheses at a prespecified level of significance. The p-value corresponding to a given test is the level of significance at which the implied null hypotheses would be just rejected. The p-values we present correspond to two-sided tests. For example, in the first row of Table 7, we find that the p-value for testing the trend from Wave 1 to 3 is less than 0.0001. Furthermore, all of our p-values, unless otherwise noted, are adjusted via the Bonferroni multiple comparison procedure (see Johnson and Wichern, 1992). The procedure yields an upper bound for the family significance level for a specified family of, say, g , contrasts or comparisons. There are many choices one could entertain regarding the number of comparisons to consider in arriving at the Bonferroni adjustment, ranging from a single comparison to the total number of comparisons presented in this entire report. We picked a sensible middle ground, $g = 3$, having in mind the family of comparisons embodied in testing the trends from Wave 1 to 2, Wave 2 to 3, and Wave 1 to 3. Thus, the p-values we cite are formally applicable to the family of comparisons defined by each row of Table 7 and indeed by rows of the following tables also.

Finally, in the text, we may arrive at certain interpretations of the statistical evidence presented in the tables. In interpreting trends and corresponding p-values, we always, unless otherwise noted, work in terms of the 0.10 level of significance. All p-values less than 0.10 are marked as significant by an asterisk.

4.1 Basic characteristics of the total population

A key objective of this section is to compare distributions from our core sample to benchmarks from the March 1999 CPS. The distribution of basic demographic variables should agree reasonably with corresponding CPS distributions. Reasons for potential disagreement include sampling error and differences in coverage (e.g., the PMPE sample covers the mail-opening

population or the population of adults most likely to complete the census form, while the CPS sample covers the entire civilian, noninstitutional population).

A second key objective in this section is to obtain an impression of whether the total population exhibits change from wave to wave with respect to basic characteristics such as socio-economic status, extent of civic participation, and media habits. Common sense tells us such characteristics should not change across a span of time as narrow as the one under study here (about nine months from the launch of Wave 1 to the close of Wave 3). If we were to observe changes beyond the normal fluctuations of sampling variability, they could be an artifact of the survey questionnaire, interviewing procedures, our sampling frames, or signal an underlying change in the population concurrent with, but unrelated or partially related to, the Census 2000 advertising and partnership activities. We observe few such fluctuations.

Figures 3 to 7 display the survey distributions of sex, age, race/ethnicity, highest grade completed, and annual household income. To maximize comparability, we present the CPS data for the population of adults age 18+ living in regular housing units (excluding group quarters). Evidently, the core sample is a bit more female and is slightly older than the CPS sample. We believe these differences are due to the special nature of the mail-opener population. Young adults age 18-24 living with their parents probably tend not to open the mail, while there may be a slight differential tendency of females to open the mail in preference to their male partners.

Figure 5 demonstrates that the CPS sample has fewer Hispanics and African Americans than the core sample. This observation may be the result of sampling variability or nonsampling errors in the screening process, or it could signal better coverage of minorities in the core sample than in the CPS. We do not believe this difference is due to the special nature of the mail-opener population.

In Figures 6 and 7, we observe that (1) the distribution of highest grade completed is similar in the core and CPS samples, at least within the range of sampling variability, and that (2) the CPS sample exhibits somewhat higher household income. Again, we do not believe this difference arises from the special nature of the mail-opener population. The CPS's higher income may be the result of relatively more complete reporting of income, or it may simply be an effect correlated with the CPS's relative excess of non-Hispanic Whites.

In summary, there are some differences between the basic distributions in the core and CPS samples. Some differences may be the result of the special nature of the mail-opener population, while other differences may arise from differential coverage or reporting. The differences are within reason, in our opinion, and they underscore the representativeness of the core sample within the limitations set forth earlier in Section 3.

Figure 3: Distribution of sex by wave for total population

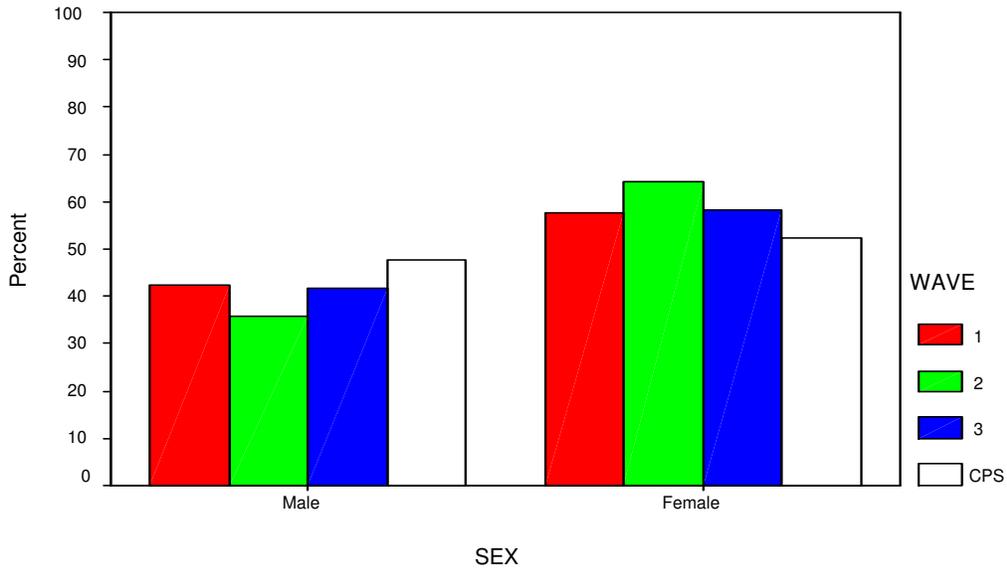


Figure 4: Distribution of age by wave for total population

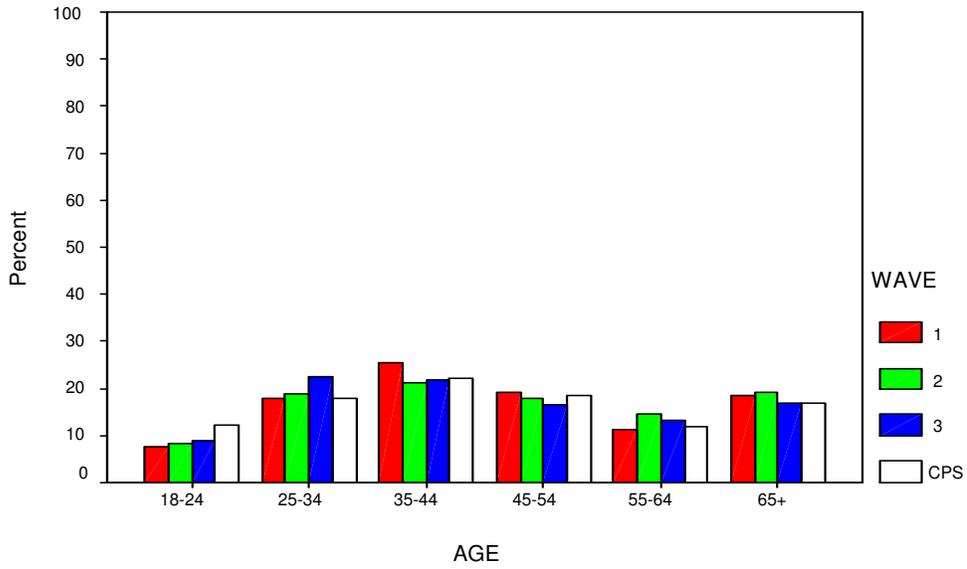


Figure 5: Distribution by race/ethnicity by wave for total population

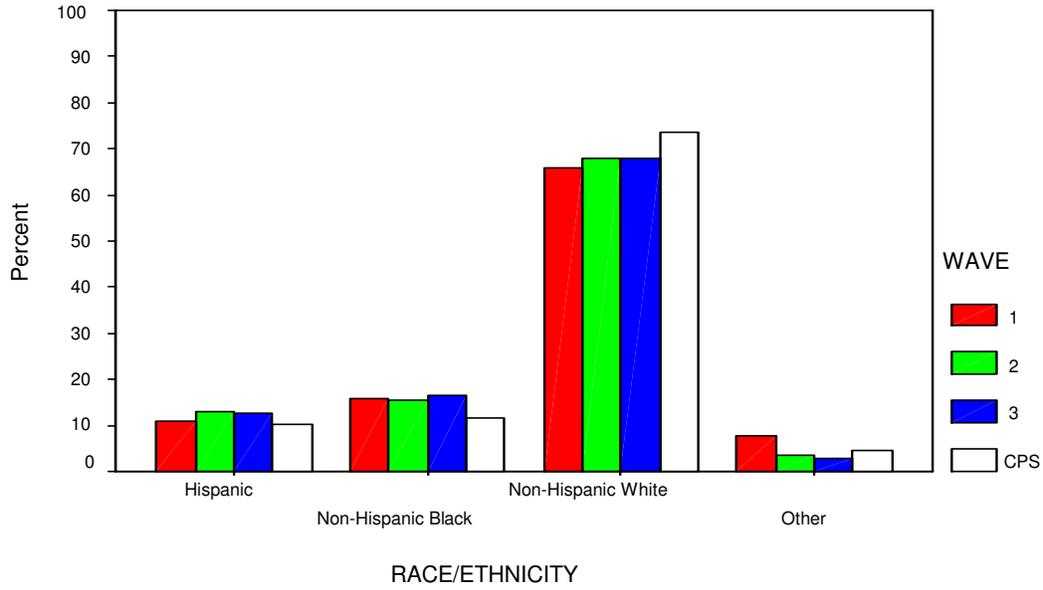


Figure 6: Distribution of highest grade completed by wave for total population

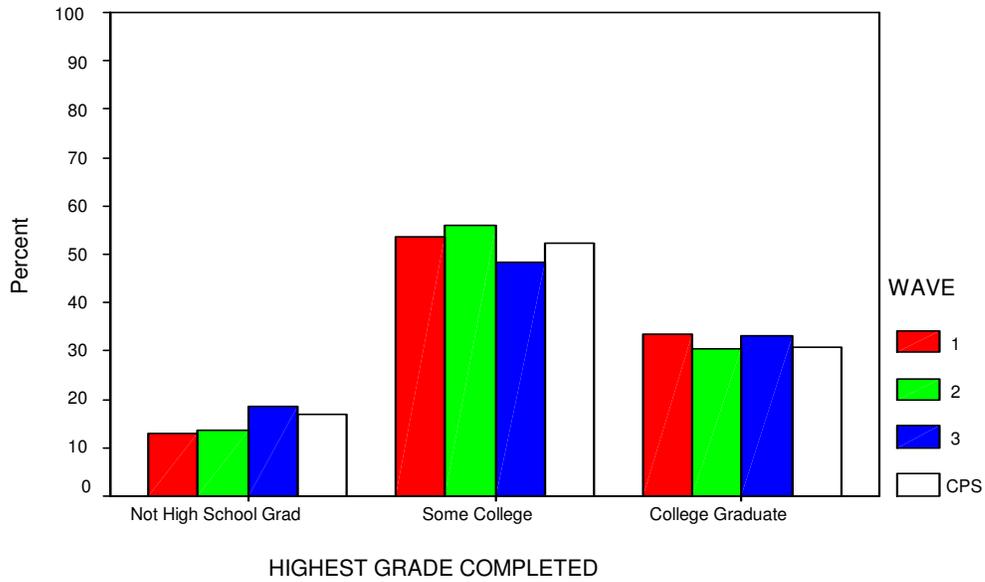
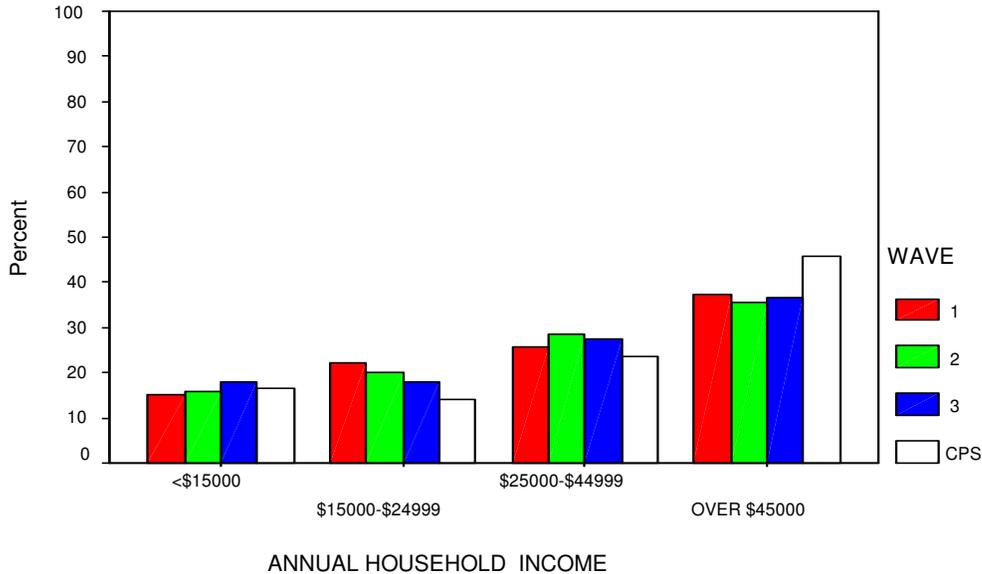


Figure 7: Distribution of household income by wave for total population



It is also of considerable interest to examine whether the demographic characteristics exhibit excessive change from wave-to-wave. We find no excessive wave-to-wave variation in sex, age, and race/ethnicity. We see no important changes from wave to wave in highest grade completed. Evidently, around 30 percent of our mail-opener population have a college degree or higher. Income does not apparently change from wave to wave. About 35 percent of households are in the \$45,000+ income class, while about 15 percent are in the <\$15,000 class.

Figures 8 to 11 display the estimated distribution of the total population for adult education, presence of children age less than 18, place of birth, and language spoken at home. Adult education and place of birth are personal characteristics of the respondent, the one who opens the mail and is most likely to complete the census form. The remaining variables – presence of children age less than 18, and language spoken at home – are household characteristics.

We see little change in the percent of the population that has recently attended an adult education class: about 15 percent give or take. Arguably, this percent may decline towards Wave 3, that is, a slight decline towards the period in May and June when the regular school year is ending. Also, we see little change in the percent of households with children. We estimate that around 30 percent of households have children (less than 18 years old) at home.

About 80 to 85 percent of the population of mail openers were born in the U.S., and this percentage does not vary by wave, at least not beyond the normal range of sampling variability. Language spoken at home is completely flat across waves, with around 90 percent English, over 5 percent Spanish, and under 5 percent all other languages.

Figure 8: Distribution of adult education by wave for total population

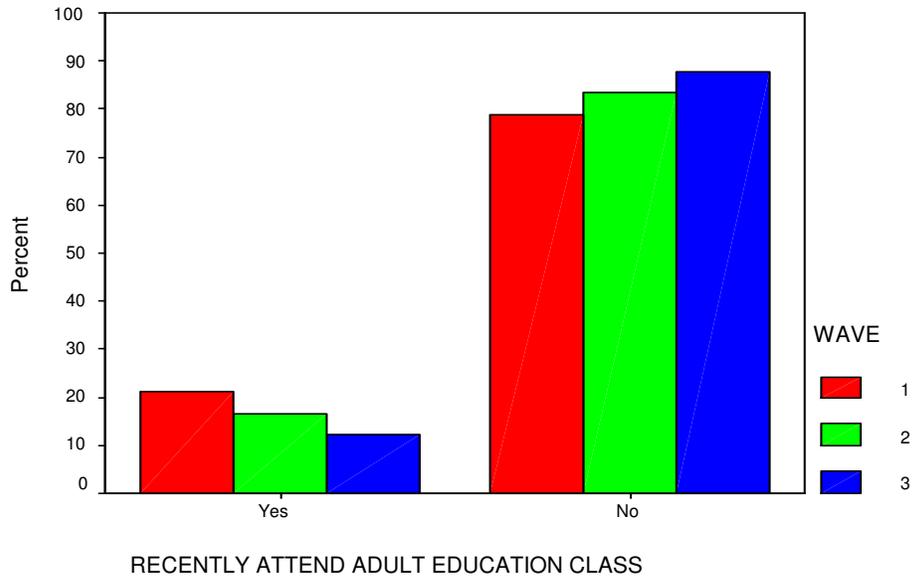


Figure 9: Distribution of households by presence of children age less than 18 living at home by wave for total population

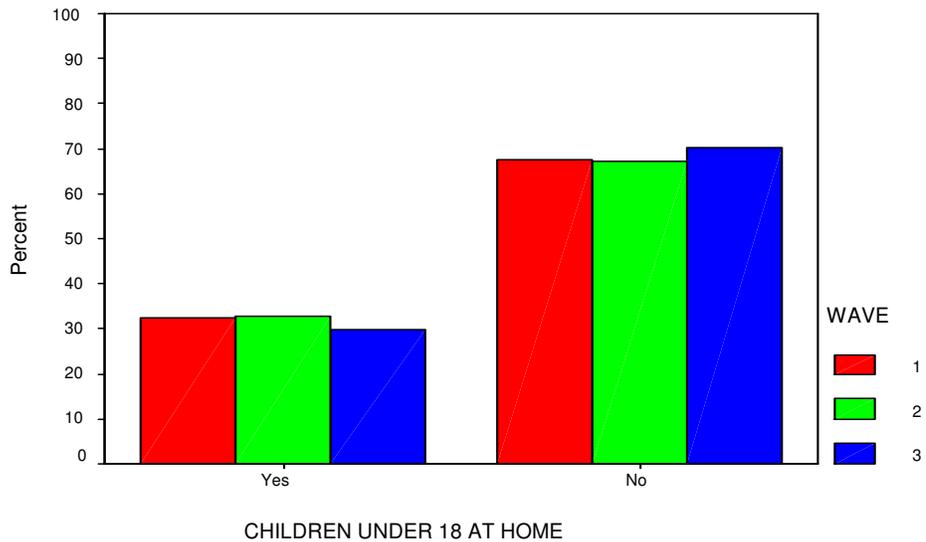


Figure 10: Distribution of place of birth by wave for total population

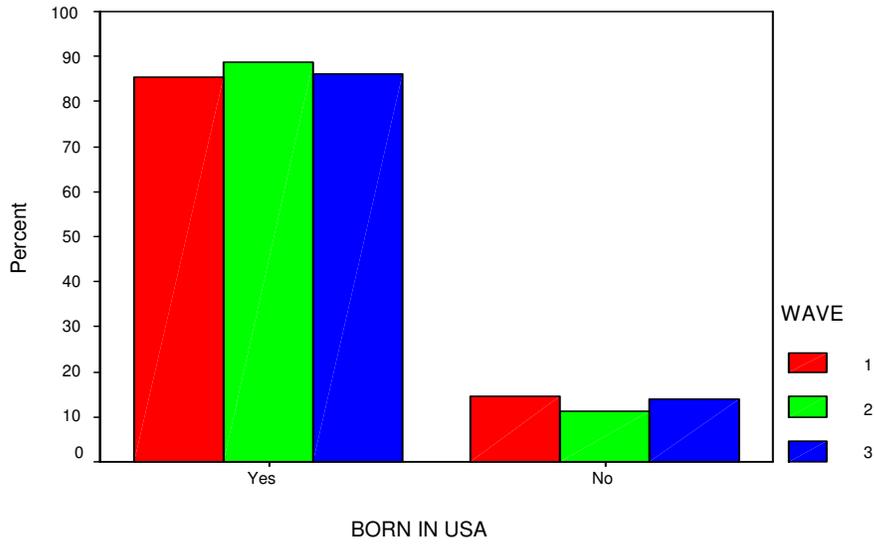
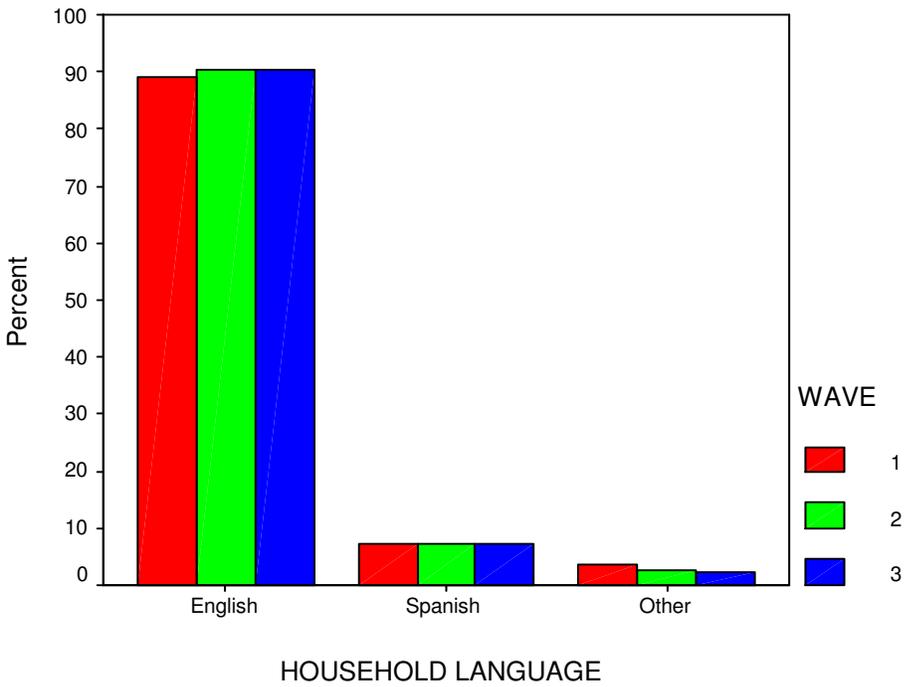


Figure 11: Distribution of language spoken at home by wave for total population



Figures 12 to 16 display estimated distributions for various types of civic knowledge and civic participation. Civic knowledge includes heard of the Department of Agriculture, heard of the Surgeon General’s office, heard of the school lunch program, and heard of welfare reform. Civic participation is an index first proposed by Bates and Buckley (1999). Our implementation of the index includes attended a PTA meeting; attended services or meetings of a religious group; attended a regular meeting of a community or charity group; attended meetings or speeches of a political party or candidate; attended an event benefiting a community, charity, school, religious or political group; and voted in the last local election, and our index is defined on a scale of 0 to 7. These variables are characteristics of the respondent, and thus of the population of mail openers.

Figure 12: Distribution of heard of Department of Agriculture by wave for total population

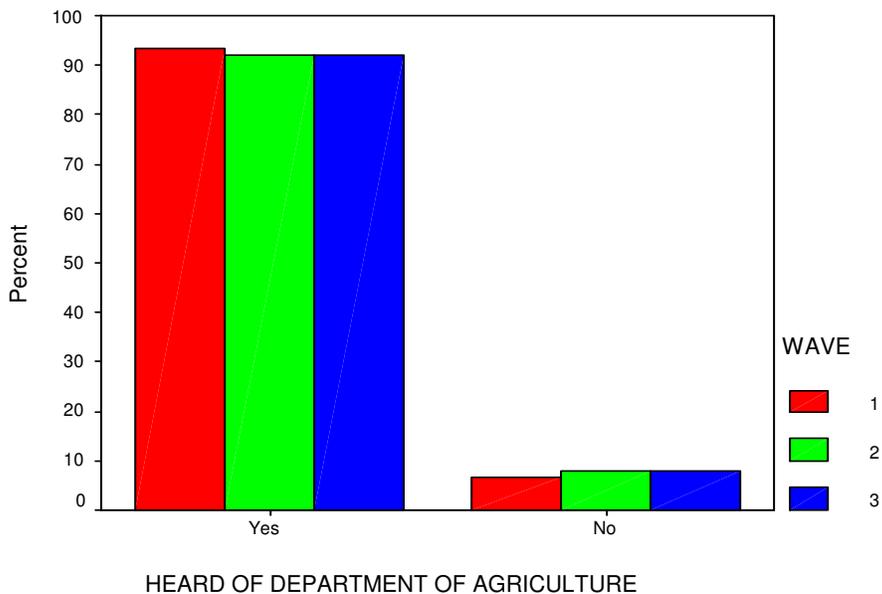


Figure 13: Distribution of heard of Surgeon General's office by wave for total population

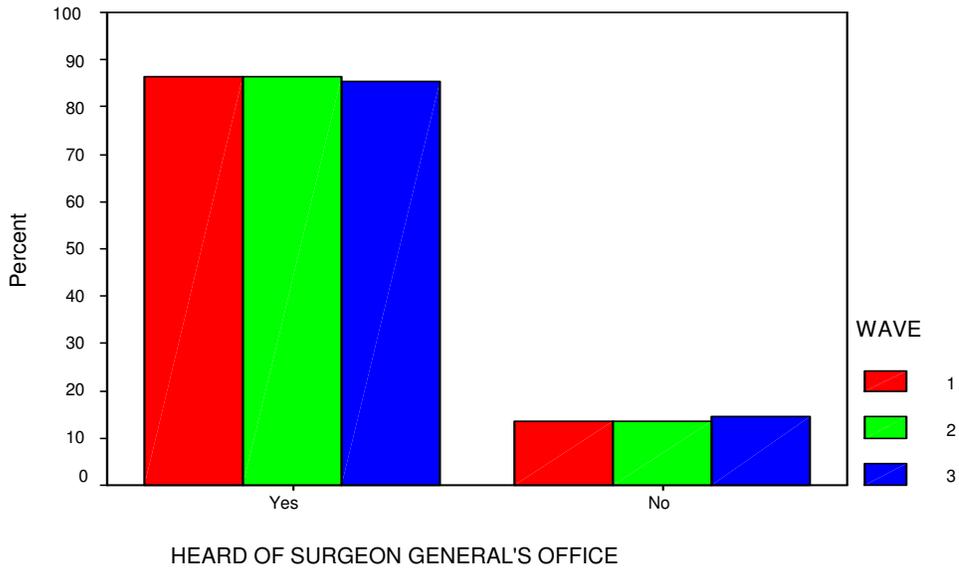


Figure 14: Distribution of heard of school lunch program by wave for total population

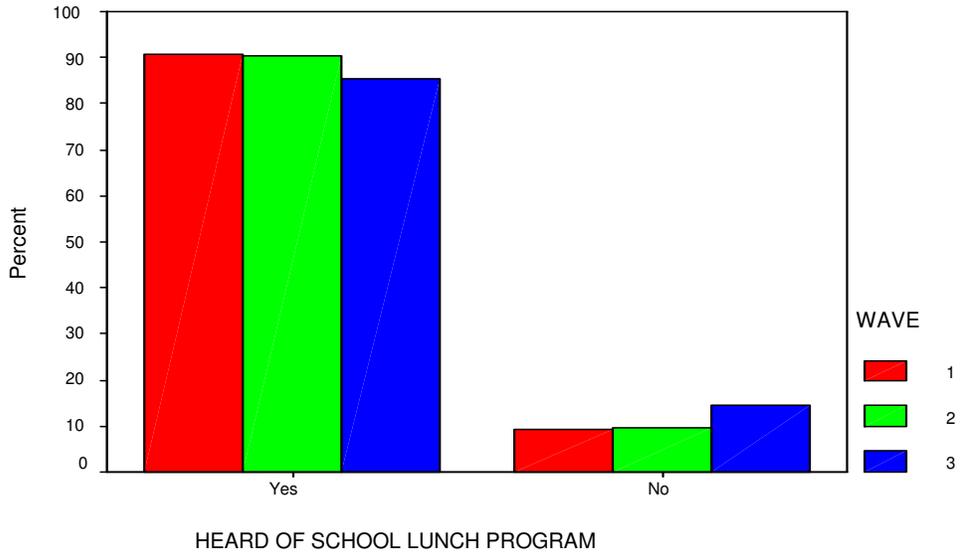


Figure 15: Distribution of heard of welfare reform by wave for total population

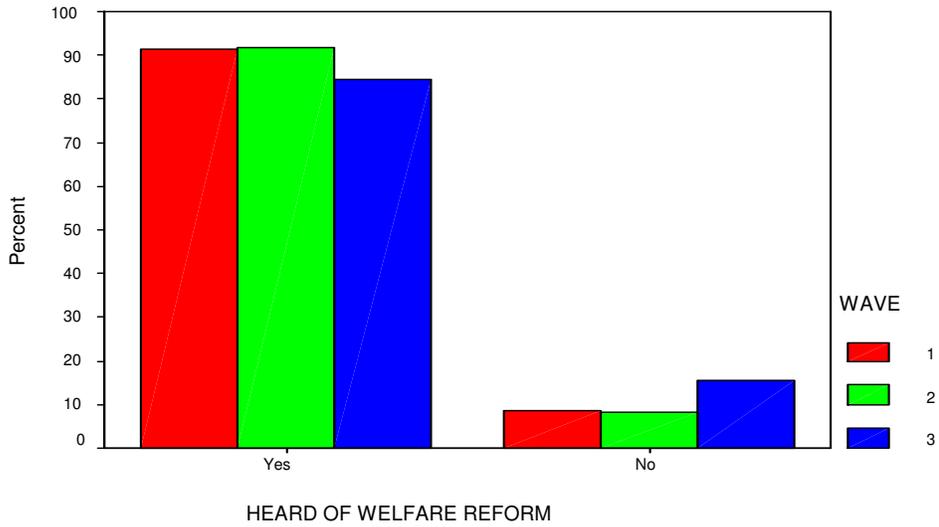
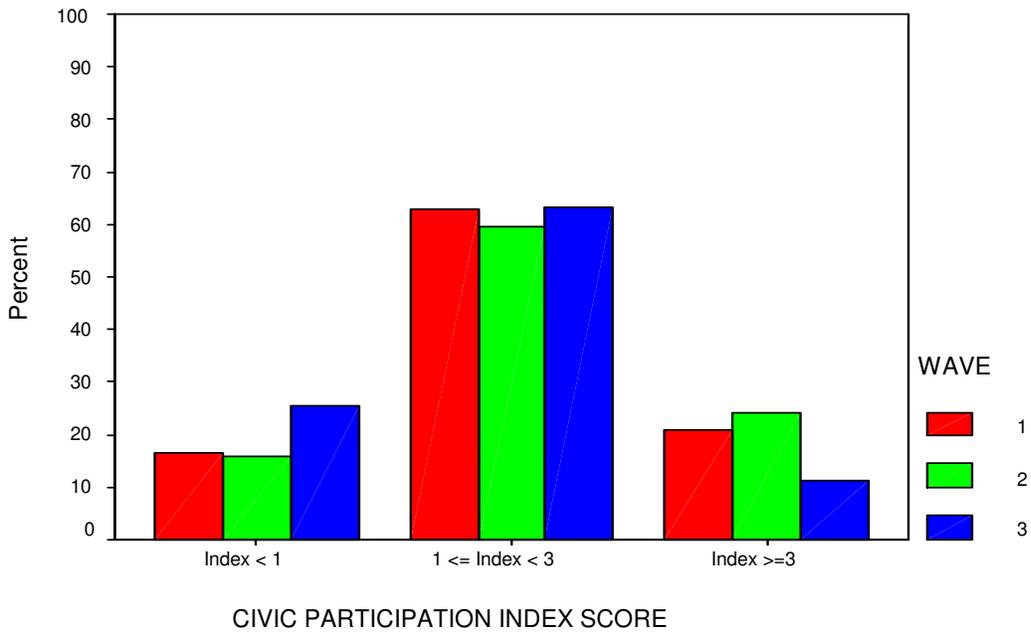


Figure 16: Distribution of civic participation by wave for total population



Civic knowledge is fairly high and somewhat stable across all three waves of interviewing. Over 90 percent of the population have heard of the Department of Agriculture; around 85 percent have heard of the Surgeon General’s office; around 90 percent have heard of the school lunch program; and around 90 percent have heard of welfare reform.

Civic participation displays limited stability across waves. Less than 20 percent of the population are in the low class, about 20 percent in the high class, with the remaining

approximately 60 percent in the middle class. Arguably, civic participation declined in Wave 3, and if this effect is real, we wonder if it might be due to the end of the regular school year, which occurred during this wave. Many types of civic activity follow a seasonal pattern similar to the school year. One reviewer suggested that this hypothesis could be tested partially by dropping the PTA item from the index. We were not able to implement this worthwhile suggestion because of limited time and funding.

Figures 17 to 21 examine the media habits of the population of mail openers, including watching television, listening to radio, reading magazines, reading newspapers, and surfing the Internet. Results are quite stable across waves for all of these media habits. Just under 15 percent of the population watch less than an hour of television per day, and just over 15 percent watch four or more hours per day. Around 10 percent listen to no radio at all, while about 20 percent listen to 20+ hours per week.

Figure 17: Distribution of television hours per day by wave for total population

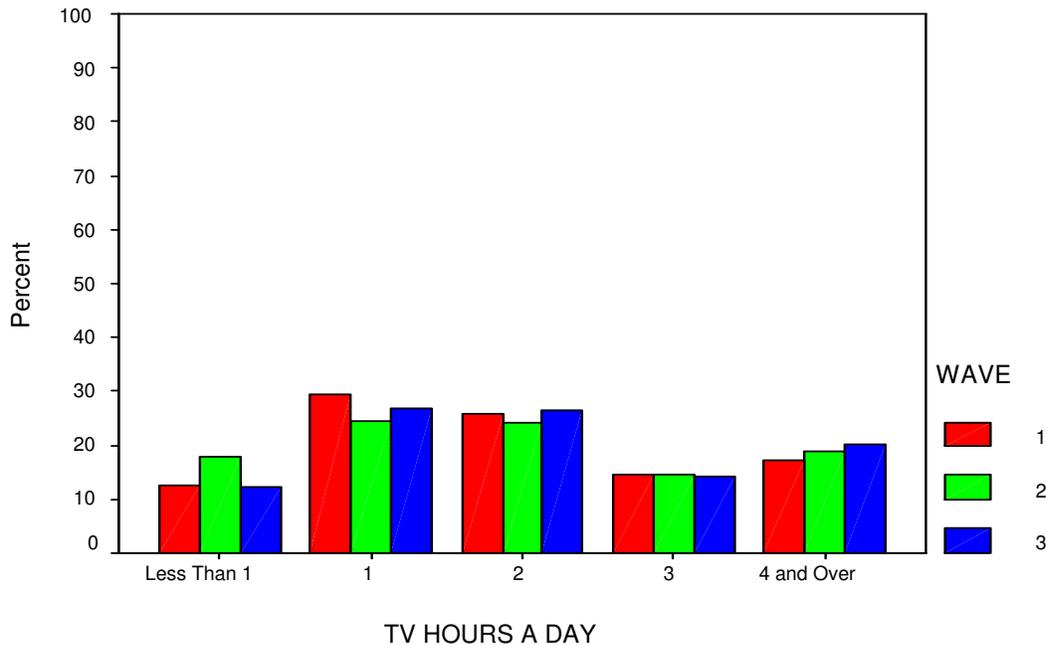


Figure 18: Distribution of radio hours per week by wave for total population

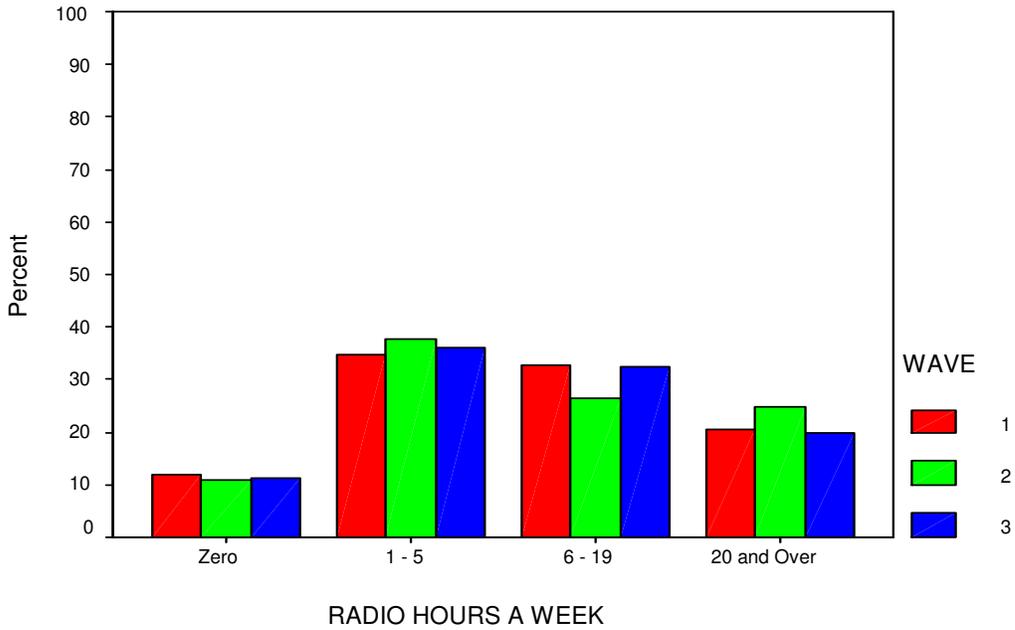


Figure 19: Distribution of magazine hours per week by wave for total population

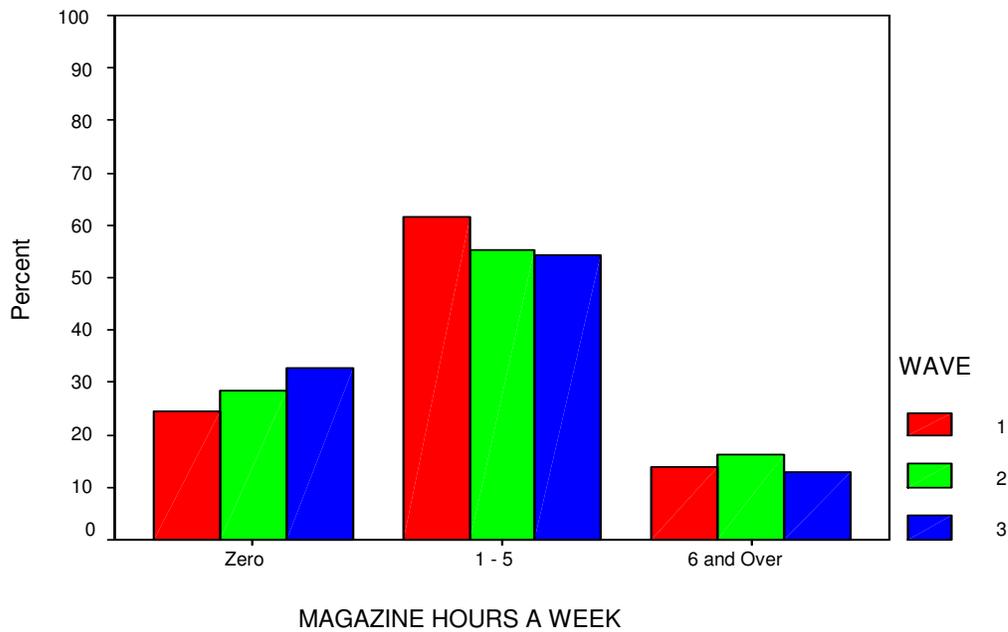


Figure 20: Distribution of newspaper hours per week by wave for total population

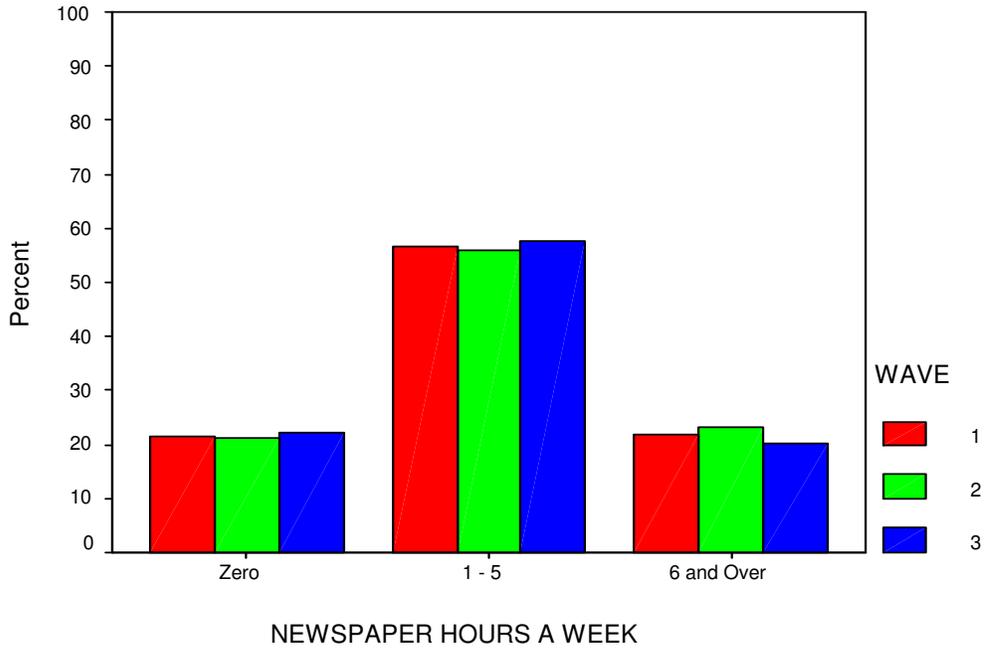
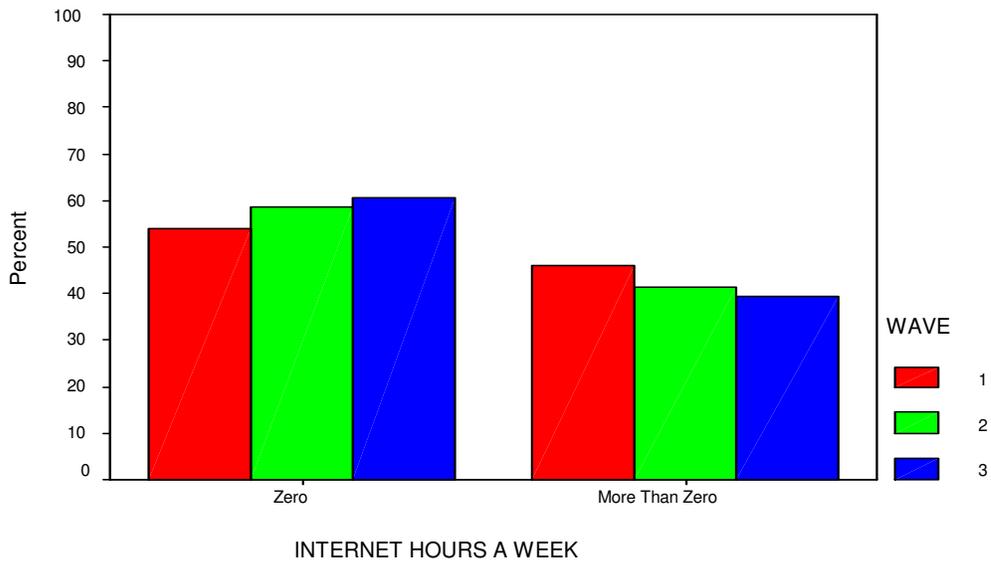


Figure 21: Distribution of Internet hours per week by wave for total population



Approximately 25 to 30 percent of the population spend no time reading magazines, and slightly over 10 percent read magazines heavily (6+ hours per week). Newspapers seem to attract a somewhat larger audience. About 20 percent spend no time reading newspapers, another 20 percent read them heavily (6+ hours per week). Although the Internet has attracted considerable attention in recent years, it enjoys the least penetration of any of the media sources. Fully 55 to 60 percent do not use the Internet at all.

The results we have reviewed here are purely descriptive in nature. They provide a portrait of the population of mail openers or their households at the start of the new millennium, with respect to demographic characteristics, socio-economic status, civic knowledge and participation, and media habits. What is most interesting for our current purposes is that most of these characteristics remained fairly constant across the three waves of interviewing. Neither the survey questionnaires, the survey procedures, nor the general environment brought artifactual trends in these basic characteristics. This finding, while far from being absolutely conclusive, suggests a stable environment in which it is possible -- even in a non-experimental setting -- to study how the population may have changed over the period of the study with respect to awareness of the census and intent to participate in the census. Because the general environment is stable, any trends we may discover in awareness of the census or intent to participate might reasonably arise as a result of the PMP.

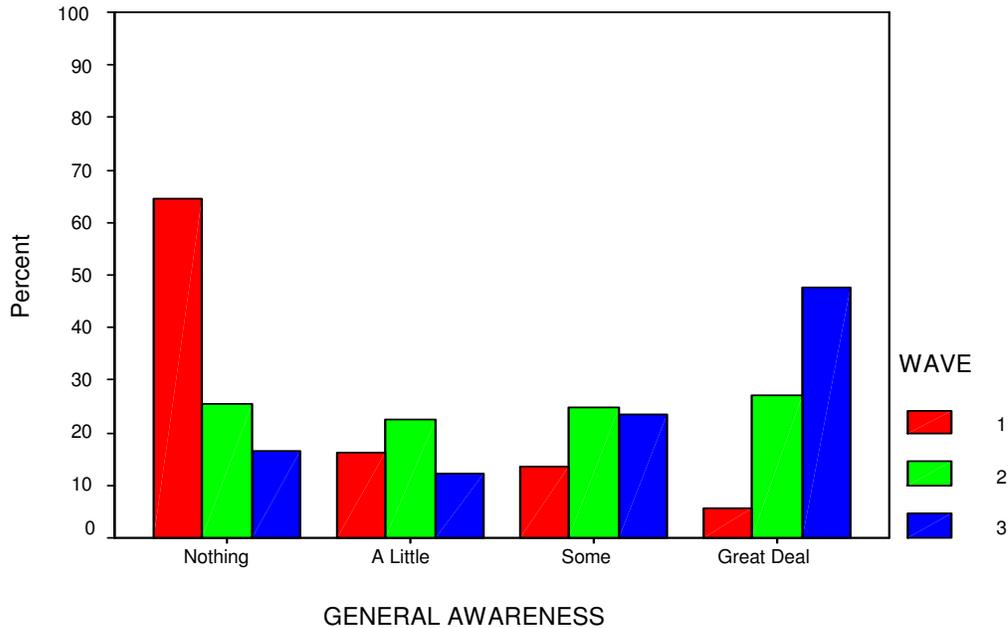
4.2 General awareness of census communications

General awareness of census communications was measured in the survey by asking people in each sample group how much they had heard about Census 2000. This question thus reflects the general level of awareness of all communications about the 2000 Census. If this awareness increases after Wave 1, it indicates that communications about the census are registering with people.

Figure 22 displays the distribution of general awareness by wave for the total population. Clearly, there were dramatic changes during the roughly nine-month period of the study. The population who heard “nothing” declined from around 65 percent of total population at baseline Wave 1 to 15 percent by Wave 3, while the population who heard a “great deal” increased from under 10 percent to around 50 percent. Interestingly, the intermediate categories heard “a little” and heard “some” exhibit relatively less movement. Most of the movement is at the extreme ends of the awareness scale. It would be enormously interesting to observe the gross-flow statistics for census awareness, for example, the percent of the total population who had heard nothing at Wave 1 but had heard a little by Wave 2. The design of the study with independent samples at each wave, precludes this analysis.⁴

⁴ We chose, by design, not to reinterview the same panel of respondents at each wave, because of risk of strong Hawthorne effects. Had we employed a panel approach, the survey interview itself would have altered awareness of census communications in subsequent wave(s). The survey would have altered the very phenomenon we seek to study.

Figure 22: Distribution of general awareness by wave for total population



4.2.1 Awareness by race/ethnicity

Table 7 gives the means of general awareness by wave and race/ethnicity population. For all the populations, there is a significant increase in how much people say they have heard about Census 2000 after Wave 1 (compared to Wave 2 and Wave 3). For the total population, there are significant increases from Wave 1 to 2, from Wave 2 to 3, and from Wave 1 to 3. For Hispanics, there is a significant increase from Wave 1 to 2 and from Wave 1 to 3, the difference between Waves 2 and 3 is not significant. For non-Hispanic African Americans, there is a significant increase from Wave 1 to 2, from Wave 2 to 3, and from Wave 1 to 3. For non-Hispanic Whites, there is a significant increase from Wave 1 to 2, from Wave 2 to 3, and from Wave 1 to 3. For Asians, there is a significant increase from Wave 1 to 2, from Wave 2 to 3, and from Wave 1 to 3. For American Indians there is a significant increase from Wave 1 to 2, and from Wave 2 to 3, and from Wave 1 to 3. For Native Hawaiians there is a significant increase from Wave 1 to 2, from Wave 2 to 3, and from Wave 1 to 3.

There is a clear rise in the general awareness of census communications for all of the race/ethnicity populations across the period of the surveys. This awareness may have leveled off for Hispanics. The overall pattern is one of increasing general awareness of communications.⁵

⁵ Appendix G gives a complete definition of the variables tabulated in Table 7 and in all following tables.

Respondents were also asked about possible places they might have learned about the census.⁶ Question 10 asked respondents if they learned about the census through 18 individual communications channels used by the PMP. A number of the channels relate primarily, though not exclusively, to advertising while others relate primarily to partnership activities. Because (as noted earlier) this study is not a designed experiment, and because there is a strong confounding of advertising and partnership effects, it is completely inappropriate in our view to attempt to study, isolate, and report separate advertising and partnership program effects.

Paid advertising and partnership activities for Census 2000 were integrated to the extent that it was virtually impossible to measure their effects separately. For example, in developing partnerships with organizations, partnership specialists negotiated local media spots for television, magazine, radio, newspaper and billboard ads. The respondents in the evaluation survey had no way of knowing if the ads they remembered were from the national paid advertising campaign or from the local pro bono ads negotiated with local partner organizations. Therefore, in most of our analyses, rather than divide the 18 communications activities into paid advertising and partnership, we divide them by type of channel into two broad composite indexes: *mass media* and *community-based communications*. Still, because of high correlation between the channels and because respondents' recall of the channels is likely to be blurred or mixed, we judge that the analysis probably cannot reveal truly separate and distinct communications effects.

Both composites contain elements of both advertising and partnership communications. The two composites form a partition of the 18 sources: two mutually exclusive and exhaustive groups. They separate the sources as much as possible into two fundamentally different types of communications. Further, our strategy, at least in part, is to track the public's awareness of the census through these aggregate measures, and to measure the association between such awareness and the intent to mailback the census form. We will also analyze individual sources of communications (i.e., individual sources from question 10), but sample sizes limit the power of such analysis. The strength of the aggregate variables and our analysis of them is that they combine information across sources, thereby achieving greater stability and analytical power. The mass-media sources included television (commercials and public service announcements), magazine ads, radio ads, newspaper ads, and outside billboards. The community-based communications sources included religious groups, community or government organizations, informal conversations, schools you attended, schools your children attend, census job announcements, conference exhibit booths, signs or posters inside buildings, speeches, articles, the Internet, paycheck or utility bill inserts, and participation on a complete count committee. We analyzed each of the two types of communications separately in order to look for overall effects and to help guard against chance results. We formed the two aggregate variables, awareness of mass-media and awareness of community-based communications, by simple averaging over the questionnaire items noted above.

⁶ See Appendices D, E, and F for the questionnaires used in Waves 1, 2, and 3.

Each of these aggregated variables formed a reliable overall measure. Cronbach's coefficient alpha (Cronbach, 1951) was .80 for awareness of mass-media and .84 for awareness of community-based communications. (Alpha is a lower bound for the true reliability of the survey. Mathematically, reliability is defined as the proportion of the variability in the responses to the survey that is the result of real differences in the respondents. That is, answers to a reliable survey will differ because respondents have different opinions, not because the survey is confusing or has multiple interpretations.)

Table 8 displays the estimated correlation coefficients between the two aggregate variables by wave and race/ethnicity. Most of the estimated correlations are in the range (.50, .75). Thus, while there is moderate collinearity between the aggregate variables, we find that they are reliable measures which are measuring somewhat different dimensions of the public's awareness of the 2000 Census.

Table 8: Estimated correlation coefficients between mass-media and community-based communications by wave and race/ethnicity

Population	Wave 1	Wave 2	Wave 3
Total Population	0.75	0.69	0.63
Hispanic	0.72	0.61	0.76
Non-Hispanic African American	0.82	0.74	0.70
Non-Hispanic White	0.67	0.70	0.56
Other	0.92	0.66	0.67
Asian	0.67	0.66	0.69
American Indian	0.89	0.80	0.75
Native Hawaiian	0.79	0.80	0.74

Figure 23 displays the means of the two aggregate variables by wave for the total population. Clearly, both variables move in a positive direction as the PMP unfolds. Figures 24-41 display the individual distributions of the sources of mass-media and community-based communications. Awareness due to all individual sources moves in a positive direction. Television, radio and informal conversations appear to raise awareness more than other sources. Awareness due to complete count committees, paycheck or utility bill inserts, and conference exhibit booths seems quite low.

Figure 23: Mean of mass-media and community-based communications by wave for total population

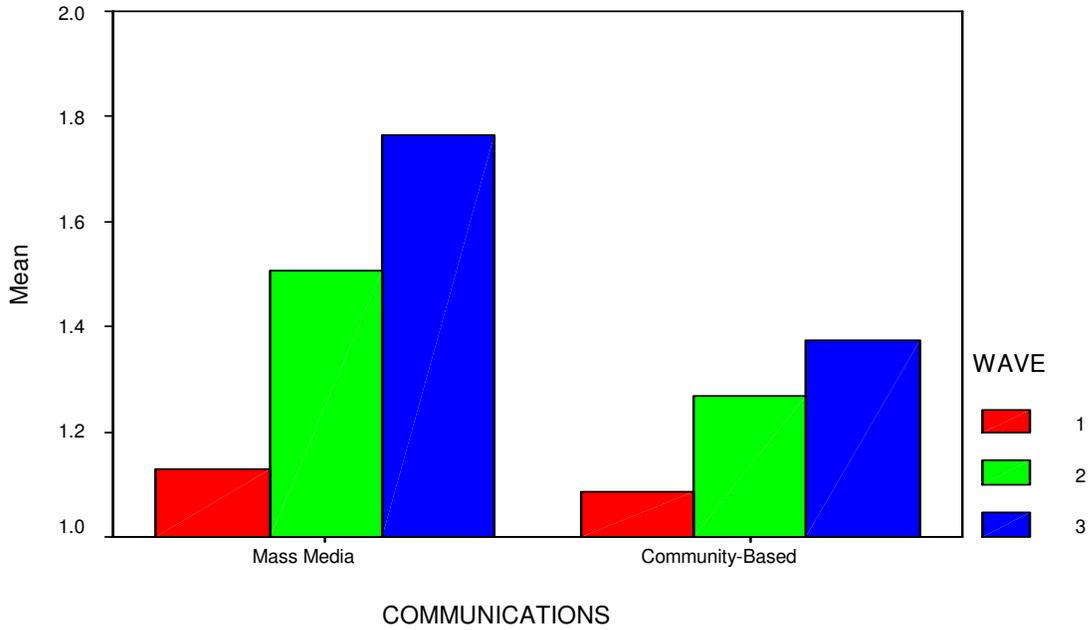


Figure 24: Distribution of total population regarding hearing about the census on television by wave

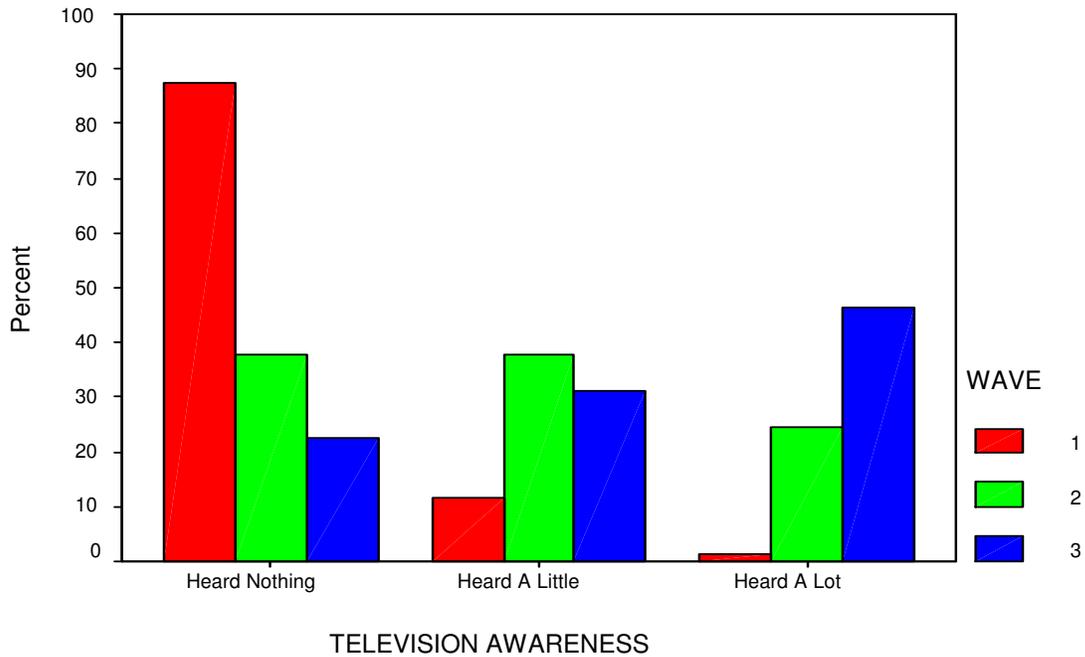


Figure 25: Distribution of total population regarding hearing about the census in magazine ads by wave

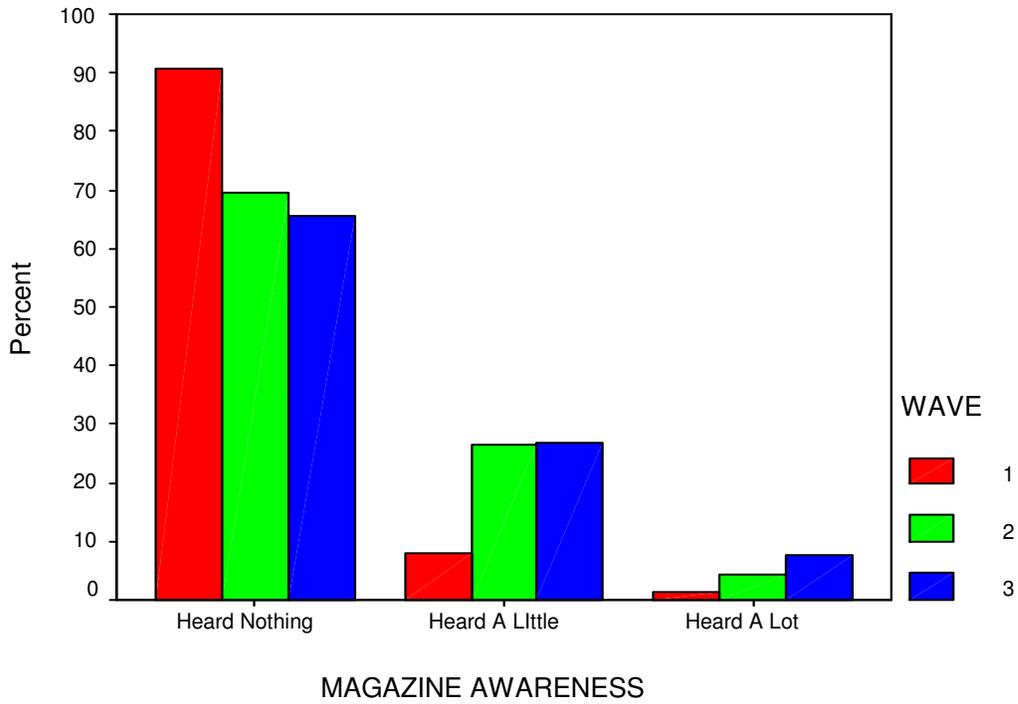


Figure 26: Distribution of total population regarding hearing about the census in radio ads by wave

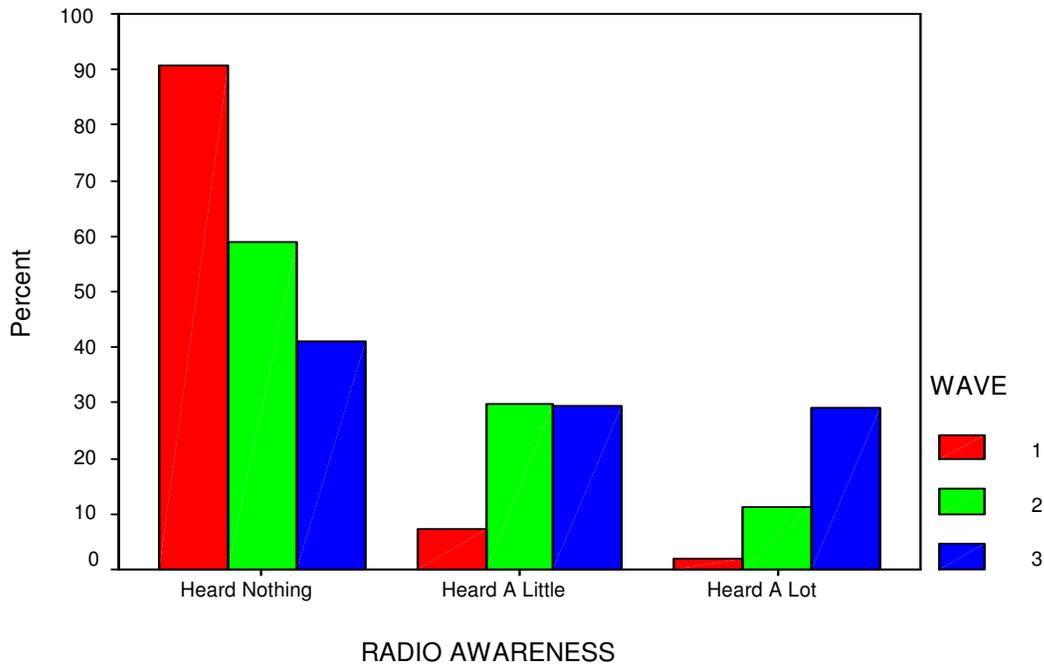


Figure 27: Distribution of total population regarding hearing about the census in newspaper ads by wave

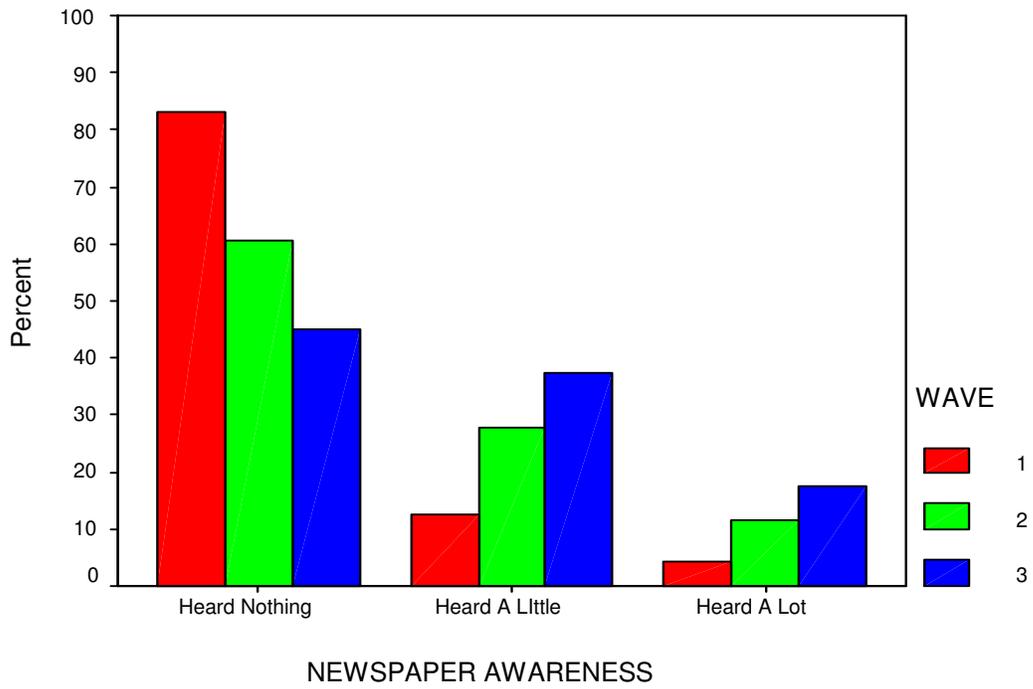


Figure 28: Distribution of total population regarding hearing about the census on outside billboards or posters by wave

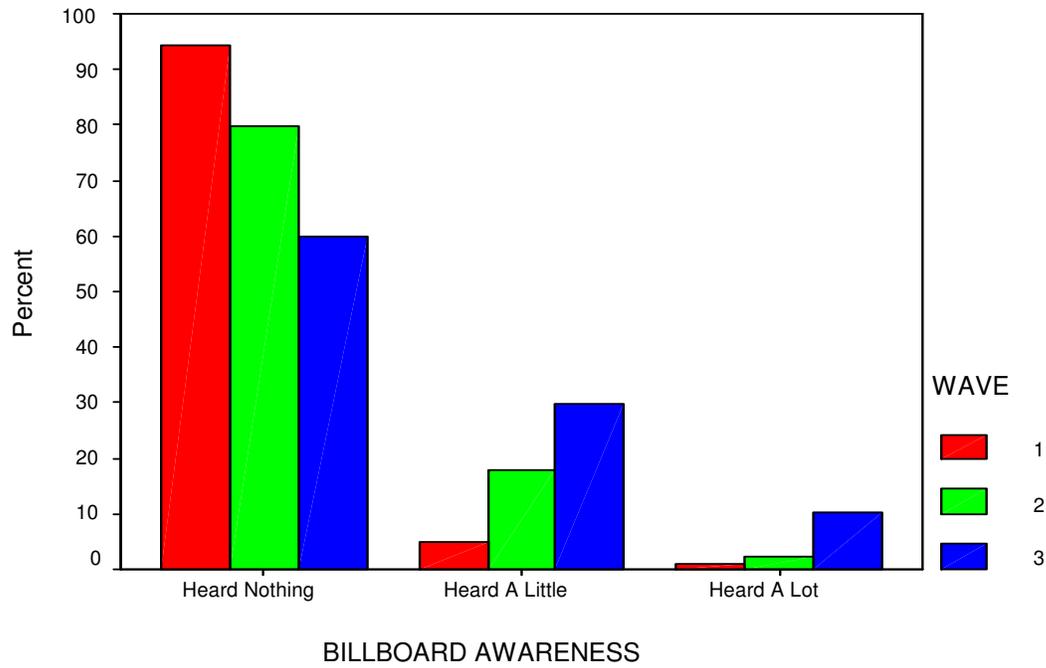


Figure 29: Distribution of total population regarding hearing about the census in meetings of a religious group or at place of worship by wave

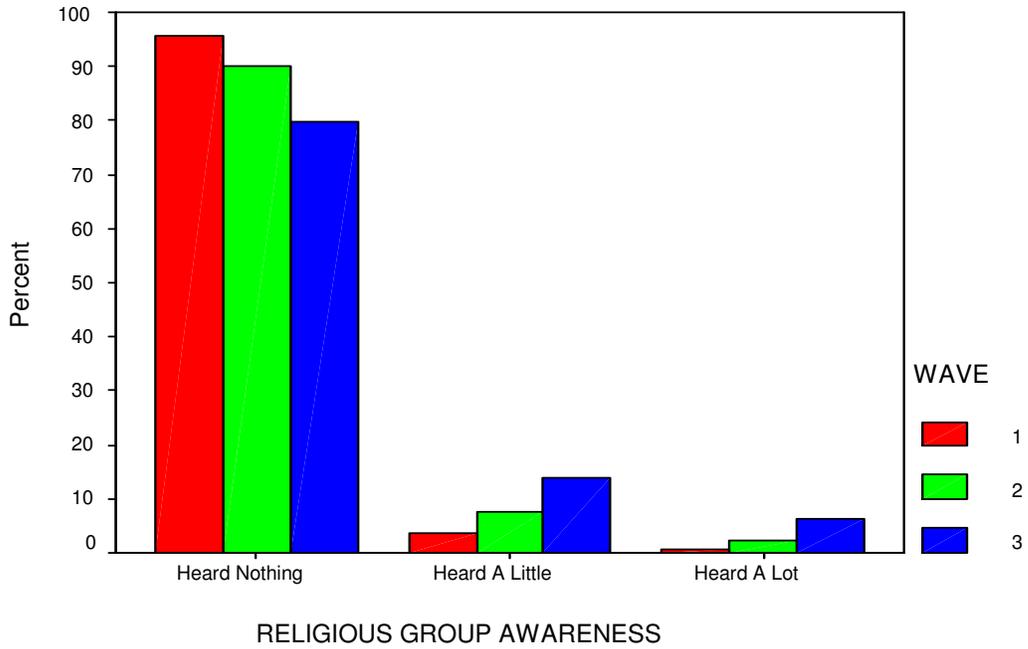


Figure 30: Distribution of total population regarding hearing about the census in meetings or activities of a community or government organization by wave

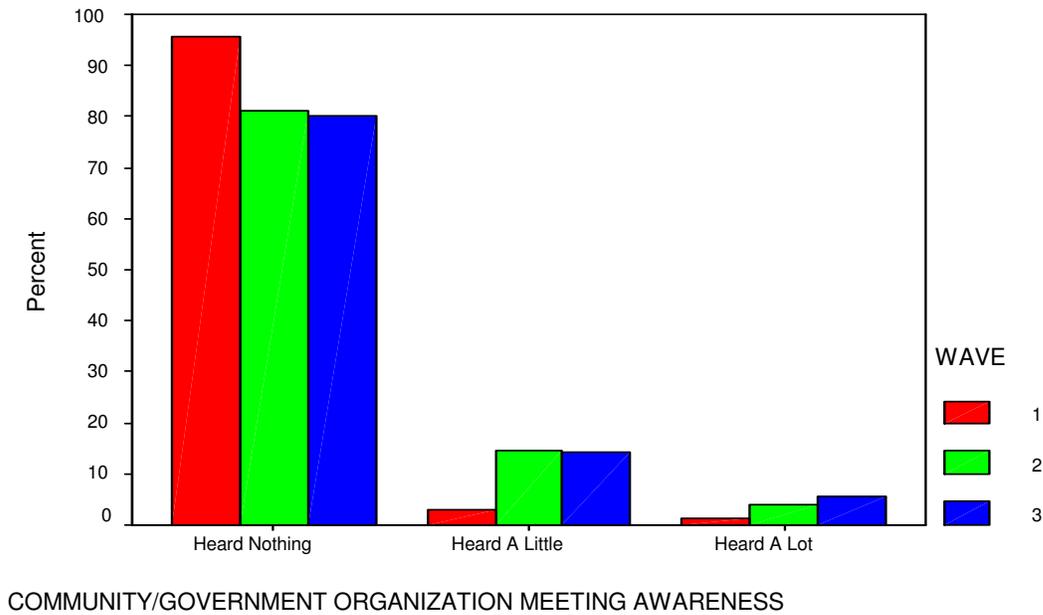


Figure 31: Distribution of total population regarding hearing about the census from informal conversations by wave

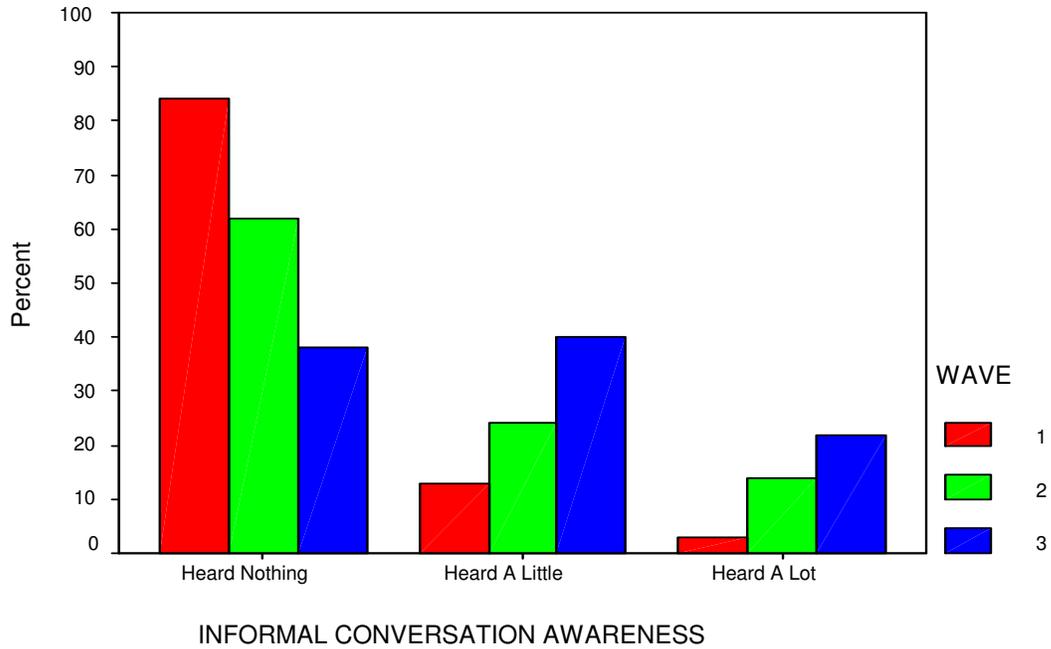


Figure 32: Distribution of total population regarding hearing about the census in schools you attended by wave

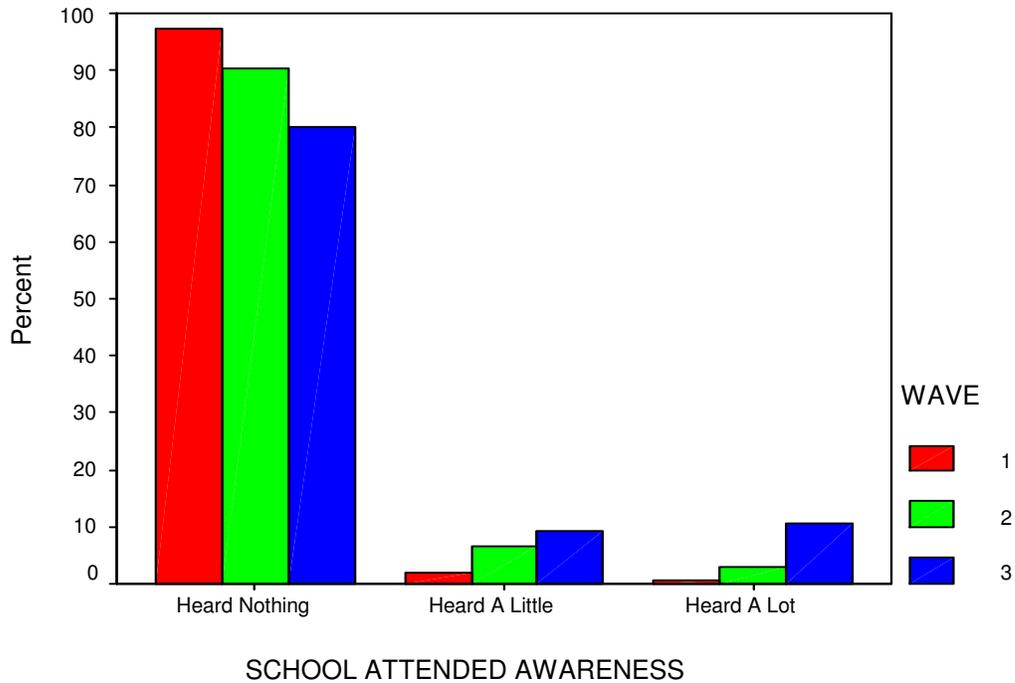


Figure 33: Distribution of total population regarding hearing about the Census in things your children have brought home from school, by wave

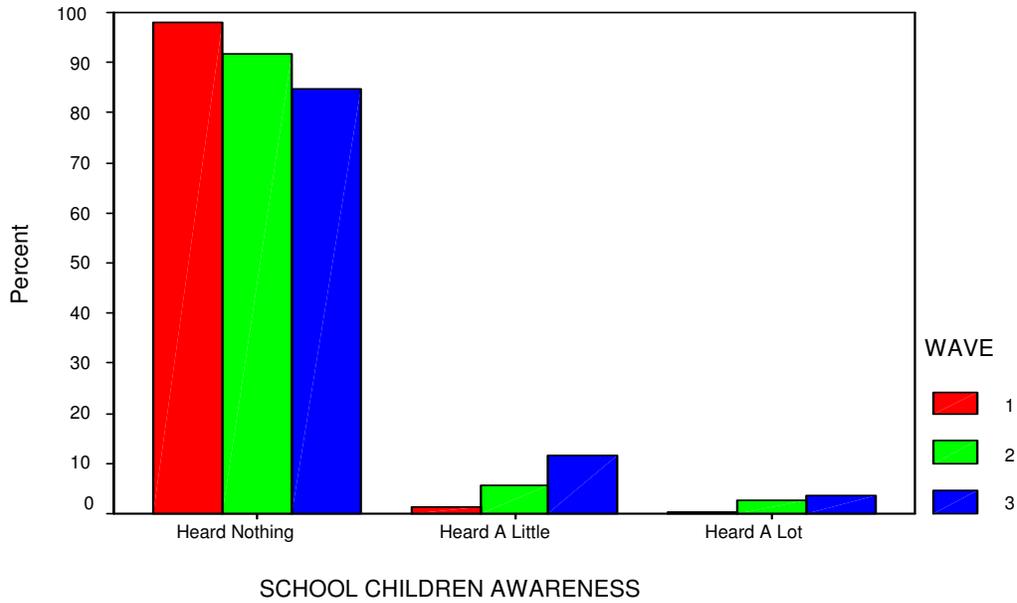


Figure 34: Distribution of total population regarding hearing about the census job announcements, by wave

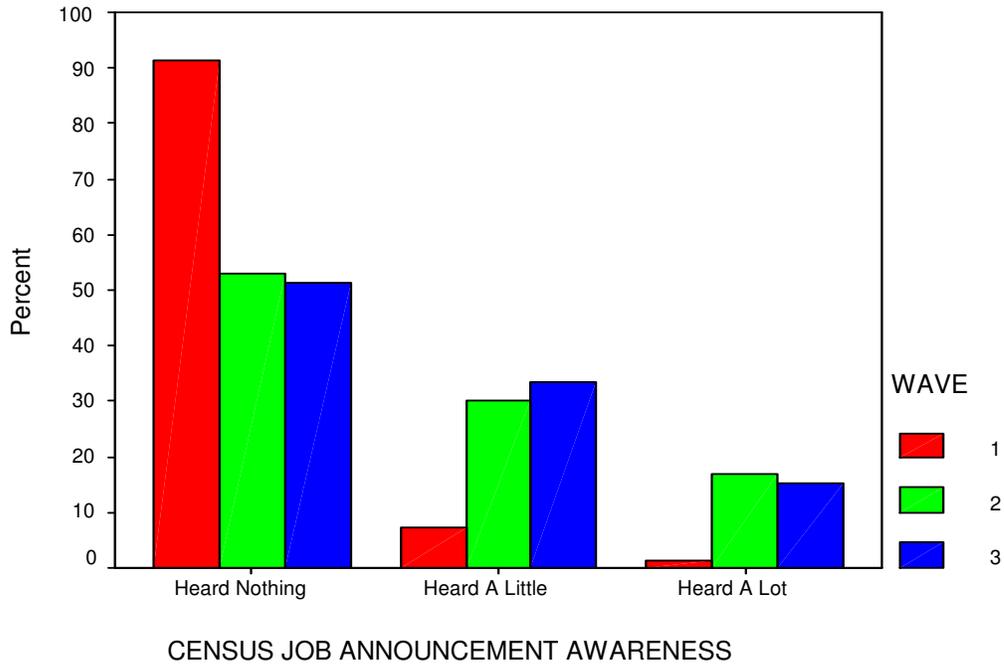


Figure 35: Distribution of total population regarding hearing about the census at conference exhibit booth by wave

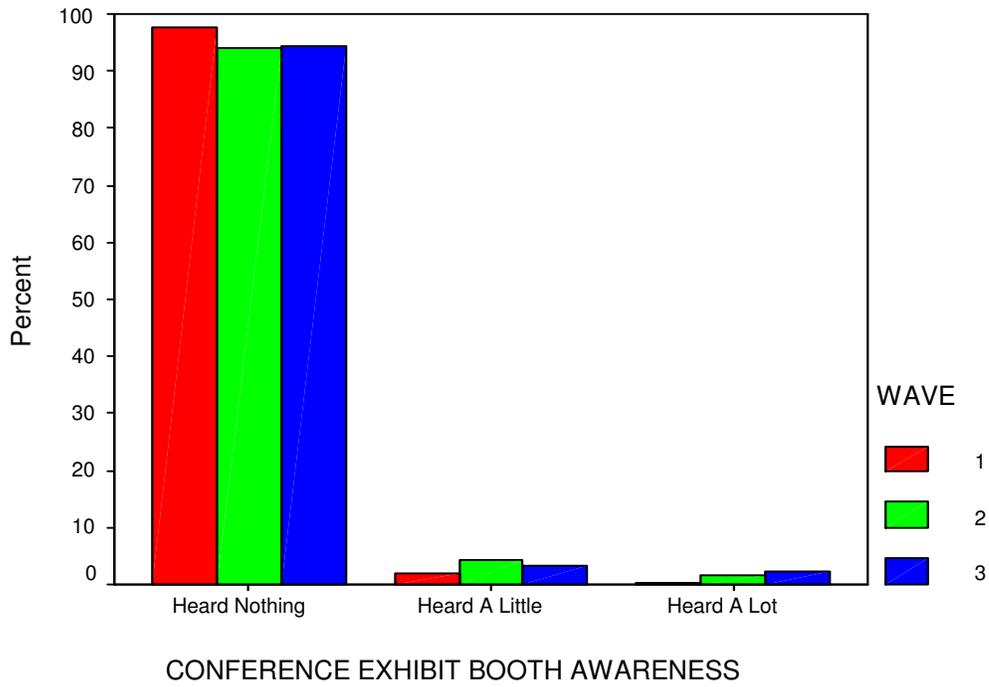


Figure 36: Distribution of total population regarding hearing about the census on signs or posters inside buildings by wave

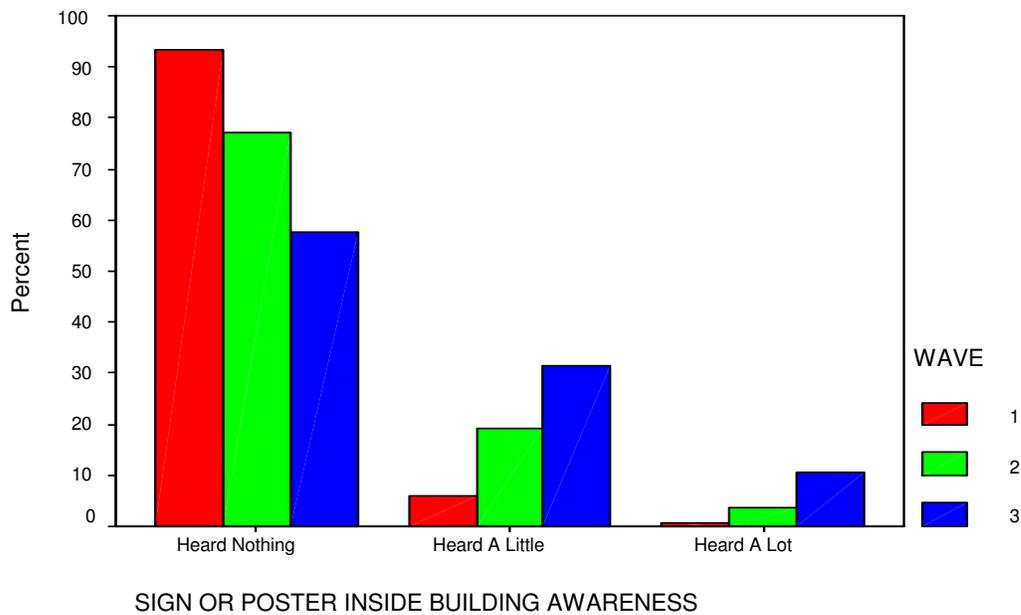


Figure 37: Distribution of total population regarding hearing about the census in a speech made by government official or community leader by wave

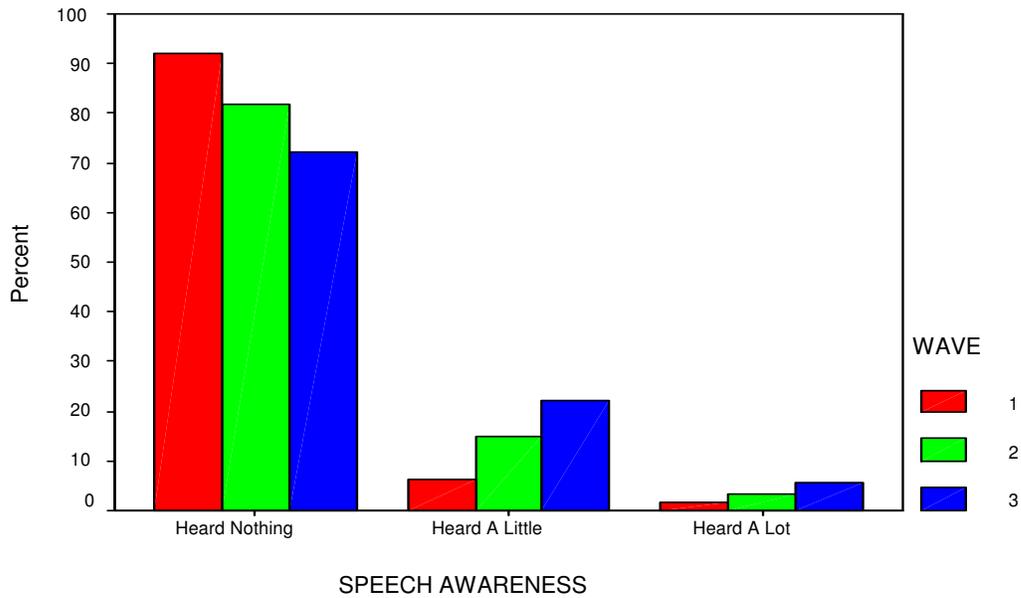


Figure 38: Distribution of total population regarding hearing about the census in articles you read in publications by wave

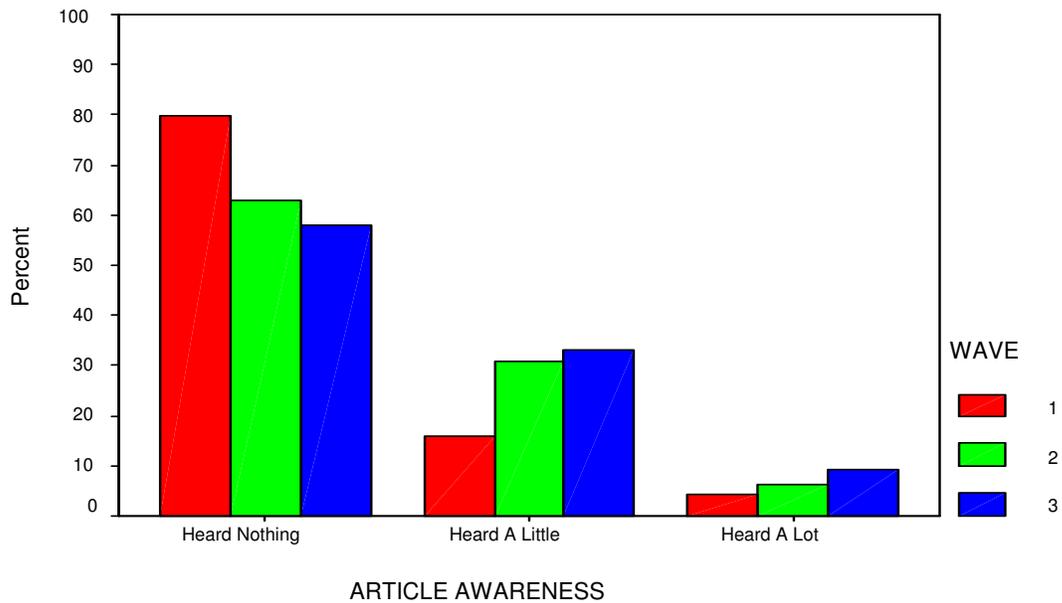


Figure 39: Distribution of total population regarding hearing about the census on the Internet by wave

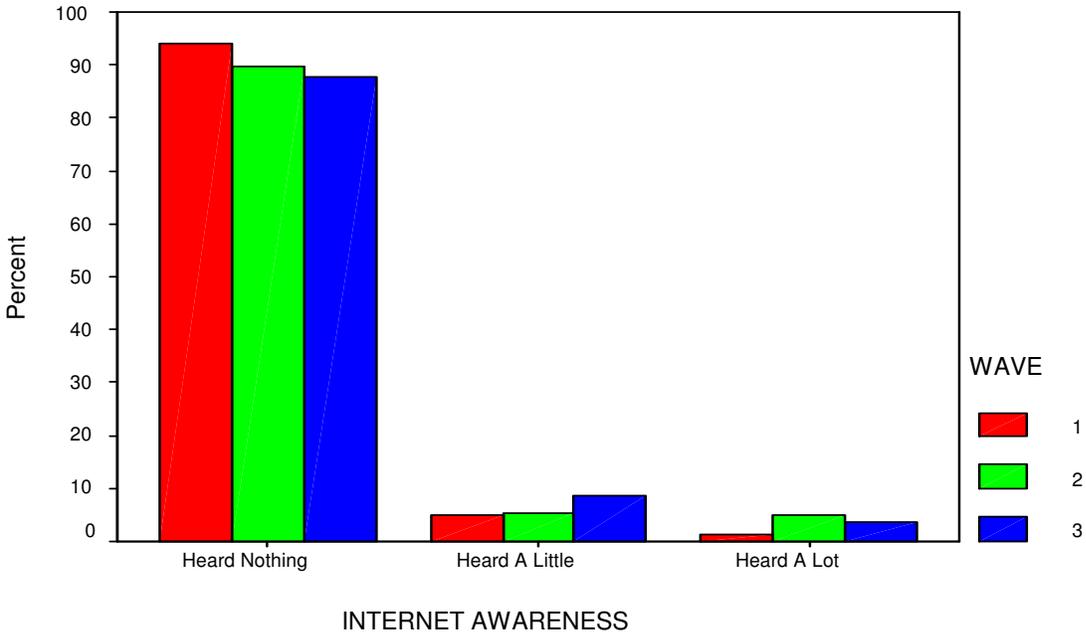


Figure 40: Distribution of total population regarding hearing about the census on paycheck or utility bill insert by wave

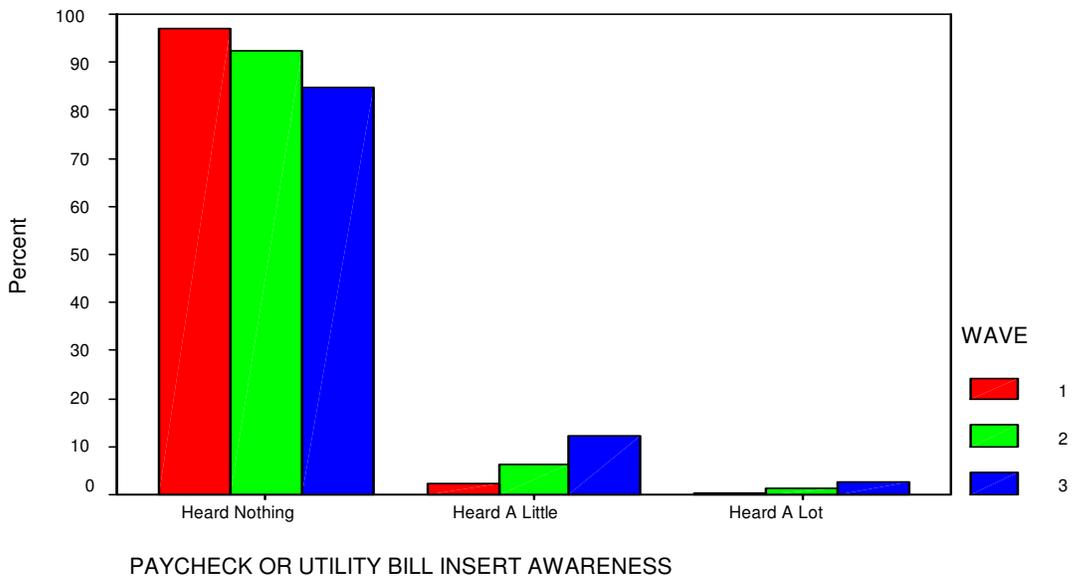
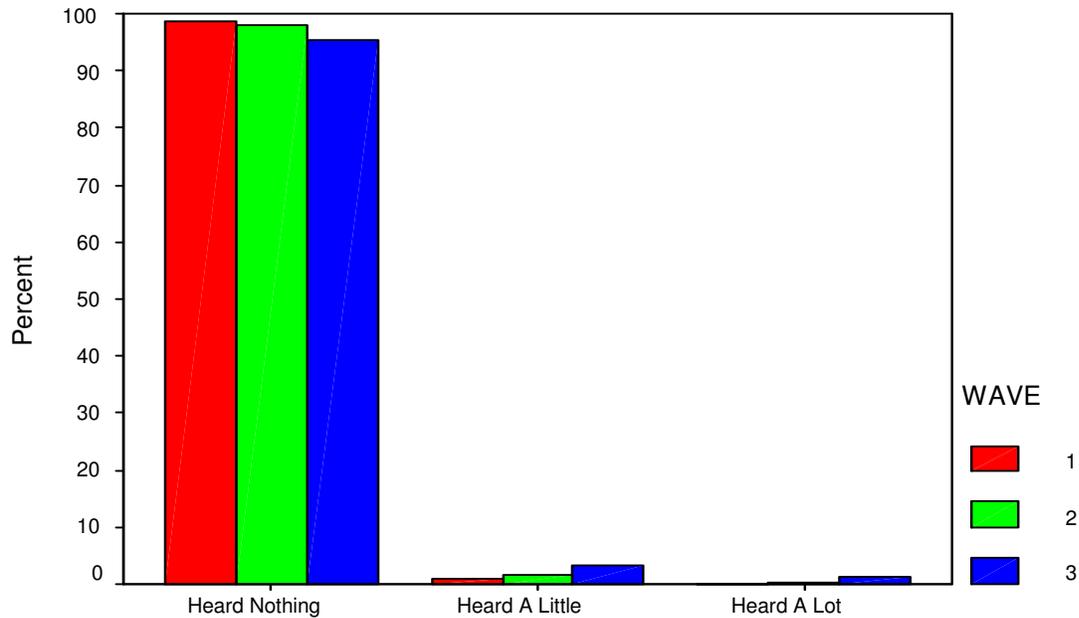


Figure 41: Distribution of total population regarding hearing about the census from participation on a complete count committee by wave⁷



PARTICIPATE ON COMPLETE COUNT COMMITTEE AWARENESS

Table 9 contains the means for each of the two aggregate communication measures. As shown in Appendices D, E, F, respondents were asked to react to each source of communications on a three-point scale: 1 = did not hear or see anything, 2 = heard or saw a little bit, and 3 = heard or saw a lot. Each of the aggregate measures is derived as a simple mean of the corresponding questionnaire items, and thus each is also on the same three-point scale. The means presented in Table 9 are calculated over respondents in the sample (on a weighted basis). Thus, for example, the estimated mean of 1.13 for mass-media communications in Wave 1 signifies that the population as a whole has achieved a level of awareness slightly in excess of "did not hear or see anything."

Consider, first, awareness of mass-media. For the total population there is a significant increase from Wave 1 to 2, from Wave 2 to 3, and from Wave 1 to 3. For Hispanics, non-Hispanic African Americans, non-Hispanic Whites, Asians, American Indians, and Native Hawaiians, there is a significant increase from Wave 1 to 2, from Wave 2 to 3, and from Wave 1 to 3. Across all of the sample groups, awareness of mass-media increased over time. People became more aware of communications from mass-media sources over the time period of the study.

⁷ Participation on complete count committees was included as an activity on the survey questionnaire for purposes of completeness but the actual purpose of the complete count committees was to serve as planning groups. Not all planning groups referred to themselves as complete count committees, so this data should not be used to interpret the effectiveness of the Census 2000 Partnership and Marketing Program on encouraging participation on complete count committees.

Given the overall pattern of significant increases in the awareness of mass-media, we can examine changes in the awareness of specific types of mass-media. Means and significance levels are shown in Tables 10 through 17, each table corresponding to a different race/ethnicity population:

- For the total population, there were increases in awareness due to television, magazines, radio, newspaper, and billboard ads. The estimated increase from Wave 2 to 3 for magazines is not significant.
- For Hispanics, non-Hispanic African Americans, non-Hispanic Whites, Asians, and Native Hawaiians, there were increases in awareness due to television, magazines, radio, newspaper, and billboard ads. The estimated increase from Wave 2 to 3 for magazines was usually not significant. This finding is consistent with our understanding that most magazine ads appeared prior to census day.
- For American Indians, there were increases in awareness due to television, magazines, radio, newspapers, and billboard ads. Several of the increases from Wave 2 to 3 were not statistically significant.

Consistent with the results for aggregated awareness of mass-media communications, awareness of specific media increased over time, though not for all types of media for all of the race/ethnicity populations.

Table 9: Mean awareness of mass-media and community-based communications

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population						
Mass-media	1.13 (.012)	1.51 (.041)	1.76 (.027)	<.0001 *	<.0001 *	<.0001 *
Community-based communications	1.09 (.011)	1.27 (.026)	1.37 (.019)	<.0001 *	.0030 *	<.0001 *
Hispanic						
Mass-media	1.23 (.027)	1.57 (.035)	1.85 (.051)	<.0001 *	<.0001 *	<.0001 *
Community-based Communications	1.09 (.017)	1.27 (.028)	1.42 (.029)	<.0001 *	.0006 *	<.0001 *
Non-Hispanic						
African American						
Mass-media	1.18 (.027)	1.66 (.034)	1.90 (.034)	<.0001 *	<.0001 *	<.0001 *
Community-based Communications	1.14 (.020)	1.33 (.025)	1.51 (.038)	<.0001 *	.0005 *	<.0001 *
Non-Hispanic White						
Mass-media	1.10 (.016)	1.46 (.053)	1.71 (.041)	<.0001 *	.0006 *	.0000 *
Community-based Communications	1.07 (.015)	1.25 (.039)	1.33 (.026)	<.0001 *	.2655	.0000 *
Other						
Mass-media	1.11 (.072)	1.44 (.075)	1.88 (.068)	.0057 *	<.0001 *	<.0001 *
Community-based Communications	1.10 (.064)	1.23 (.051)	1.38 (.038)	.3567	.0587 *	<.0001 *
Asian						
Mass-media	1.13 (.016)	1.50 (.030)	1.70 (.023)	<.0001 *	<.0001 *	<.0001 *
Community-based Communications	1.07 (.011)	1.23 (.022)	1.30 (.022)	<.0001 *	.0535 *	<.0001 *
American Indian						
Mass-media	1.20 (.047)	1.49 (.068)	1.70 (.063)	.0016 *	.0590 *	<.0001 *
Community-based Communications	1.13 (.034)	1.26 (.036)	1.42 (.063)	.0337 *	.0799 *	<.0001 *
Native Hawaiian						
Mass-media	1.10 (.014)	1.38 (.040)	1.75 (.035)	<.0001 *	<.0001 *	<.0001 *
Community-based Communications	1.07 (.010)	1.18 (.021)	1.39 (.023)	<.0001 *	<.0001 *	<.0001 *

Table 10: Mean awareness of different sources of mass-media communications: total population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (.020)	1.87 (.089)	2.24 (.044)	<.0001 *	.0005 *	<.0001 *
Magazines	1.11 (.021)	1.35 (.033)	1.42 (.032)	<.0001 *	.3341	<.0001 *
Radio	1.11 (.020)	1.52 (.055)	1.88 (.038)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.21 (.028)	1.51 (.047)	1.72 (.036)	<.0001 *	.0010 *	<.0001 *
Billboard	1.07 (.015)	1.23 (.033)	1.50 (.048)	<.0001 *	<.0001 *	<.0001 *

Table 11: Mean awareness of different sources of mass-media communications: Hispanic

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.35 (.042)	2.02 (.063)	2.29 (.077)	<.0001 *	.0182 *	<.0001 *
Magazines	1.15 (.035)	1.34 (.044)	1.46 (.053)	.0032 *	.1942	<.0001 *
Radio	1.29 (.036)	1.70 (.065)	2.09 (.090)	<.0001 *	.0013 *	<.0001 *
Newspaper	1.26 (.043)	1.42 (.060)	1.71 (.058)	.0756 *	.0014 *	<.0001 *
Billboard	1.07 (.018)	1.35 (.043)	1.61 (.060)	<.0001 *	.0011 *	<.0001 *

Table 12: Mean awareness of different sources of mass-media communications: non-Hispanic African American

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.22(.029)	2.05(.051)	2.34(.047)	<.0001 *	<.0001 *	<.0001 *
Magazines	1.17(.044)	1.47(.039)	1.53(.045)	<.0001 *	.7472	<.0001 *
Radio	1.15(.032)	1.79(.056)	2.13(.049)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.20(.033)	1.58(.060)	1.78(.055)	<.0001 *	.0449 *	<.0001 *
Billboard	1.13(.029)	1.36(.047)	1.67(.057)	<.0001 *	<.0001 *	<.0001 *

Table 13: Mean awareness of different sources of mass-media communications: non-Hispanic White

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.09 (.024)	1.80 (.121)	2.20 (.064)	<.0001 *	.0106 *	<.0001 *
Magazines	1.08 (.030)	1.33 (.042)	1.37 (.047)	<.0001 *	1.0000	<.0001 *
Radio	1.08 (.028)	1.43 (.077)	1.77 (.053)	<.0001 *	.0008 *	<.0001 *
Newspaper	1.21 (.044)	1.51 (.066)	1.70 (.050)	.0006 *	.0610 *	<.0001 *
Billboard	1.04 (.017)	1.17 (.040)	1.44 (.065)	.0111 *	.0013 *	<.0001 *

Table 14: Mean awareness of different sources of mass-media communications: all other

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.11 (.062)	1.78 (.188)	2.35 (.116)	.0020 *	.0297 *	<.0001 *
Magazines	1.07 (.057)	1.22 (.082)	1.65 (.120)	.4144	.0096 *	<.0001 *
Radio	1.04 (.019)	1.31 (.093)	1.97 (.113)	.0162 *	<.0001 *	<.0001 *
Newspaper	1.13 (.071)	1.53 (.107)	1.87 (.104)	.0067 *	.0614 *	<.0001 *
Billboard	1.13 (.113)	1.32 (.109)	1.56 (.100)	.6836	.3222	.0139 *

Table 15: Mean awareness of different sources of mass-media communications: Asian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (.022)	1.76 (.047)	2.15 (.042)	<.0001 *	<.0001 *	<.0001 *
Magazines	1.10 (.023)	1.31 (.037)	1.36 (.025)	<.0001 *	.6524	<.0001 *
Radio	1.10 (.017)	1.43 (.039)	1.59 (.034)	<.0001 *	.0052 *	<.0001 *
Newspaper	1.20 (.032)	1.60 (.047)	1.82 (.035)	<.0001 *	.0004 *	<.0001 *
Billboard	1.06 (.016)	1.28 (.031)	1.56 (.032)	<.0001 *	<.0001 *	<.0001 *

Table 16: Mean awareness of different sources of mass-media communications: American Indian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.22 (.045)	1.69 (.077)	1.97 (.076)	<.0001 *	.0266 *	<.0001 *
Magazines	1.15 (.044)	1.37 (.073)	1.46 (.073)	.0381 *	1.000	.0011 *
Radio	1.20 (.052)	1.50 (.089)	1.73 (.071)	.0115 *	.1410	<.0001 *
Newspaper	1.25 (.054)	1.52 (.076)	1.77 (.074)	.0125 *	.0566 *	<.0001 *
Billboard	1.14 (.044)	1.33 (.065)	1.49 (.059)	.0424 *	.2128	<.0001 *

Table 17: Mean awareness of different sources of mass-media communications: Native Hawaiian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (.026)	1.58 (.062)	2.20 (.053)	<.0001 *	<.0001 *	<.0001 *
Magazines	1.10 (.021)	1.21 (.042)	1.37 (.039)	.0855 *	.0144 *	<.0001 *
Radio	1.07 (.016)	1.37 (.049)	1.82 (.053)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.13 (.021)	1.57 (.066)	1.95 (.056)	<.0001 *	<.0001 *	<.0001 *
Billboard	1.03 (.010)	1.14 (.028)	1.35 (.042)	.0008 *	<.0001 *	<.0001 *

Returning to Table 9 we can also examine our second composite index: awareness of community-based communications. Recall that aggregate community-based communications is averaged over the following sources: religious groups; community/government organization meetings; informal conversations; schools you attended; schools your children attend; census job announcements; conference exhibit booths; signs or posters inside buildings; speeches; articles; the internet; paycheck or utility bill inserts; and participation on a complete count committee. For the total population, there is a significant increase from Wave 1 to Wave 2, from Wave 2 to 3, and from Wave 1 to 3. For Hispanics, non-Hispanic African Americans, Asians, American Indians, and Native Hawaiians there is a significant increase from Wave 1 to Wave 2, from Wave 2 to 3, and from Wave 1 to 3. For non-Hispanic Whites, there is a significant increase from Wave 1 to Wave 2 and from Wave 1 to 3. The estimated increase from Wave 2 to 3 is not significant.

Across all of the sample groups, awareness of community-based communications increased over time, leveling off from Wave 2 to 3 for non-Hispanic Whites.

Results for the specific sources that make up aggregate community-based communications are presented in Tables 18 through 25.

- For total population, awareness from Wave 1 to 3 increased due to all sources. Trends from Wave 1 to 2 are significant, except for conference exhibit booths, Internet, and participation on a complete count committee.⁸ About half of the trends from Wave 2 to 3

⁸ Participation on complete count committees was included as an activity on the survey questionnaire for purposes of completeness but the actual purpose of the complete count committees was to serve as planning groups. Not all planning groups referred to themselves as complete count committees, so this data should not be used to interpret the effectiveness of the Census 2000 Partnership and Marketing Program on encouraging participation on complete count committees.

are significant. The time gaps from Wave 1 to 2 and from Wave 2 to 3 are roughly September to February and February to May, respectively. The timing of community-based communications in these gaps may influence the pattern of significant findings. For example, the trend due to schools your children attend is significant from Wave 1 to 2, during a period in which there was active census communication through schools, is not significant from Wave 2 to 3, during a period when schools and students are emphasizing other end-of-the-school-year activities.

- For Hispanics, awareness from Wave 1 to 3 increased due to all sources. Three of the increases from Wave 2 to 3 were significant, including informal conversations, signs or posters inside buildings, and articles.
- For non-Hispanic African Americans, awareness from Wave 1 to 3 increased due to all sources. While the pattern is complicated for Waves 1 to 2 and Waves 2 to 3, over half of the trends are significant.
- For non-Hispanic Whites, awareness increased from Wave 1 to 3 due to all sources except conference exhibit booths, Internet, and participation on a complete count committee.⁹ Less than half of the trends from Wave 1 to 2 and from Wave 2 to 3 are significant.
- For Asians, awareness from Wave 1 to 3 increased due to all sources except conference exhibit booths and participation on a complete count committee.⁹ Evidently, Internet was effective for Asians. Again, the pattern is mixed and complicated for trends from Wave 1 to 2 and Wave 2 to 3.
- For American Indians, awareness from Wave 1 to 3 increased due to all sources except conference exhibit booths, and participation on a complete count committee.⁹ Less than half of the trends from Wave 1 to 2 and Wave 2 to 3 are significant.
- For Native Hawaiians awareness from Wave 1 to 3 increased due to all sources. Less than half of the trends from Wave 1 to 2 are significant. Interestingly, most trends from Wave 2 to 3 are significant, except for census job announcements and the Internet. The apparent movement from Wave 2 to 3 is statistically significant, though it was not so much so for other race/ethnicity populations. Census job announcements may not have appeared during this period.

⁹ Participation on complete count committees was included as an activity on the survey questionnaire for purposes of completeness but the actual purpose of the complete count committees was to serve as planning groups. Not all planning groups referred to themselves as complete count committees, so this data should not be used to interpret the effectiveness of the Census 2000 Partnership and Marketing Program on encouraging participation on complete count committees.

Table 18: Mean awareness of different sources of community-based communications: total population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.05 (.015)	1.12 (.022)	1.27 (.031)	.0224 *	.0006 *	<.0001 *
Community/Government Organization Meeting	1.05 (.010)	1.23 (.036)	1.25 (.026)	<.0001 *	1.0000	<.0001 *
Informal conversations	1.19 (.034)	1.52 (.068)	1.84 (.040)	<.0001 *	.0002 *	<.0001 *
Schools You Attended	1.03 (.009)	1.13 (.024)	1.30 (.052)	.0009 *	.0059 *	<.0001 *
Schools Your Children Attend	1.02 (.008)	1.11 (.027)	1.19 (.025)	.0059 *	.1246	<.0001 *
Census Job Announcements	1.10 (.020)	1.64 (.064)	1.64 (.036)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.03 (.009)	1.08 (.027)	1.08 (.018)	.2208	1.0000	.0305 *
Signs or Posters Inside Buildings	1.07 (.020)	1.26 (.030)	1.53 (.034)	<.0001 *	<.0001 *	<.0001 *
Speeches	1.10 (.018)	1.21 (.036)	1.33 (.031)	.0115 *	.0412 *	<.0001 *
Articles	1.25 (.044)	1.44 (.043)	1.51 (.043)	.0065 *	.5885	<.0001 *
Internet	1.07 (.023)	1.15 (.053)	1.16 (.023)	.5089	1.0000	.0267 *
Paycheck or Utility Bill Inserts	1.03 (.009)	1.09 (.020)	1.18 (.034)	.0330 *	.0642 *	<.0001 *
Participation on Complete-Count Committee	1.01 (.005)	1.02 (.007)	1.06 (.014)	.7874	.0268 *	.0022 *

Table 19: Mean awareness of different sources of community-based communications: Hispanic

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.07 (.019)	1.18 (.035)	1.29 (.045)	.0156 *	.1979	<.0001 *
Community/Government Organization Meeting	1.08 (.023)	1.20 (.049)	1.24 (.030)	.0702 *	1.0000	<.0001 *
Informal conversations	1.20 (.035)	1.51 (.052)	1.94 (.063)	<.0001 *	<.0001 *	<.0001 *
Schools You Attended	1.05 (.014)	1.22 (.066)	1.40 (.117)	.0360 *	.5356	.0087 *
Schools Your Children Attend	1.07 (.022)	1.25 (.066)	1.30 (.038)	.0221 *	1.0000	<.0001 *
Census Job Announcements	1.16 (.032)	1.56 (.054)	1.61 (.072)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.03 (.012)	1.17 (.063)	1.12 (.026)	.1028	1.0000	.0109 *
Signs or Posters Inside Buildings	1.06 (.012)	1.20 (.027)	1.67 (.071)	<.0001 *	<.0001 *	<.0001 *
Speeches	1.14 (.050)	1.27 (.044)	1.43 (.067)	.1650	.1460	.0019 *
Articles	1.15 (.045)	1.33 (.052)	1.49 (.052)	.0348 *	.0717 *	<.0001 *
Internet	1.02 (.007)	1.18 (.070)	1.16 (.041)	.0652 *	1.0000	.0041 *
Paycheck or Utility Bill Inserts	1.03 (.011)	1.15 (.043)	1.22 (.060)	.0239 *	1.0000	.0063 *
Participation on Complete-Count Committee	1.01 (.005)	1.06 (.032)	1.05 (.014)	.3895	1.0000	.0505 *

Table 20: Mean awareness of different sources of community-based communications: non-Hispanic African American

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.13 (.030)	1.31 (.050)	1.48 (.064)	.0046 *	.1174	<.0001 *
Community/Government Organization Meeting	1.18 (.039)	1.30 (.039)	1.46 (.064)	.0934 *	.1022	.0006 *
Informal conversations	1.25 (.040)	1.62 (.049)	1.97 (.049)	<.0001 *	<.0001 *	<.0001 *
Schools You Attended	1.09 (.031)	1.20 (.048)	1.42 (.062)	.2216	.0109 *	<.0001 *
Schools Your Children Attend	1.05 (.029)	1.17 (.043)	1.34 (.038)	.0766 *	.0073 *	<.0001 *
Census Job Announcements	1.19 (.036)	1.76 (.055)	1.86 (.065)	<.0001 *	.7282	<.0001 *
Conference Exhibit Booths	1.07 (.028)	1.04 (.012)	1.17 (.030)	1.0000	.0002 *	.0275 *
Signs or Posters Inside Buildings	1.12 (.029)	1.46 (.051)	1.73 (.055)	<.0001 *	.0010 *	<.0001 *
Speeches	1.17 (.035)	1.31 (.042)	1.47 (.045)	.0308 *	.0295 *	<.0001 *
Articles	1.21 (.038)	1.41 (.037)	1.51 (.047)	.0003 *	.3110	<.0001 *
Internet	1.10 (.036)	1.17 (.035)	1.25 (.049)	.5072	.5811	.0452 *
Paycheck or Utility Bill Inserts	1.09 (.025)	1.16 (.050)	1.28 (.046)	.4683	.2549	.0006 *
Participation on Complete-Count Committee	1.02 (.013)	1.05 (.020)	1.16 (.052)	.7740	.1464	.0327 *

Table 21: Mean awareness of different sources of community-based communications: non-Hispanic White

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.03 (.020)	1.07 (.029)	1.21 (.043)	.8636	.0198 *	.0005 *
Community/Government Organization Meeting	1.02 (.005)	1.22 (.055)	1.21 (.037)	.0006 *	1.0000	<.0001 *
Informal conversations	1.18 (.051)	1.51 (.102)	1.79 (.055)	.0135 *	.0451 *	<.0001 *
Schools You Attended	1.02 (.011)	1.09 (.036)	1.26 (.067)	.1508	.0902 *	.0013 *
Schools Your Children Attend	1.00 (.002)	1.04 (.024)	1.11 (.035)	.6376	.1981	.0059 *
Census Job Announcements	1.07 (.025)	1.63 (.094)	1.59 (.047)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.01 (.010)	1.07 (.036)	1.05 (.021)	.3542	1.0000	.2604
Signs or Posters Inside Buildings	1.07 (.029)	1.24 (.040)	1.45 (.045)	.0018 *	.0011 *	<.0001 *
Speeches	1.07 (.023)	1.19 (.052)	1.28 (.043)	.1119	.4854	<.0001 *
Articles	1.28 (.065)	1.47 (.059)	1.51 (.061)	.0728 *	1.0000	.0209 *
Internet	1.08 (.034)	1.14 (.079)	1.13 (.030)	1.0000	1.0000	.6179
Paycheck or Utility Bill Inserts	1.02 (.010)	1.06 (.020)	1.15 (.046)	.2361	.1891	.0153 *
Participation on Complete-Count Committee	1.00 (.002)	1.01 (.006)	1.04 (.018)	1.0000	.1905	.1109

Table 22: Mean awareness of different sources of community-based communications: all other

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.06 (.056)	1.15 (.074)	1.34 (.092)	1.0000	.3373	.0336 *
Community/Government Organization Meeting	1.10 (.064)	1.14 (.073)	1.28 (.108)	1.0000	.8856	.4828
Informal conversations	1.11 (.064)	1.41 (.198)	1.80 (.087)	.4516	.2190	<.0001 *
Schools You Attended	1.01 (.010)	1.13 (.060)	1.37 (.174)	.1371	.5652	.1096
Schools Your Children Attend	1.06 (.057)	1.40 (.228)	1.13 (.050)	.4527	.7505	1.0000
Census Job Announcements	1.07 (.058)	1.58 (.192)	1.68 (.097)	.0347 *	1.0000	<.0001 *
Conference Exhibit Booths	1.07 (.057)	1.03 (.026)	1.02 (.008)	1.0000	1.0000	1.0000
Signs or Posters Inside Buildings	1.03 (.015)	1.23 (.098)	1.60 (.096)	.1435	.0193 *	<.0001 *
Speeches	1.12 (.071)	1.10 (.044)	1.35 (.114)	1.0000	.1354	.2755
Articles	1.23 (.127)	1.22 (.098)	1.58 (.098)	1.0000	.0290 *	.0923 *
Internet	1.07 (.057)	1.16 (.125)	1.30 (.080)	1.0000	1.0000	.0639 *
Paycheck or Utility Bill Inserts	1.07 (.057)	1.15 (.071)	1.10 (.035)	1.0000	1.0000	1.0000
Participation on Complete-Count Committee	1.07 (.057)	1.04 (.035)	1.05 (.031)	1.0000	1.0000	1.0000

Table 23: Mean awareness of different sources of community-based communications: Asian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.03 (.010)	1.16 (.026)	1.19 (.022)	<.0001 *	1.0000	<.0001 *
Community/Government Organization Meeting	1.04 (.013)	1.14 (.027)	1.16 (.020)	.0031 *	1.0000	<.0001 *
Informal conversations	1.13 (.026)	1.42 (.039)	1.66 (.031)	<.0001 *	<.0001 *	<.0001 *
Schools You Attended	1.02 (.006)	1.16 (.048)	1.21 (.028)	.0068 *	1.0000	<.0001 *
Schools Your Children Attend	1.00 (.002)	1.14 (.034)	1.22 (.034)	.0004 *	.2587	<.0001 *
Census Job Announcements	1.10 (.024)	1.38 (.045)	1.41 (.028)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.03 (.013)	1.03 (.008)	1.04 (.009)	1.0000	.6249	1.0000
Signs or Posters Inside Buildings	1.07 (.017)	1.26 (.044)	1.41 (.038)	<.0001 *	.0281 *	<.0001 *
Speeches	1.07 (.018)	1.10 (.017)	1.23 (.024)	.6225	<.0001 *	<.0001 *
Articles	1.12 (.020)	1.25 (.033)	1.41 (.033)	.0019 *	.0026 *	<.0001 *
Internet	1.03 (.009)	1.13 (.029)	1.21 (.027)	.0023 *	.1513	<.0001 *
Paycheck or Utility Bill Inserts	1.04 (.010)	1.08 (.016)	1.14 (.019)	.1153	.0333 *	<.0001 *
Participation on Complete-Count Committee	1.01 (.005)	1.02 (.010)	1.01 (.004)	.8410	1.0000	1.0000

Table 24: Mean awareness of different sources of community-based communications: American Indian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.04 (.012)	1.10 (.022)	1.20 (.059)	.0463 *	.3034	.0189 *
Community/Government Organization Meeting	1.14 (.037)	1.29 (.056)	1.38 (.062)	.0760 *	.7695	.0020 *
Informal conversations	1.18 (.042)	1.47 (.076)	1.73 (.084)	.0020 *	.0603 *	<.0001 *
Schools You Attended	1.05 (.022)	1.11 (.032)	1.26 (.077)	.5052	.1993	.0306 *
Schools Your Children Attend	1.05 (.019)	1.12 (.028)	1.27 (.065)	.0997 *	.1036	.0031 *
Census Job Announcements	1.24 (.073)	1.60 (.080)	1.67 (.076)	.0034 *	1.0000	.0002 *
Conference Exhibit Booths	1.10 (.029)	1.09 (.032)	1.17 (.045)	1.0000	.5180	.7459
Signs or Posters Inside Buildings	1.17 (.047)	1.54 (.084)	1.65 (.069)	.0005 *	.8209	<.0001 *
Speeches	1.10 (.028)	1.15 (.033)	1.39 (.049)	.6606	.0003 *	<.0001 *
Articles	1.17 (.038)	1.36 (.061)	1.43 (.061)	.0250 *	1.0000	.0008 *
Internet	1.03 (.012)	1.06 (.018)	1.19 (.049)	.3895	.0534 *	.0060 *
Paycheck or Utility Bill Inserts	1.03 (.010)	1.07 (.026)	1.16 (.053)	.3869	.4035	.0472 *
Participation on Complete-Count Committee	1.03 (.010)	1.06 (.028)	1.08 (.030)	1.0000	1.0000	.4384

Table 25: Mean awareness of different sources of community-based communications: Native Hawaiian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.05 (.013)	1.10 (.023)	1.25 (.034)	.1407	.0006 *	<.0001 *
Community/Government Organization Meeting	1.10 (.020)	1.17 (.035)	1.34 (.036)	.1935	.0023 *	<.0001 *
Informal conversations	1.14 (.025)	1.34 (.048)	1.88 (.048)	.0007 *	<.0001 *	<.0001 *
Schools You Attended	1.04 (.012)	1.08 (.023)	1.32 (.048)	.6090	<.0001 *	<.0001 *
Schools Your Children Attend	1.04 (.012)	1.13 (.031)	1.30 (.039)	.0258 *	.0023 *	<.0001 *
Census Job Announcements	1.09 (.018)	1.41 (.060)	1.57 (.046)	<.0001 *	.1300	<.0001 *
Conference Exhibit Booths	1.03 (.009)	1.06 (.025)	1.15 (.026)	.5077	.0406 *	<.0001 *
Signs or Posters Inside Buildings	1.08 (.018)	1.16 (.023)	1.51 (.044)	.0357 *	<.0001 *	<.0001 *
Speeches	1.04 (.012)	1.17 (.030)	1.45 (.041)	<.0001 *	<.0001 *	<.0001 *
Articles	1.11 (.021)	1.31 (.046)	1.58 (.044)	.0002 *	<.0001 *	<.0001 *
Internet	1.04 (.014)	1.06 (.021)	1.13 (.027)	1.0000	.1570	.0095 *
Paycheck or Utility Bill Inserts	1.05 (.016)	1.06 (.019)	1.20 (.030)	1.0000	.0006 *	<.0001 *
Participation on Complete-Count Committee	1.03 (.009)	1.01 (.006)	1.10 (.023)	.7705	.0006 *	.0064 *

The questionnaire contains questions about any use of television, magazines, radio, newspapers, religious groups, community/government meetings, schools you attended, schools your children attended, speeches, and the Internet. We replicated the analyses presented in Tables 10-25 for segments of users defined by use of these sources of communications. For example, we looked at awareness due to newspapers within the segment of people who ever read a newspaper; at awareness due to religious groups within the segment of people who ever attend church; and at awareness due to schools your children attend within the segment of people who have children living at home. All of the analyses by user segment appear in Appendix J.

Overall, we find similar trends in census awareness among people within user segments as among all people. The absolute levels of awareness due to television, magazines, and radio are about the same conditionally (i.e., conditioned on use) as they are unconditionally (i.e., defined for the whole population). This observation is not surprising because the corresponding segments of users comprise such large percentages of the whole population. The levels of

awareness due to newspapers, religious groups, community/government meetings, schools you attended, and schools your children attended are somewhat higher conditionally than they are unconditionally. Again, this observation is not surprising, because the corresponding user segments comprise somewhat smaller proportions of the whole population. Finally, awareness due to speeches and the Internet seem to be quite a bit higher for users than for the whole population.¹⁰ This too may be expected, since the corresponding segments comprise a relatively smaller proportion of the whole population. All of these observations regarding levels and trends of conditional awareness apply generally, with only rather minor exceptions, to all of the race/ethnicity populations. See Appendix J for supporting tables and figures.

The analyses presented above in Tables 10-25 address the question of awareness of sources of census communications in the whole population. The analyses within segments of users address a different issue, namely, the question of awareness within segments of users. Awareness trended similarly in user segments as in the whole population. Level of awareness is variously higher among users than in the whole population, depending on the size of the segment in relation to the whole population. Thus, both analyses lead to similar and supporting conclusions regarding the extent to which census communications got through to people.

4.2.2 Awareness by language spoken at home

Thus far, we have been looking at general awareness, awareness of mass-media, and awareness of community-based communications by race/ethnicity. Next, we examine these awareness variables by language spoken at home. For the total population, we created three language categories: an English-speaking group (TE), a Spanish-speaking group (TS), and an all other languages group (TO). For each of the Asian, American Indian, and Native Hawaiian groups, we created two language categories: English-speaking groups (AE, AIE, NHE) and all other languages groups (AO, AIO, NHO).

First, we examine the wave-to-wave trends of the mean general awareness of census communications found in Table 26. The total population, Asians, American Indians, and Native Hawaiians had significant increases across all waves. From Waves 1 to 2, 2 to 3, and 1 to 3, the trends of the language groups are largely consistent with the trends that appear in their respective populations. It should be noted that cases where trends for a language group are not significant display relatively large standard errors. Thus, their non-significant trends may be the result of small sample sizes, and not necessarily conclusive evidence of a departure from the significance trends appearing in their populations.

¹⁰ For speeches, the user segment is not defined perfectly. The distributions refer to a variable concerning speeches made by a community leader or government official, while the conditioning variable refers to meetings or speeches of a political party or candidate. Thus, even non-users reported hearing about the census in speeches. The unconditional trend in awareness of the population overall is in the positive or favorable direction and is mainly influenced by the trend of non-users. Meanwhile, the small user segment reflects essentially zero trend.

Table 26: Mean general awareness of census communications by language spoken at home

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	1.60 (.057)	2.54 (.104)	3.02 (.064)	<.0001 *	.0002 *	<.0001 *
English	1.58 (.061)	2.54 (.115)	3.05 (.069)	<.0001 *	.0004 *	<.0001 *
Spanish	1.83 (.169)	2.58 (.111)	2.83 (.172)	.0006 *	.6268	<.0001 *
Other	1.60 (.182)	2.45 (.271)	2.66 (.351)	.0280 *	1.0000	.0217 *
Asian	1.46 (.052)	2.28 (.068)	2.78 (.053)	<.0001 *	<.0001 *	<.0001 *
English	1.61 (.081)	2.61 (.131)	3.19 (.086)	<.0001 *	.0008 *	<.0001 *
Other	1.36 (.063)	2.18 (.073)	2.65 (.063)	<.0001 *	<.0001 *	<.0001 *
American Indian	1.52 (.080)	2.23 (.132)	2.68 (.126)	<.0001 *	.0439 *	<.0001 *
English	1.52 (.091)	2.29 (.149)	2.81 (.153)	<.0001 *	.0485 *	<.0001 *
Other	1.56 (.127)	2.05 (.219)	2.33 (.123)	.1505	.8206	<.0001 *
Native Hawaiian	1.36 (.047)	1.99 (.092)	2.86 (.071)	<.0001 *	<.0001 *	<.0001 *
English	1.37 (.048)	2.02 (.097)	2.87 (.072)	<.0001 *	<.0001 *	<.0001 *
Other	1.08 (.064)	1.68 (.222)	2.62 (.422)	.0298 *	.1499	.0010 *

We now compare the mean general awareness of census communications by language groups *within* waves. The AE group shows substantially higher awareness in all three waves than the AO group. This seems to be strong evidence that the AE group was better informed about census communications than the AO group, perhaps the result of a culturally assimilated group versus a culturally segregated group. Figure 42 shows the ratio of mean general awareness between a non-English language population (numerator) and the corresponding English-speaking population (denominator). Although most of the other language effects are not statistically significant, we observe a broad pattern of slightly lower estimated awareness in the non-English populations than in the corresponding English-speaking populations.

Turning to Table 27, we examine the trends of mean awareness of mass-media and community-based communications for each of the language groups. Generally, the English and Spanish speaking language groups for each population displays the same positive and significant trends as do their corresponding populations combining both language groups (total, Asian, American Indian, and Native Hawaiian). The other-language groups display uniformly weaker trends, and the trends from Waves 1 to 2 and from Waves 2 to 3 tend towards non-significance for the TO, AIO, and NHO groups. Trends for mass-media are almost always stronger than trends for community-based communications. Instances where significant conclusions can not be reached for a language group appear to be the result of high standard errors and not conclusive evidence of differences between language groups for a particular race/ethnicity population.

We now compare the awareness of mass-media and community-based communications across language groups *within* waves. See Figures 43 and 44. There is little evidence that awareness of mass-media communications differs by language spoken at home. Similarly, there is little evidence that awareness of community-based communications differs by language spoken at home.

Table 27: Mean awareness of mass-media and community-based communications by language spoken at home

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population						
Mass-media	1.13 (.012)	1.51 (.041)	1.76 (.027)	<.0001 *	<.0001 *	<.0001 *
Community-based communications	1.09 (.011)	1.27 (.026)	1.37 (.019)	<.0001 *	.0030 *	<.0001 *
Total English						
Mass-media	1.11 (.010)	1.50 (.044)	1.76 (.030)	<.0001 *	<.0001 *	<.0001 *
Community-based communications	1.08 (.012)	1.27 (.029)	1.37 (.020)	<.0001 *	.0174 *	<.0001 *
Total Spanish						
Mass-media	1.35 (.085)	1.63 (.045)	1.89 (.092)	.0103 *	.0379 *	<.0001 *
Community-based communications	1.16 (.062)	1.25 (.021)	1.46 (.057)	.4266	.0018 *	.0009 *
Total Other						
Mass-media	1.22 (.073)	1.36 (.064)	1.65 (.145)	.4496	.2210	.0270 *
Community-based communications	1.14 (.046)	1.23 (.051)	1.38 (.110)	.5655	.6957	.1458
Asian						
Mass-media	1.13 (.016)	1.50 (.030)	1.70 (.023)	<.0001 *	<.0001 *	<.0001 *
Community-based communications	1.07 (.011)	1.23 (.022)	1.30 (.022)	<.0001 *	.0535 *	<.0001 *
Asian English						
Mass-media	1.16 (.029)	1.51 (.073)	1.86 (.042)	<.0001 *	<.0001 *	<.0001 *
Community-based communications	1.08 (.017)	1.27 (.055)	1.38 (.037)	.0035 *	.3204	<.0001 *
Asian Other						
Mass-media	1.11 (.018)	1.50 (.032)	1.65 (.028)	<.0001 *	.0009 *	<.0001 *
Community-based communications	1.06 (.013)	1.22 (.023)	1.28 (.027)	<.0001 *	.2197	<.0001 *
American Indian Total						
Mass-media	1.20 (.047)	1.49 (.068)	1.70 (.063)	.0016 *	.0590 *	<.0001 *
Community-based communications	1.13 (.034)	1.26 (.036)	1.42 (.063)	.0337 *	.0799 *	.0002 *
American Indian English						
Mass-media	1.19 (.048)	1.46 (.064)	1.74 (.078)	.0026 *	.0175 *	<.0001 *
Community-based communications	1.13 (.036)	1.24 (.036)	1.46 (.08)	.0900 *	.0386 *	.0005 *
American Indian Other						
Mass-media	1.24 (.068)	1.57 (.139)	1.61 (.053)	.1036	1.0000	<.0001 *
Community-based communications	1.14 (.045)	1.31 (.068)	1.31 (.032)	.1340	1.0000	.0104 *
Native Hawaiian Total						
Mass-media	1.10 (.014)	1.38 (.040)	1.75 (.035)	<.0001 *	<.0001 *	<.0001 *
Community-based communications	1.07 (.010)	1.18 (.021)	1.39 (.023)	<.0001 *	<.0001 *	<.0001 *
Native Hawaiian English						
Mass-media	1.10 (.015)	1.39 (.041)	1.75 (.035)	<.0001 *	<.0001 *	<.0001 *
Community-based communications	1.07 (.010)	1.19 (.022)	1.39 (.024)	<.0001 *	<.0001 *	<.0001 *
Native Hawaiian Other						
Mass-media	1.09 (.080)	1.29 (.127)	1.60 (.153)	.5437	.3588	.0092 *
Community-based communications	1.15 (.087)	1.10 (.056)	1.44 (.119)	1.0000	.0325 *	.1463

Figure 42: Ratios of mean general awareness by sample and language spoken at home

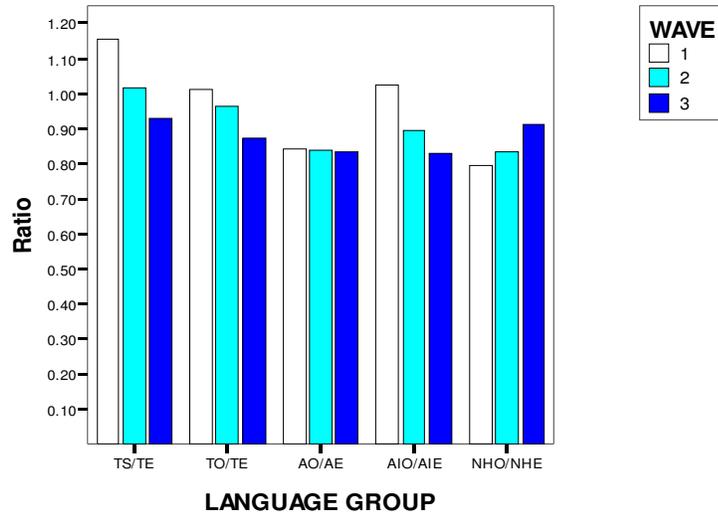


Figure 43: Ratios of mean awareness of mass-media communications by sample and language spoken at home

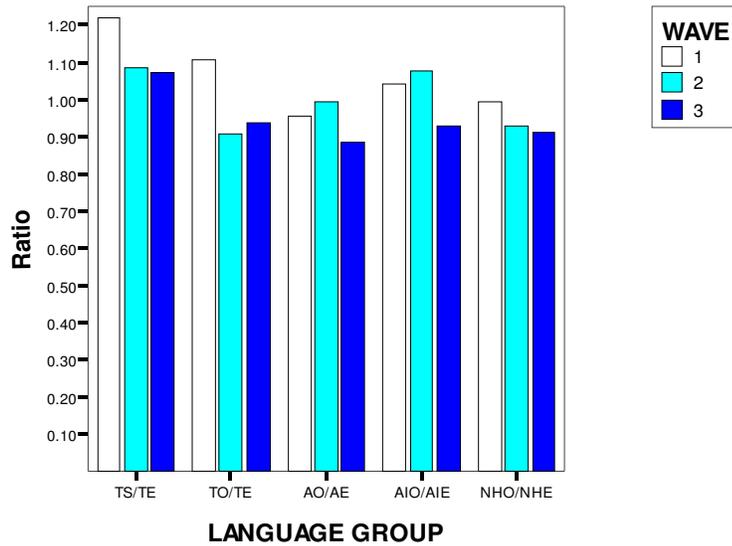
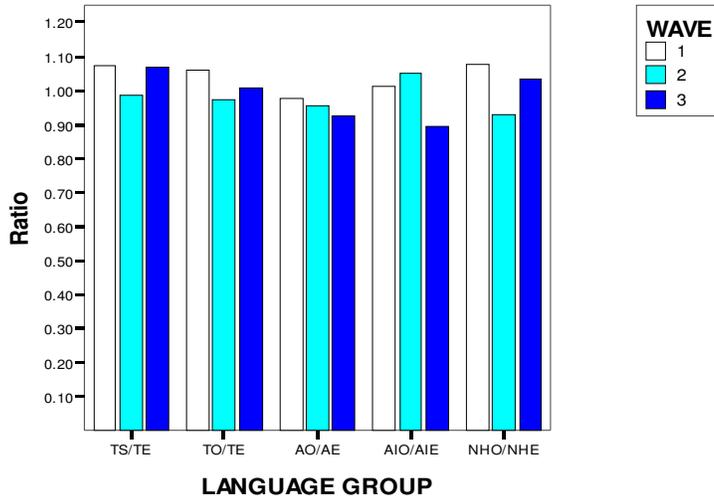


Figure 44: Ratios of mean general awareness of community-based communications by sample and wave



Tables for individual sources of mass-media and community-based communications are not included in this section. In general, they do not shed additional light on the analysis beyond what has already been learned. For the interested reader, the tables for individual media sources can be found in Appendix C.

4.2.3 Correlates of recent awareness

We have already examined the relationships between recent awareness and variables such as time (or wave), race/ethnicity, and language spoken at home. In this section, we examine associations between census awareness and some additional variables from the screener and the main questionnaire. In this work, we focus exclusively on data from Wave 2. Why Wave 2? Because we want to measure differences in exposure to the partnership and marketing program (by demographics or by media use). Wave 1 is not suitable for this analysis because it predated the program entirely. Wave 2 captured the campaign best because it was after the education phase and during the motivation phase. Wave 3 is not especially well suited to this analysis because it confounds the program's achievements with the effect of the actual census mailout.

Table 28 shows the percentages with recent census awareness by age group for each of six race/ethnicity populations. As part of a larger set of analyses, these group differences were tested using a chi-square test of independence, incorporating the Rao and Scott (1981) correction for the design effects.

Table 28: Percent recent Census awareness in Wave 2 by age

Population	Age Group						χ^2 -Statistic	p-Value
	18-24	25-34	35-44	45-54	55-64	65+		
Total Population	72.3	77.0	68.0	82.8	80.2	69.0	3.07	.378
Hispanic	64.0	67.0	69.7	76.2	92.9	62.6	2.92	.464
Non-Hispanic								
African American	60.0	85.4	79.4	73.6	77.8	70.1	3.43	.445
Non-Hispanic White	78.1	81.1	64.2	85.0	79.7	69.4	2.57	.463
Asian	75.6	63.1	55.9	65.2	71.2	69.6	4.06	.501
American Indian	40.4	55.4	65.7	66.5	63.1	59.4	4.70	.250
Native Hawaiian	37.2	42.1	42.0	63.2	80.3	57.8	11.64	.028 *

Among Native Hawaiians is there a significant association between age and recent census awareness.¹¹ Among other targeted populations, there is evidently no association between census awareness and age. Among Native Hawaiians, the older respondents are more likely to have recent census awareness, except that senior citizens (age 65+) are somewhere in the middle. The age groups with higher percentages of recent census awareness differ widely by race/ethnicity. Recent census awareness is highest among 18-24 year-olds for Asians, lowest for Native Hawaiians, American Indians, and non-Hispanic African Americans (and second lowest for Hispanics). 55-64 year-olds have relatively high recent census awareness for all populations. This age group has the highest percentage for Native Hawaiians and Hispanics, the second highest percentage for Asians, and third highest for the three other populations.

Table 29 shows the percentages with recent census awareness by gender for each of six race/ethnicity groups

Table 29: Percent recent Census awareness in Wave 2 by gender

Population	Gender		χ^2 -Statistic	p-Value
	Male	Female		
Total Population	78.2	72.6	0.78	.377
Hispanic	70.6	69.5	0.03	.858
Non-Hispanic				
African American	64.5	83.8	7.22	.007*
Non-Hispanic White	83.6	70.5	2.55	.111
Asian	68.1	62.0	0.98	.322
American Indian	59.9	60.4	0.07	.934
Native Hawaiian	43.1	56.6	2.33	.127

Among non-Hispanic African Americans is there a significant difference by gender. Non-Hispanic African American females were 19 percent more likely to have recent census awareness than non-Hispanic African American males.

¹¹ On the other hand, in Section 4.6, we find no significant relationship between age and actual behavior for the Native Hawaiian population. Apparently, age relates to awareness but the effect does not carry over to actual behavior.

Table 30 below shows percentages with recent census awareness depending on the respondent's highest grade completed. We have reduced the original six-category variable into three categories: not a high school graduate, high school graduate and some college, and college graduate or higher.¹²

Table 30: Percent recent census awareness in Wave 2 by highest grade completed

Population	Highest Grade Completed			χ^2 -Statistic	p-Value
	Not High School Graduate	High School Graduate and Some College	College Graduate or Higher		
Total Population	67.5	74.2	80.0	1.37	.438
Hispanic	58.0	77.3	78.1	4.69	.083 *
Non-Hispanic					
African American	60.0	82.1	87.3	8.67	.011 *
Non-Hispanic White	82.1	71.7	80.1	0.98	.526
Asian	63.6	60.7	74.6	4.24	.121
American Indian	44.9	68.0	63.2	13.27	.001 *
Native Hawaiian	33.8	53.0	63.4	2.98	.225

In all race/ethnicity populations except non-Hispanic Whites, the higher the educational level, the more likely a respondent is to have recent census awareness. Despite this consistent trend, the relationship is significant for American Indians, non-Hispanic African Americans, and Hispanics.

Table 31 shows percentages with recent census awareness depending on the respondent's household income.

Table 31: Percent recent Census awareness in Wave 2 by household income

Population	Household Income				χ^2 -Statistic	p-Value
	< \$15,000	\$15,000-\$24,999	\$25,000-\$44,999	>\$44,999		
Total Population	77.0	65.3	78.5	82.1	2.50	.318
Hispanic	63.6	58.2	78.5	87.9	8.44	.024 *
Non-Hispanic						
African American	75.7	67.9	83.0	93.3	5.58	.070 *
Non-Hispanic White	87.1	66.7	77.4	80.3	1.24	.538
Asian	68.0	60.9	74.0	83.1	6.56	.078 *
American Indian	48.7	64.0	67.4	88.5	11.90	.005 *
Native Hawaiian	15.9	45.6	61.3	65.6	10.37	.011 *

Table 31 generally shows rising rates of recent census awareness as household income rises. For all race/ethnicity populations except Native Hawaiians and American Indians, the lowest income group has a higher estimated percentage of recent Census awareness than the second-lowest income group. In fact, for non-Hispanic Whites, the lowest income group has the highest percentage. The trend of higher-income households having higher percentages of recent census awareness is significant, or almost so, for all populations except non-Hispanic Whites. Such results are associated, no doubt, with the results reviewed earlier for highest grade completed.

¹² For the original six-category variable, see Q34, Appendix D.

These findings, if true, provide remarkable evidence that the PMP reached some of the very segments it was most intended to reach. The likelihood spectrum and partnership program by design targeted lower education and lower income populations. Tables 30 and 31 suggest the PMP reached these populations.

In general, respondents who use various media sources more, have a higher rate of recent census awareness. This does not seem to be true with respect to television, it is variously true for radio, newspapers, magazines, and especially the Internet. These findings appear in Tables 32 to 35, showing percentages of respondents with recent census awareness depending on their use of various media sources. Table 32 displays percentages with recent census awareness depending on how many hours of television the respondent watches per day.

Table 32: Recent census awareness in Wave 2 based on television viewing

Race/Ethnicity	Television Viewing Per Day					χ^2 -statistic	p-Value
	None	0-2 hrs	2-3 hrs	3-4 hrs	> 4 hrs		
Total Population	79.6	74.7	70.8	70.6	82.1	1.43	.611
Hispanic	39.3	65.6	81.4	70.3	71.8	3.00	.325
Non-Hispanic							
African American	69.2	78.8	75.5	78.7	79.8	0.26	.961
Non-Hispanic White	87.1	75.3	70.5	66.7	86.7	1.54	.553
Asian	50.5	66.4	59.9	77.1	69.8	3.16	.332
American Indian	39.4	54.6	69.7	64.6	59.2	2.39	.410
Native Hawaiian	19.0	44.1	50.8	46.3	66.8	4.90	.176

While respondents who watch the least television tend to have lower estimated census awareness, there are no significant differences in recent census awareness by amount of television watching.

Table 33 below shows percentages with recent census awareness depending on how often the respondent listens to the radio.

Table 33: Recent census awareness in Wave 2 based on radio listening

Race/Ethnicity	Radio Listening per Week				χ^2 -Statistic	p-Value
	None	1-5 hrs	6-19 hrs	> 19 hrs		
Total Population	70.6	75.8	71.4	79.1	1.14	.567
Hispanic	49.0	79.7	69.4	69.7	5.97	.069 *
Non-Hispanic						
African American	61.9	73.4	79.1	88.6	4.26	.148
Non-Hispanic White	79.3	75.6	69.1	80.0	1.22	.553
Asian	54.0	67.1	71.8	65.5	4.77	.187
American Indian	42.9	64.3	59.4	65.1	3.40	.224
Native Hawaiian	54.9	56.5	67.0	38.0	8.46	.035 *

There are significant differences in recent census awareness by amount of radio listening among Hispanics and Native Hawaiians, but the pattern of awareness is not monotone increasing in amount of radio listening, perhaps due to sampling variability.

Table 34 shows percentages with recent census awareness depending on whether the respondent reads the newspaper.

Table 34: Recent census awareness in Wave 2 based on newspaper reading

Race/Ethnicity	Newspaper Reading per Week			χ^2 -Statistic	p-Value
	None	1-5 hrs	> 5 hrs		
Total Population	71.5	75.2	76.2	0.23	.746
Hispanic	66.5	71.4	79.4	2.20	.323
Non-Hispanic					
African American	67.1	83.6	76.0	3.73	.144
Non-Hispanic White	76.7	74.3	76.5	0.05	.900
Asian	62.3	63.9	67.9	0.50	.778
American Indian	50.2	62.6	65.6	3.63	.138
Native Hawaiian	49.6	44.6	77.5	11.64	.002 *

Native Hawaiians who read newspapers the most have a significantly higher rate of recent census awareness. There are no other significant differences, those who don't read newspapers at all have the lowest estimated census awareness among four of the six populations.

Table 35 shows percentages with recent census awareness depending on how often the respondent reads magazines.

Table 35: Recent census awareness in Wave 2 based on magazine reading

Race/Ethnicity	Magazine Reading per Week			χ^2 -statistic	p-Value
	None	1-5 hrs	> 5 hrs		
Total Population	73.2	75.0	76.0	0.05	.926
Hispanic	61.3	80.0	59.3	3.35	.099*
Non-Hispanic					
African American	67.6	80.1	87.4	4.65	.090*
Non-Hispanic White	79.5	73.2	76.0	0.17	.788
Asian	49.0	71.9	83.4	17.93	<.001 *
American Indian	45.1	67.8	74.0	17.35	<.001 *
Native Hawaiian	43.7	58.8	52.6	2.53	.278

Asians and American Indians who read magazines more have significantly higher percentages of recent census awareness. Non-Hispanic African Americans and Hispanics also show significant differences.

Table 36 shows percentages with recent census awareness depending on whether the respondent uses the Internet.

Table 36: Recent Census awareness in Wave 2 based on Internet usage

Race/Ethnicity	Uses Internet?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	82.0	69.8	8.54	.004 *
Hispanic	75.1	68.5	0.28	.597
Non-Hispanic				
African American	97.5	69.1	17.47	<.001 *
Non-Hispanic White	81.3	70.3	5.84	.016 *
Asian	80.0	57.4	11.80	.001 *
American Indian	79.5	56.6	7.30	.007 *
Native Hawaiian	67.4	45.0	5.83	.016 *

Internet users have a significantly higher percentage of recent census awareness than non-users for all subgroups except Hispanics.

In summary, amount of television, radio, newspapers, and magazines is not strongly related to census awareness, except as noted above. However, we observe a broad, general pattern whereby non-users of mass-media exhibit lower awareness than users. It seems to matter whether people use the media at all, but less how much they use it.

Interestingly, while Internet usage lags behind the other media sources in terms of its overall use in the population, it does exhibit a strong association with census awareness.

Finally, we introduced the concept of civic participation in Section 4.1. Table 37 below shows percentages with recent census awareness depending on whether we classified the respondent's civic participation as low (index < 1), medium (1 ≤ index < 3), or high (index ≥ 3).

Table 37: Percent recent census awareness in Wave 2 by civic participation

Population	Level of Civic Participation			χ^2 -Statistic	p-Value
	Low	Medium	High		
Total Population	67.2	72.0	86.0	5.79	.035 *
Hispanic	67.4	71.2	84.4	1.54	.454
Non-Hispanic					
African American	51.8	80.2	89.7	15.91	<.001 *
Non-Hispanic White	75.1	70.4	85.2	3.37	.131
Asian	52.3	76.4	91.6	20.45	<.001 *
American Indian	43.8	60.0	81.9	16.39	<.001 *
Native Hawaiian	42.3	54.6	60.8	1.65	.426

For all six race/ethnicity populations, higher civic participation tends to imply higher estimated percentages of recent census awareness. This relationship is significant for Asians, American Indians, and non-Hispanic African Americans, is not significant for the other three race/ethnicity subgroups.

4.3 Intended participation

Survey respondents became more aware in general of communications about Census 2000. And they became more aware in particular of mass-media and community-based communications sources. Did this awareness affect their intention to participate in the census? Only Waves 1 and 2 can be included in the analysis of this question, because intended participation was not asked in the Wave 3 interview. In its place, Wave 3 asked whether the household received a census questionnaire, and if so, whether someone mailed it back. We defer analysis of this latter question until Section 4.6.

4.3.1 *Intended participation by race/ethnicity*

Figures 45 to 51 display the distribution of intended participation by race/ethnicity population and wave. All of the figures display a similar pattern:

- Intended participation is high even at Wave 1, and it increased at Wave 2;
- Generally, the categories “definitely will not,” “probably will not,” “might or might not,” and “probably will” decrease from Wave 1 to 2, while “definitely will” increases;
- “Definitely will” generally finishes at around 70 percent at Wave 2, leaving the door open to possible beneficial effects of the third phase of the PMP.

There are three potentially troublesome exceptions to the general pattern. First, the “probably will not” and “might or might not” actually increase at Wave 2 for Hispanics. The estimated increase is not statistically significant and it may arise strictly as a result of random sampling error. The “probably will” and “definitely will” sum to well over 70 percent even at Wave 1, and clearly at Wave 2. One reviewer speculated that an early radio campaign may have fueled these high percentages.

Second, intended participation by American Indians starts at a low level and finishes at a higher, but still relatively low, level. By Wave 2, the “probably will” and “definitely will” are both in the neighborhood of 40 percent, well below the level achieved by total population.

Third, intended participation by Native Hawaiians falls in between that of American Indians and other race/ethnicity populations. Even at Wave 2, the “definitely will” merely comprise about 50 percent of the population.

Figure 45: Distribution of intended participation by wave for total population

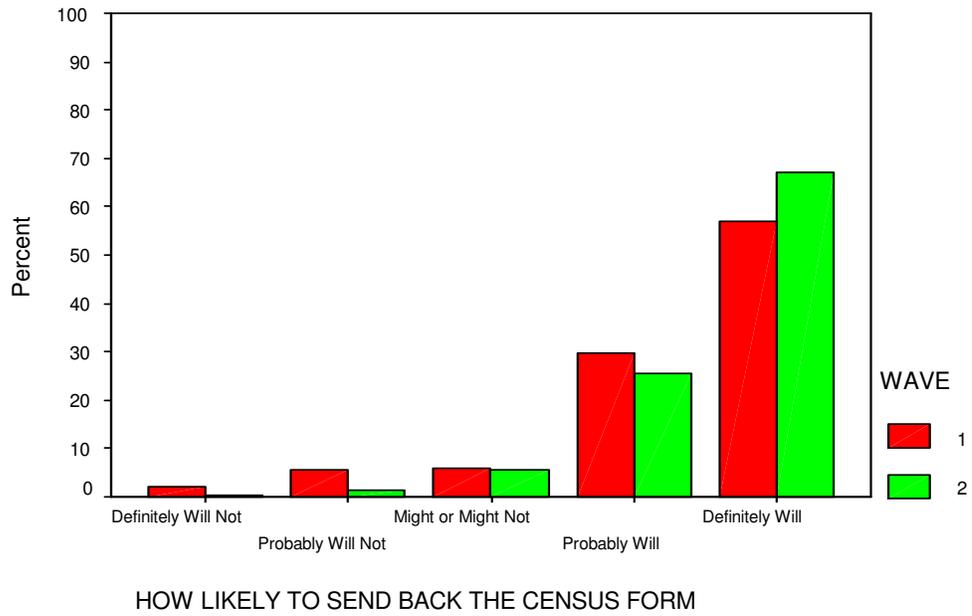


Figure 46: Distribution of intended participation by wave for Hispanics

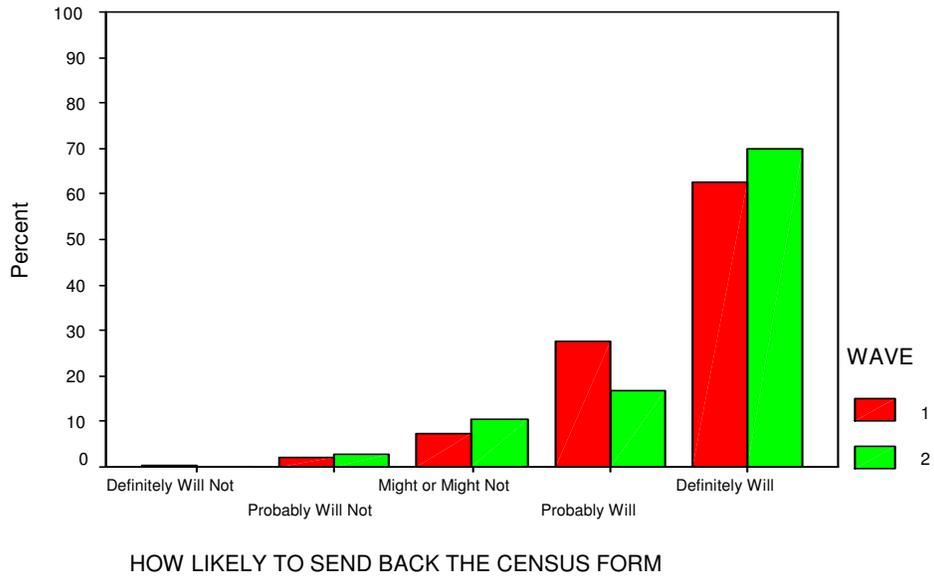


Figure 47: Distribution of intended participation by wave for non-Hispanic African Americans

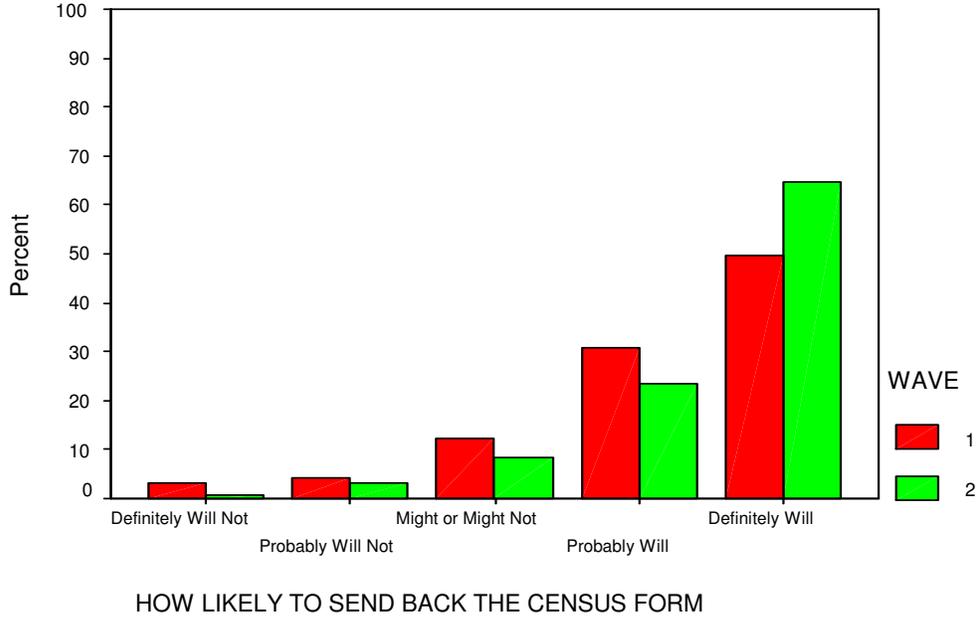


Figure 48: Distribution of intended participation by wave for non-Hispanic Whites

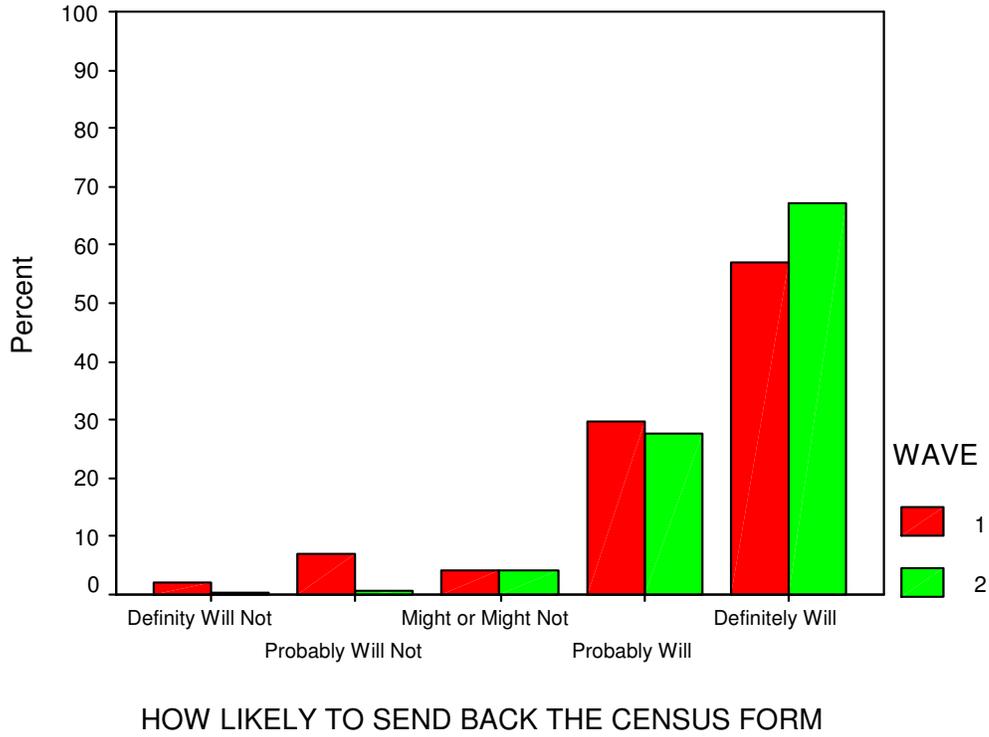


Figure 49: Distribution of intended participation by wave for Asians

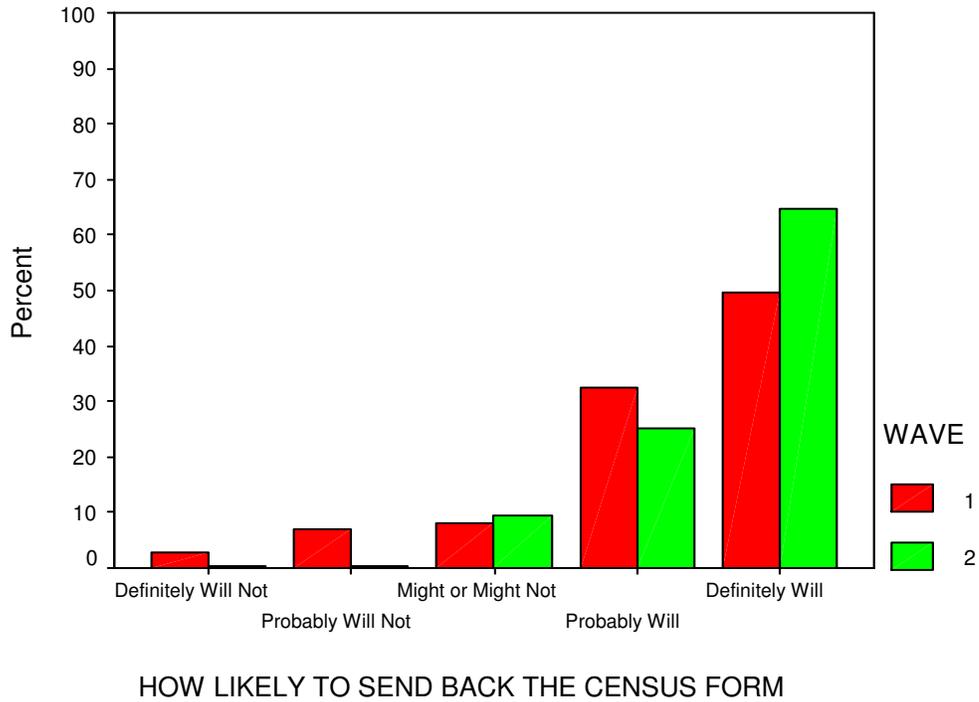


Figure 50: Distribution of intended participation by wave for American Indians

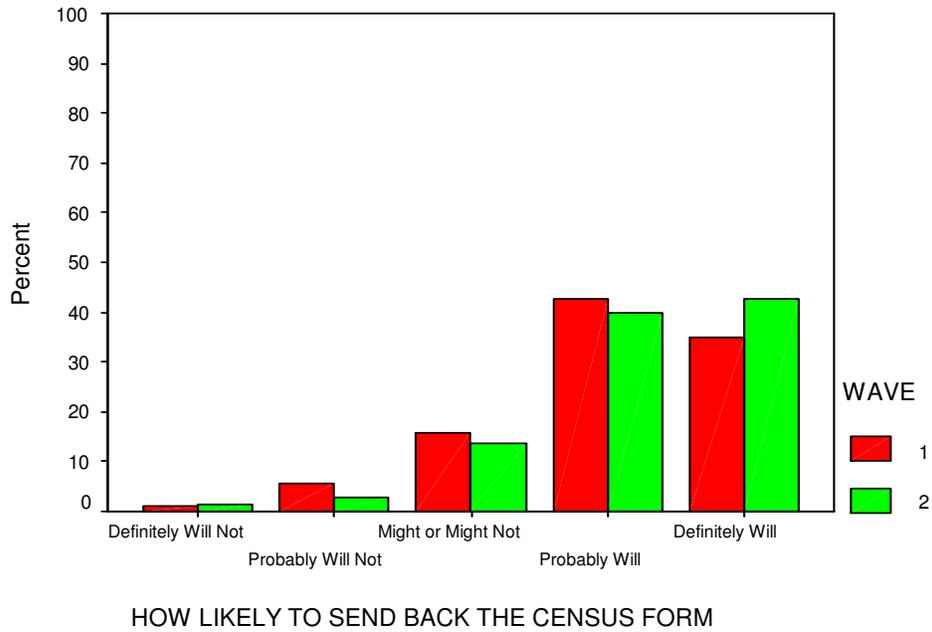
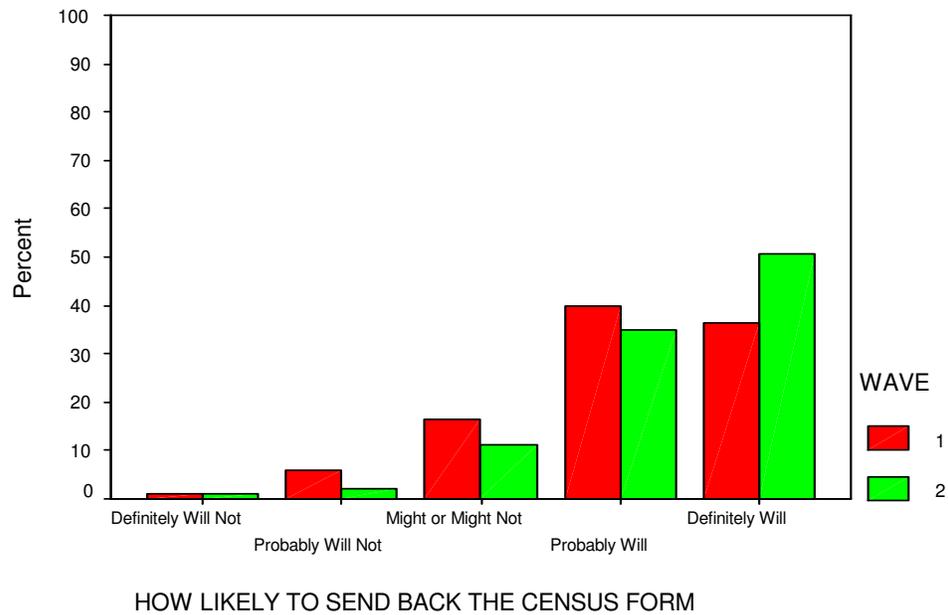


Figure 51: Distribution of intended participation by wave for Native Hawaiians



Now let us examine whether methods of statistical inference can confirm these descriptions of intended participation. Table 38 shows the mean level of intended participation for Waves 1 and 2. Intended participation is on the 5-point scale displayed in the foregoing charts (1 = definitely will not, 5 = definitely will), and one can see from the table that mean intended participation was already quite high at Wave 1 and increased to an even higher level at Wave 2. The success of the PMP, in part, turns on these small but important movements. The estimated increase from Wave 1 to 2 is significant for the total population, non-Hispanic African Americans, non-Hispanic Whites, Asians, and Native Hawaiians. It is not significant for Hispanics or American Indians. For total population, non-Hispanic African Americans, non-Hispanic Whites, Asians, and Native Hawaiians, the change in intended participation parallels the increase in awareness of census communications explored in Section 4.2. Even though Hispanics display no significant increase, their intent to participate is relatively high at both waves.

Table 38: Mean intended participation

Population	Wave 1	Wave 2	Significance of Trend (p-Value)
Total Population	4.34 (.076)	4.58 (.039)	.0050 *
Hispanic	4.50 (.072)	4.54 (.078)	.7140
Non-Hispanic African American	4.20 (.086)	4.48 (.054)	.0054 *
Non-Hispanic White	4.33 (.111)	4.61 (.053)	.0211 *
Other	4.56 (.164)	4.51 (.146)	.8279
Asian	4.19 (.082)	4.54 (.046)	.0002 *
American Indian	4.05 (.090)	4.19 (.063)	.1769
Native Hawaiian	4.05 (.058)	4.33 (.067)	.0017 *

The relationship between awareness and intended participation can be examined in more detail by looking at the within cell correlations between awareness and intentions within Wave 1 and within Wave 2. Even where there is no mean increase in intended participation across the two waves, there may be a higher correlation in the second wave than the first. The within cell correlations provide direct evidence about the relationship between awareness and intended participation.

Table 39 contains the within cell correlations between general awareness of census communications and intended participation. There are significant increases in the correlations for total population and for all race/ethnicity populations except American Indians, for whom there is still a large estimated increase.

Table 39: Correlation between general awareness of census communications and intended participation

Population	Wave 1	Wave 2	Significance of Trend (p-Value)
Total Population	.03 (.031)	.34 (.033)	<.0001 *
Hispanic	.09 (.031)	.30 (.033)	<.0001 *
Non-Hispanic African American	.22 (.030)	.39 (.032)	<.0001 *
Non-Hispanic White	-.02 (.031)	.36 (.032)	<.0001 *
Other	-.02 (.031)	.40 (.032)	<.0001 *
Asian	.19 (.094)	.42 (.042)	.0220 *
American Indian	.17 (.115)	.34 (.077)	.2131
Native Hawaiian	.19 (.047)	.34 (.041)	.0175 *

Table 40 displays the within cell correlations between awareness of mass-media communications and intended participation. There are significant increases in the correlations for the total population, non-Hispanic African Americans, non-Hispanic Whites, and Native Hawaiians. Estimated increases are not significant for Asians and American Indians. It appears that the relationship between awareness and intended participation is getting stronger with time, except for American Indians.

Table 40: Correlation between awareness of mass-media communications and intended participation

Population	Wave 1	Wave 2	Significance of Trend (p-Value)
Total Population	.03 (.031)	.24 (.034)	<.0001 *
Hispanic	.08 (.031)	.16 (.034)	.0789 *
Non-Hispanic African American	.17 (.031)	.32 (.033)	.0013 *
Non-Hispanic White	-.02 (.031)	.27 (.034)	<.0001 *
Other	-.25 (.03)	.22 (.034)	<.0001 *
Asian	.16 (.094)	.29 (.045)	.2465
American Indian	.15 (.116)	.16 (.081)	.9391
Native Hawaiian	.05 (.048)	.28 (.042)	.0004 *

Table 41 shows the within cell correlations between awareness of community-based communications and intended participation. The pattern of significant increases is similar to that just reviewed for mass-media communications: significant increases for the total population, non-Hispanic African Americans, non-Hispanic Whites, and Native Hawaiians, but not for Hispanics, Asians, and American Indians.

Table 41: Correlation between awareness of community-based communications and Intended participation

Population	Wave 1	Wave 2	Significance of Trend (p-Value)
Total Population	-.03 (.031)	.21 (.034)	<.0001 *
Hispanic	.01 (.031)	.06 (.035)	.2194
Non-Hispanic African American	.17 (.031)	.32 (.033)	.0007 *
Non-Hispanic White	-.10 (.031)	.24 (.034)	<.0001 *
Other	-.23 (.03)	.09 (.035)	<.0001 *
Asian	.16 (.094)	.29 (.045)	.2132
American Indian	.17 (.115)	.15 (.081)	.9110
Native Hawaiian	.07 (.048)	.24 (.043)	.0062 *

The results for intended participation can be summarized as follows. Intended participation increased from Wave 1 to 2 for total population, non-Hispanic African Americans, non-Hispanic Whites, and Native Hawaiians and was more strongly associated with general awareness, awareness of mass-media communications, and awareness of community-based communications in Wave 2 than in Wave 1.

For Asians, intended participation increased from Wave 1 to 2 and was more strongly associated with general awareness in Wave 2 than Wave 1, the separate effects of mass-media and community-based communications were not significant.

For Hispanics, there was a stronger correlation between general awareness and intended participation in Wave 2 than in Wave 1. There were no effects for American Indians.

4.3.2 Intended Participation by Language Spoken at Home

Next we examine differences in mean intended participation, correlations between general awareness of census communications and intended participation, correlations between mass-media communications and intended participation, and correlations between community-based communications and intended participation by language groups in Waves 1 and 2.

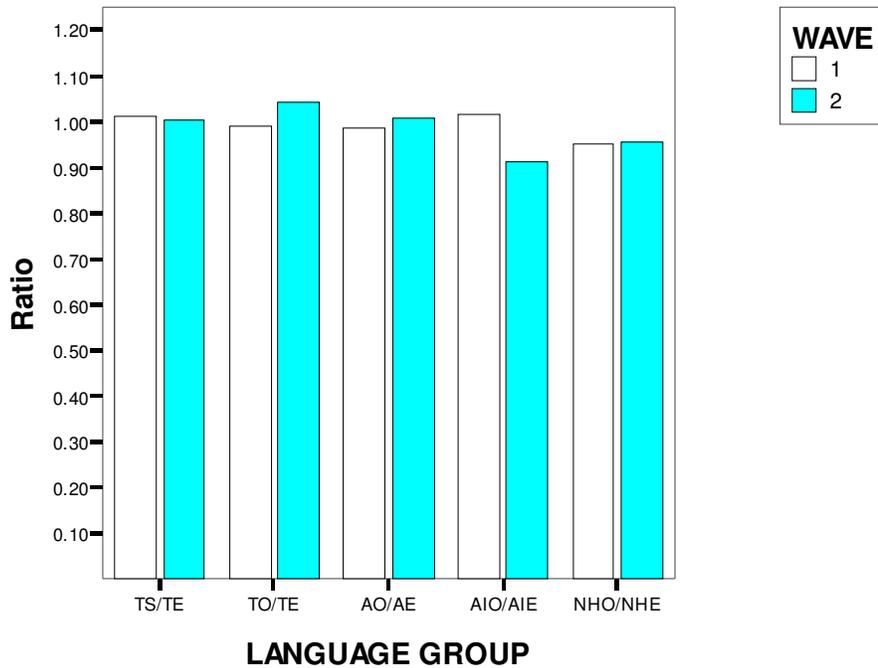
In Table 42, we display the mean intended participation by language spoken at home. Table 42 is similar to Table 38, in which we presented the means of intended participation by race/ethnicity populations. Table 42 shows that while the American Indian population does not appear to increase significantly in mean intended participation from Wave 1 to 2, a sub-analysis of English-speaking American Indians indicates that they do have a significant increase in their mean intended participation. All other language groups exhibit significant trends in mean intended participation except Spanish, total population and other languages, Native Hawaiian.

Figure 52 displays the ratios of mean intended participation for a given sample and language group divided by the corresponding English language group. Most ratios are not significantly different from 1.0. Evidently, other language speaking American Indians lag behind their English speaking counterparts in their mean intent to participate by Wave 2.

Table 42: Mean intended participation by language spoken at home

Population	Wave 1	Wave 2	Significance of Trend (p-Value)
Total Population	4.34 (.076)	4.58 (.039)	.0050 *
English	4.34 (.084)	4.58 (.041)	.0112 *
Spanish	4.39 (.108)	4.59 (.076)	.1311
Other	4.29 (.198)	4.76 (.104)	.0359 *
Asian	4.19 (.082)	4.54 (.046)	.0002 *
English	4.22 (.106)	4.51 (.091)	.0429 *
Other	4.15 (.120)	4.55 (.054)	.0028 *
American Indian	4.05 (.090)	4.19 (.063)	.1769
English	4.04 (.095)	4.28 (.059)	.0327 *
Other	4.10 (.151)	3.90 (.112)	.2979
Native Hawaiian	4.05 (.058)	4.33 (.067)	.0017 *
English	4.05 (.059)	4.34 (.069)	.0016 *
Other	3.86 (.237)	4.15 (.262)	.4184

Figure 52: Ratios of mean intended participation by sample and by wave



In Tables 43, 44 and 45, we display correlations between awareness of census communications and intended participation broken down by language groups. In Table 43, we observe a significant trend in the correlation between general awareness and intended participation for total population; English, total population; Spanish, total population; total Asian; other languages, Asian; total Native Hawaiian; and English, Native Hawaiian. The change in the correlation is positive but not significant for American Indians overall and for both of this population's language groups.

Table 43: Correlation between general awareness of census communications and intended participation by language spoken at home

Population	Wave 1	Wave 2	Significance of Trend (p-Value)
Total Population	.03 (.031)	.34 (.033)	<.0001 *
English	.02 (.035)	.35 (.040)	<.0001 *
Spanish	.00 (.074)	.23 (.067)	.0194 *
Other	.18 (.144)	.58 (.144)	.0490 *
Asian	.19 (.094)	.42 (.042)	.0217 *
English	.16 (.118)	.39 (.100)	.1343
Other	.21 (.101)	.44 (.047)	.0447*
American Indian	.17 (.115)	.34 (.077)	.2137
English	.17 (.118)	.37 (.081)	.1563
Other	.19 (.219)	.23 (.160)	.8747
Native Hawaiian	.19 (.047)	.34 (.041)	.0179 *
English	.19 (.048)	.34 (.042)	.0219 *
Other	.18 (.284)	.34 (.216)	.6567

We now examine Table 44, which displays the correlations between awareness of mass-media communications and intended participation by language spoken at home. The difference in the estimated correlations is significant for total population; English, total population; Spanish, total population; total Native Hawaiian; and English, Native Hawaiian.

Table 44: Correlation between awareness of mass-media communications and intended participation by language spoken at home

Population	Wave 1	Wave 2	Significance of Trend (p-Value)
Total Population	.03 (.031)	.24 (.034)	<.0001 *
English	.03 (.035)	.25 (.041)	<.0001 *
Spanish	-.08 (.074)	.15 (.068)	.0236 *
Other	.02 (.146)	.09 (.176)	.7695
Asian	.16 (.094)	.29 (.045)	.2459
English	.12 (.119)	.30 (.104)	.2600
Other	.21 (.101)	.28 (.05)	.5162
American Indian	.15 (.116)	.16 (.081)	.9390
English	.15 (.118)	.20 (.085)	.7182
Other	.12 (.222)	.17 (.162)	.8641
Native Hawaiian	.05 (.048)	.28 (.042)	.0004 *
English	.05 (.049)	.29 (.043)	.0002 *
Other	.09 (.287)	.03 (.229)	.8692

Turning to Table 45, we examine the correlations between awareness of community-based communications and intended participation. Two findings appear to stand out. First, the Spanish-speaking population’s intended participation appears to be negatively correlated with their community-based communications in Wave 1. This is not the case for the English-speaking population (where the slight negative correlation is not significantly different from zero). This apparent difference between the language groups disappears in Wave 2. Second, the intended participation levels for the other-languages group of the Native Hawaiians do not appear to be correlated with their awareness of community-based communications in either wave. On the other hand, there is a significant trend in the correlations for Native Hawaiians in total and for English-speaking Native Hawaiians.

Table 45: Correlation between awareness of community-based communications and intended participation by language spoken at home

Population	Wave 1	Wave 2	Significance of Trend (p-Value)
Total Population	-.03 (.031)	.21 (.034)	<.0001 *
English	-.02 (.035)	.22 (.041)	<.0001 *
Spanish	-.24 (.072)	.16 (.068)	<.0001 *
Other	-.02 (.146)	.05 (.177)	.7736
Asian	.16 (.094)	.29 (.045)	.2127
English	.21 (.117)	.35 (.102)	.3431
Other	.13 (.102)	.27 (.050)	.2454
American Indian	.17 (.115)	.15 (.081)	.9111
English	.18 (.118)	.17 (.086)	.9740
Other	.08 (.223)	.22 (.160)	.6208
Native Hawaiian	.07 (.048)	.24 (.043)	.0059 *
English	.07 (.049)	.26 (.043)	.0040 *
Other	.10 (.287)	-.04 (.229)	.7109

The results for intended participation can be summarized as follows. Intended participation increased from Wave 1 to 2 for all language groups except Spanish, total population; other languages, American Indian; and other languages, Native Hawaiian, and was occasionally more strongly associated with awareness in Wave 2 than in Wave 1. English, total population; Spanish, total population; and English, Native Hawaiian displayed strengthened associations between intended participation and awareness, awareness of mass-media, and awareness of community-based communications. The associations did not consistently grow stronger for remaining language subpopulations.

4.4 Mediation

Awareness of communications, both general and specific, increased over the three survey waves. Moreover, this awareness is clearly associated with increased intent to participate in the census for total population, non-Hispanic African Americans, Native Hawaiians, and non-Hispanic Whites. For Asians and Hispanics the evidence is weaker for specific communications but general awareness does become more strongly related to intent to participate. American Indians appear to have been aware of census communications but there is no statistical evidence they were affected in their intentions to participate.

Confidence in the validity of these results can be increased if there is evidence of actual change in people's opinions about the census. While the above results for awareness and intentions could be due to other variables omitted from the analyses, this becomes less plausible if there is evidence that respondents actually absorbed communications content. According to communications theory, beliefs is a *mediating variable* between awareness and intended participation. Growing awareness has an effect on intended participation through (a change in) the intervening variable census beliefs.

4.4.1 Census beliefs by race/ethnicity

The survey questionnaire contains several questions asking about respondents' beliefs about the census. Respondents were asked about their agreement with the following:

1. Filling out the census will let the government know what my community needs. (0.1910)
2. The census counts citizens and non-citizens alike. (0.0800)
3. It is important for as many people as possible to participate in the census. (0.1745)
4. My answers to the census could be used against me. (reversed) (0.0673)
5. Answering and sending back the census matters for my family and community. (0.4445)
6. The Census Bureau promise of confidentiality can be trusted. (0.1607)
7. I just don't see that it matters much if I personally fill out the Census or not. (reversed) (0.1154)
8. Sending back your census form could personally benefit or harm you in any way. (0.0859)

We combined these items by a factor analysis to form a single scale: "census beliefs."

We use factor analysis and Cronbach's coefficient alpha whenever we construct scales as measurement of some latent variable.¹³ The factor analysis model for a single latent variable, say "census beliefs", assumes there are multiple measurements, called manifest variables, of the

¹³ *Latent variables* are dimensions that cannot be directly measured. For example, exposure to mass-media can be considered a latent variable. Direct measurement of this variable would be considered questionable. An example of a direct measurement is to ask people how much they have heard about the census through mass-media. Such a global question is flawed for many reasons. The term "mass-media" probably does not mean the same thing to all respondents. Thus, even though everyone is asked the same question, respondents would be answering different questions because of all the personal interpretations of "mass-media." This phenomenon introduces measurement error. A better way of measuring exposure to mass-media is to ask more specific questions about different possible meanings of "mass-media." For example, "mass-media" could refer to television commercials, radio, newspapers, and so on.

latent variable, and that each measurement is subject to measurement error. It also assumes that there is a linear relationship between the latent variable and the manifest variables and that the measurement errors are independent of one another. Factor analysis estimates values of the latent variable, called factor scores, from the manifest variables.

In the case of census beliefs, the manifest variables are those implied by the list of eight items immediately above, with variables 4 and 7 reversed. After fitting the factor analysis model, we find that the factor scores of census beliefs can be expressed as a linear combination of the standardized versions of the eight manifest variables, with coefficients 0.1910, 0.0800, 0.1745, 0.0673, 0.4445, 0.1607, 0.1154, and 0.0859, respectively. For convenience, we also present these coefficients in parentheses following the manifest variables in the above list. Thus, the biggest influence on census beliefs comes from the manifest variable "Answering and sending back the census matters for my family and community," and the smallest influence comes from "My answer to the census could be used against me." For this application, Cronbach's alpha equals 0.74, which signifies that the factor census beliefs forms a reliable scale.¹⁴

Figure 53 displays the empirical distribution function for the census beliefs scores for the total population. Clearly, the distribution shifts to the right following Wave 1, while there is little difference between the distribution at Wave 2 and 3. Apparently, the education and motivation phases of the ad campaign, plus corresponding partnership activities at that same point in time, made a difference in creating favorable census beliefs. Census beliefs may have solidified by census day, because they appear to display little additional change.

¹⁴ Alpha is a lower bound for the true reliability of the factor, defined as the proportion of the variability in the response that is the result of real differences in the respondents.

Figure 53: Empirical cumulative distribution function by wave for total population

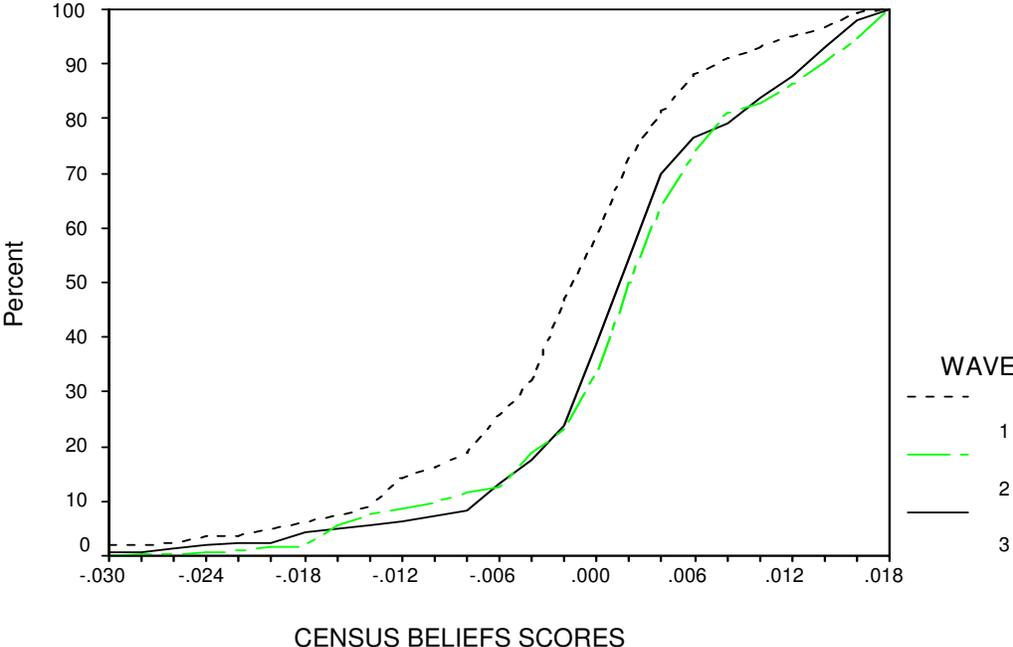


Table 46 presents the means for census beliefs. None of the trends from Wave 2 to 3 are significant. There is apparently no evidence census beliefs changed during the corresponding inter-wave period. Also, we find

- For total population, non-Hispanic African Americans, non-Hispanic Whites, and Native Hawaiians, there is a significant increase from Wave 1 to 2 and from Wave 1 to 3.
- For Asians, the trend from Wave 1 to 3 is significant.
- For Hispanics, the trend from Wave 1 to 2 is significant.
- For American Indians, none of the trends are significant.

These results are consistent with a mediational role for census beliefs for total population, non-Hispanic African Americans, non-Hispanic Whites, and Native Hawaiians. Results are mixed for the Hispanic, Asian, and American Indian populations. For Asians, the change in beliefs is not significant while the change in intended participation is significant. For Hispanics, the reverse is true, with a significant change in beliefs preceding a nonsignificant change in intended participation. And for American Indians neither the change in beliefs nor the change in intended participation is significant. All changes are in the desirable positive direction.

Table 46: Mean census beliefs

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	-.0027 (.0008)	.0017 (.0009)	.0013 (.0005)	.0006 *	1.0000	.0003 *
Hispanic	-.0002 (.0006)	.0027 (.0010)	.0018 (.0016)	.0273 *	1.0000	.7137
Non-Hispanic						
African American	-.0024 (.0007)	.0025 (.0007)	.0012 (.0011)	<.0001 *	1.0000	.0186 *
Non-Hispanic White	-.0030 (.0012)	.0013 (.0012)	.0013 (.0008)	.0318 *	1.0000	.0063 *
Other	-.0030 (.0035)	.0034 (.0023)	-.0013 (.0017)	.3828	.2964	1.0000
Asian	-.0013 (.0008)	-.0002 (.0006)	.0010 (.0005)	.7371	.4500	.0390 *
American Indian	-.0021 (.0008)	-.0005 (.0007)	-.0012 (.0009)	.4122	1.0000	1.0000
Native Hawaiian	-.0028 (.0007)	.0009 (.0007)	.0011 (.0009)	.0009 *	1.0000	.0018 *

4.4.2 Census beliefs by language spoken at home

Next, we analyze census beliefs by language group. According to Table 47, none of the trends from Wave 2 to 3 are significant. Trends from Wave 1 to 2 and from Wave 1 to 3 are significant for total population; English, total population; Native Hawaiians; and English, Native Hawaiians. Additionally, trends from Wave 1 to 3 are significant for Asians and English, Asians. Evidently, most changes in beliefs occurred before census day and the onset of Wave 3 interviewing. The results in Table 47 are generally supportive of the results in Table 42 regarding mean intended participation. Indeed, the lack of change in beliefs for Spanish, total population and other-languages, Native Hawaiians is consistent with the non-significant change in intended participation viewed earlier. The American Indian language groups do appear in Wave 2 to be significantly different from one another, that difference does not appear in Wave 1.

Table 47: Mean census beliefs by language spoken at home

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	-.0027 (.0008)	.0017 (.0009)	.0013 (.0005)	.0007 *	1.0000	.0002 *
English	-.0028 (.0009)	.0016 (.0010)	.0012 (.0006)	.0023 *	1.0000	.0005 *
Spanish	-.0023 (.0021)	.0024 (.0011)	.0013 (.0025)	.1326	1.0000	.8056
Other	.0014 (.0007)	.0036 (.0017)	.0046 (.0016)	.7032	1.0000	.2200
Asian	-.0013 (.0008)	-.0002 (.0006)	.0010 (.0005)	.7370	.4499	.0391 *
English	-.0024 (.0011)	-.0008 (.0011)	.0014 (.0008)	.8521	.3310	.0147 *
Other	-.0001 (.0011)	.0002 (.0008)	.0008 (.0006)	1.0000	1.0000	1.0000
American Indian	-.0021 (.0008)	-.0005 (.0007)	-.0012 (.0009)	.4123	1.0000	1.0000
English	-.0017 (.0007)	.0006 (.0009)	-.0009 (.0010)	.1534	.8299	1.0000
Other	-.0059 (.0032)	-.0045 (.0009)	-.0019 (.0010)	1.0000	.1839	.7021
Native Hawaiian	-.0028 (.0007)	.0009 (.0007)	.0011 (.0009)	.0009 *	1.0000	.0017 *
English	-.0028 (.0007)	.0010 (.0008)	.0010 (.0009)	.0008 *	1.0000	.0030 *
Other	-.0020 (.0022)	-.0017 (.0014)	.0036 (.0038)	1.0000	.5994	.6176

4.4.3 Recent general awareness as a predictor of census beliefs

In this section, we examine recent general awareness as a possible predictor of census beliefs. Since the PMP began between Waves 1 and 2 while Wave 3 is after Census Day, we focus on Wave 2. We study the percentages of respondents that agree with certain beliefs, depending on whether they have recent awareness of Census 2000. One caution we urge on readers is that this recent awareness could be the result of the PMP, but it could also be information about the census from any number of other sources. Therefore, it is not possible to ascribe with certainty any significant differences to the actions of the PMP.

A further caution is that the PMPE is not a designed experiment and the causal direction could actually be the other way around. People with preexisting, positive census beliefs could be more inclined to seek out recent census communications and thence become aware of them. If this were the predominant effect in the population, then beliefs would be a predictor of awareness, contrary to the basic communications model that assumes awareness precedes beliefs.

Table 48 shows percentages believing community needs will be discerned by recent census awareness.

Table 48: Belief that community needs will be discerned, by recent awareness of the census, Wave 2

Population	Recent Census Awareness?		χ^2 -Statistic	p-Value
	Yes	No		
Total Population	83.0	60.8	6.56	.011 *
Hispanic	91.3	88.3	0.19	.662
Non-Hispanic				
African American	91.8	66.9	14.24	<.001 *
Non-Hispanic White	79.1	54.7	4.53	.034 *
Asian	89.3	75.4	2.84	.092 *
American Indian	79.0	73.1	0.97	.324
Native Hawaiian	88.4	72.7	7.00	.008 *

Non-Hispanic African Americans exhibit the largest difference between those with and without recent census awareness, the differences are also significant for the total population, non-Hispanic Whites, Asians, and Native Hawaiians. The Hispanic percentages are high, even though they are not significantly different from one another.

Table 49 shows percentages who believe citizens and non-citizens will be counted by Census 2000, broken down by recent census awareness.

Table 49: Percentage in Wave 2 believing citizens and non-citizens will be counted, by recent awareness of the census

Population	Recent Census Awareness?		χ^2 -Statistic	p-Value
	Yes	No		
Total Population	73.1	77.5	0.27	.600
Hispanic	77.0	57.5	3.13	.077 *
Non-Hispanic				
African American	66.3	54.0	1.69	.194
Non-Hispanic White	72.8	84.9	1.50	.221
Asian	82.2	74.1	0.89	.345
American Indian	65.8	55.9	1.59	.207
Native Hawaiian	74.5	55.2	4.10	.043 *

There is a significant association between awareness and the belief that citizens and non-citizens will be counted for Hispanics and Native Hawaiians. The issue of counting non-citizens is no doubt important for many in the Hispanic population, and this population seems to have gotten the message from census communications that non-citizens should be counted. The issue is probably not salient for many of the other targeted populations, and indeed we might not expect and do not find significant associations for them.

Table 50 shows percentages believing it is important for as many people as possible to participate broken down by recent census awareness.

Table 50: Percentage in Wave 2 believing participation is important, by recent awareness of the census

Population	Recent Census Awareness?		χ^2 -Statistic	p-Value
	Yes	No		
Total Population	97.2	95.5	0.61	.434
Hispanic	98.3	95.4	1.84	.176
Non-Hispanic				
African American	96.5	87.0	3.81	.051 *
Non-Hispanic White	97.5	96.6	0.14	.706
Asian	94.0	90.7	0.65	.420
American Indian	92.3	85.2	1.15	.284
Native Hawaiian	95.4	88.6	1.46	.228

The differences are small, they are in the positive direction, and the difference for non-Hispanics African Americans is significant.

Table 51 shows percentages believing that the census could be used against them broken down by recent census awareness.

Table 51: Percentages in Wave 2 believing census could be used against them, by recent awareness of the census

Population	Recent Census Awareness?		χ^2 -Statistic	p-Value
	Yes	No		
Total Population	21.8	31.6	1.93	.165
Hispanic	19.0	41.8	4.53	.034 *
Non-Hispanic				
African American	25.6	51.4	7.15	.008 *
Non-Hispanic White	21.2	27.2	0.47	.492
Asian	29.3	54.4	5.78	.016 *
American Indian	34.2	38.8	0.46	.498
Native Hawaiian	18.7	35.2	4.28	.039 *

Those with recent census awareness have a lower percentage of respondents who believe the census could be used against them. The association is significant for Hispanics, non-Hispanic African Americans, Asians, and Native Hawaiians.

Table 52 shows percentages believing that responding is important for family and community broken down by recent census awareness.

Table 52: Percentage in Wave 2 believing census matters for family and community, by recent awareness of the census

Population	Recent Census Awareness?		χ^2 -Statistic	p-Value
	Yes	No		
Total Population	87.3	77.8	2.15	.143
Hispanic	91.8	79.8	4.76	.029 *
Non-Hispanic				
African American	88.8	72.6	7.65	.006 *
Non-Hispanic White	86.1	78.1	0.81	.367
Asian	76.3	67.2	0.97	.324
American Indian	91.1	81.1	7.17	.008 *
Native Hawaiian	93.6	91.3	0.64	.423

There are significant differences for American Indians, Hispanics, and non-Hispanic African Americans.

Table 53 shows percentages trusting the Census Bureau to keep census data confidential broken down by recent census awareness.

Table 53: Percentage in Wave 2 trusting census confidentiality, by recent awareness of the census

Population	Recent Census Awareness?		χ^2 -Statistic	p-Value
	Yes	No		
Total Population	64.8	67.6	0.08	.783
Hispanic	77.0	69.4	0.62	.430
Non-Hispanic				
African American	76.7	47.9	9.64	.002 *
Non-Hispanic White	59.0	69.6	0.63	.429
Asian	72.2	63.6	0.71	.400
American Indian	59.1	61.0	0.05	.826
Native Hawaiian	69.6	74.6	0.38	.536

There seems to be very little association between the trust of confidentiality and recent census awareness, except among non-Hispanic African Americans. The percentage of recently aware non-Hispanic African Americans who trust census confidentiality is 29 percent higher than those who have not recently heard or seen anything about Census 2000. This significant finding is consistent with the hypothesis that the PMP reached non-Hispanic African Americans and convinced them to trust the promise of census confidentiality.

Table 54 shows percentages believing that responding to the census doesn't matter much broken down by recent census awareness.

Table 54: Percentages in Wave 2 who believe responding doesn't matter, by recent awareness of the census

Population	Recent Census Awareness?		χ^2 -Statistic	p-Value
	Yes	No		
Total Population	16.8	27.4	2.24	.135
Hispanic	24.1	31.5	0.80	.372
Non-Hispanic				
African American	17.0	41.9	7.80	.005 *
Non-Hispanic White	15.1	24.3	1.13	.288
Asian	37.5	58.4	4.76	.029 *
American Indian	29.2	47.4	9.46	.002 *
Native Hawaiian	20.4	34.0	2.78	.096 *

Those with recent census awareness have a lower percentage of respondents who believe responding to the census doesn't matter. The differences are significant for non-Hispanic African Americans, Asians, American Indians, and Native Hawaiians. Although some differences are not significant, they are all in a positive direction and the evidence suggests a broad pattern that the PMP reached people.

Table 55 shows percentages believing that some harm could come by responding to the census broken down by recent census awareness.

Table 55: Percentage in Wave 2 who believe responding could personally harm them, by recent awareness of the census

Population	Recent Census Awareness?		χ^2 -Statistic	p-Value
	Yes	No		
Total Population	0.8	1.0	0.09	.770
Hispanic	1.3	2.6	0.30	.584
Non-Hispanic				
African American	1.1	4.4	2.44	.119
Non-Hispanic White	0.6	0.2	1.21	.271
Asian	0.8	11.5	9.05	.003 *
American Indian	0.7	5.4	5.58	.018 *
Native Hawaiian	0.8	2.4	1.53	.216

Except among Asians without recent census awareness, the percentages in Table 55 are small. The associations are significant for Asians and American Indians. The relatively large percentage of Asians with no recent census awareness who believe responding could harm them is not statistically significant. Perhaps for cultural or other reasons, Asians and American Indians may tend to harbor fear of the census. Our data are consistent with the hypothesis that the PMP reached people in these communities and achieved success in reducing fear that census could harm them.

4.4.4 Census beliefs as predictors of self-reported census participation

One of the desired outcomes of the PMP was increased census participation as a result of stressing the confidentiality of the information collected, that respondents cannot be harmed by their participation and other census beliefs. Wave 3 of data collection contains a question on whether the census questionnaire has been returned, as well as questions on the respondents' beliefs about the census. We now explore the association between census beliefs and self-reported participation, considering the former to represent the predictors or independent variables and the latter to be the dependent variable.

As noted previously, respondents were asked for their agreement with

- The Census Bureau promise of confidentiality can be trusted.
- My answers to the census could be used against me. (reversed)
- Sending back your census form could personally benefit or harm you in anyway.
- Filling out the Census will let the government know what my community needs.
- The Census counts citizens and non-citizens alike.
- It is important for as many people as possible to participate in the Census.
- Answering and sending back the Census matters for my family and community.
- I just don't see that it matters much if I personally fill out the Census or not. (reversed)

Table 56 shows percentages of self-reported participation based on whether the respondent trusts the confidentiality of Census 2000.

Table 56: Percent self-reported participation in Wave 3, by trust in promise of confidentiality

Populations	Trust Confidentiality?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	90.4	88.7	0.22	.641
Hispanic	87.5	91.1	0.76	.384
Non-Hispanic African American	88.8	87.2	0.18	.672
Non-Hispanic White	91.2	88.6	0.24	.625
Asian	86.1	82.6	0.30	.581
American Indian	78.6	70.6	1.82	.178
Native Hawaiian	89.4	82.0	1.39	.238

There are no significant differences in self-reported participation. These findings are consistent with PMP messages, and especially partnership communications, that people should participate regardless of whether they personally trusted the promise of confidentiality.

Table 57 shows percentages of self-reported participation based on whether the respondent believes that Census 2000 responses could be used against them.

Table 57: Percent self-reported participation in Wave 3, by belief census could be used against me

Population	Used Against Me?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	86.9	90.2	0.83	.361
Hispanic	89.7	87.4	0.28	.595
Non-Hispanic				
African American	88.8	88.1	0.04	.847
Non-Hispanic White	85.5	91.2	1.35	.246
Asian	82.6	84.6	0.17	.682
American Indian	60.8	83.5	11.43	<.001 *
Native Hawaiian	88.1	86.6	0.08	.779

In general, the belief that Census 2000 answers could be used against them has no effect on the self-reported participation rates. There is one significant difference. American Indians who believe that census answers could be used against them have a significantly lower self-reported participation rate than those who believe that their answers can't be used against them.

This finding may signal a participation barrier for American Indians that could be addressed in future communications for the 2010 Census.

Table 58 shows percentages of self-reported participation based on whether the respondent believes that participating in Census 2000 can personally harm them. There are no significant differences.

Table 58: Percent self-reported participation in Wave 3, by belief census could personally harm you

Population	Participation will Harm?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	83.0	89.6	0.38	.540
Hispanic	75.6	88.5	0.59	.442
Non-Hispanic				
African American	82.6	86.6	0.15	.703
Non-Hispanic White	83.5	90.3	0.27	.605
Asian	62.2	84.4	0.89	.345
American Indian	75.3	75.2	0.00	1.000
Native Hawaiian	60.4	87.7	2.34	.127

In general, the belief that Census 2000 could personally harm has no effect on the self-reported participation rates

Table 59 shows percentages of self-reported participation based on whether the respondent believes that the government will learn about community needs from the Census.

Table 59: Percent self-reported participation in Wave 3 depending on community needs beliefs

Race/Ethnicity	Identify Community Needs?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	91.6	76.6	9.94	.002 *
Hispanic	87.1	93.1	1.64	.201
Non-Hispanic				
African American	88.0	78.5	3.74	.053 *
Non-Hispanic White	93.1	73.2	9.87	.002 *
Asian	87.3	61.8	7.18	.008 *
American Indian	80.5	54.5	7.91	.005 *
Native Hawaiian	90.7	57.8	13.80	<.001 *

Except for Hispanics, respondents who believe that government can learn community needs from census responses are significantly more likely to have self-reported Census 2000 participation. Apparently, community needs is a "hot button" for most targeted populations.

Table 60 shows percentages of self-reported participation based on whether the respondent believes that citizens and non-citizens will be counted equally by the Census.

Table 60: Percent self-reported participation in Wave 3 by belief citizens and non-citizens will be counted

Race/Ethnicity	Non-Citizens Equal?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	91.6	83.8	3.01	.083 *
Hispanic	89.3	72.7	6.44	.011 *
Non-Hispanic				
African American	86.3	89.0	0.42	.518
Non-Hispanic White	93.1	83.0	2.81	.094 *
Asian	87.2	71.7	3.53	.060 *
American Indian	75.9	73.1	0.08	.777
Native Hawaiian	87.4	87.1	0.00	.964

Respondents who believe non-citizens and citizens will be counted by Census 2000 were more likely to self-report participation among the Hispanic, Asian, and non-Hispanic White populations. There is no evidence of this effect for non-Hispanic African Americans, American Indians, and Native Hawaiians. The strong effect for Hispanics is noteworthy, because of the large population of recent immigrants to America.

Table 61 shows percentages of self-reported participation based on whether the respondent believes that participation in the census is important.

Table 61: Percent self-reported participation in Wave 3 depending on importance beliefs

Race/Ethnicity	Participation Important?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	90.7	57.5	15.95	<.001 *
Hispanic	88.7	87.8	0.01	.922
Non-Hispanic				
African American	87.7	63.3	7.18	.008 *
Non-Hispanic White	91.7	43.7	19.37	<.001 *
Asian	86.7	51.1	8.27	.004 *
American Indian	77.9	44.6	13.35	<.001 *
Native Hawaiian	89.4	51.5	10.76	.001 *

Respondents who believe that participation in Census 2000 is important were significantly more likely to have self-reported participation, except among Hispanics. Excluding the Hispanic population, the differentials in self-reported participation rates were over 24 percent for all five of the other populations, and over 33 percent for four of them. Perhaps it is tautological, but people who believe census participation is important believe it is important enough to report participation in the census. The fact that this association is not significant for Hispanics arises because even the "no's" report high levels of census participation.

Table 62 shows percentages of self-reported participation based on whether the respondent believes that participation in the Census is important to their family and community.

Table 62: Percent self-reported participation in Wave 3 depending on family beliefs

Race/Ethnicity	Important to Family/Community?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	92.1	67.6	11.79	.001 *
Hispanic	88.1	89.7	0.08	.782
Non-Hispanic				
African American	89.0	83.3	1.09	.296
Non-Hispanic White	93.4	55.5	11.68	.001 *
Asian	86.4	68.1	4.66	.031 *
American Indian	79.1	56.2	4.38	.037 *
Native Hawaiian	90.0	61.5	9.45	.002 *

Among Hispanics and non-Hispanic African Americans, the belief that the Census matters to their family and community seemed to have little or no effect on their self-reported participation rate. Both "yes's" and "no's" report similarly high levels of census participation. For the other four populations, respondents who believed that Census 2000 mattered for family and community had significantly higher self-reported participation rates, especially among non-Hispanic Whites.

Table 63 shows percentages of self-reported participation based on whether the respondent believes that responding to the census does not matter.

Table 63: Percent self-reported participation in Wave 3 depending on response beliefs

Race/Ethnicity	My Response Doesn't Matter?		χ^2 -statistic	p-Value
	Yes	No		
Total Population	77.4	92.7	9.79	.002 *
Hispanic	86.3	89.2	0.27	.606
Non-Hispanic				
African American	77.6	91.1	6.57	.010 *
Non-Hispanic White	74.4	93.5	6.65	.010 *
Asian	75.0	86.9	3.62	.057 *
American Indian	51.6	85.3	9.75	.002 *
Native Hawaiian	79.9	91.2	4.20	.041 *

Among all six populations, respondents who believed that their Census 2000 response didn't matter had lower self-reported participation rates in Census 2000. These differences were significant for all populations except Hispanics.

Of the four items regarding beliefs about the importance of the census (lets the government know community needs, important for as many respondents as possible, important to family/community, and whether a response matters), respondents who believed in the importance of Census 2000 did have significantly higher self-reported participation rates. This was not true for the Hispanic population; their beliefs about the importance of Census 2000 had no effect on their self-reported participation rates, which were high regardless.

Respondents who believed that non-citizens and citizens would be counted alike had significantly higher self-reported participation rates for Hispanics, non-Hispanic Whites, and Asians, but these beliefs did not affect participation for non-Hispanic African Americans, American Indians, and Native Hawaiians.

The remaining three beliefs pertain to whether the respondents trust the confidentiality of the Census, believe their answers could be used against them, or believe sending back the census form could bring personal harm. Surprisingly, among these three beliefs, there was one significant difference; American Indians who believed the census could be used against them had significantly lower self-reported participation rates.

4.5 Non-equivalent control variables

Validity of the relationships between awareness, beliefs, and intended participation/self-reported participation can be enhanced by examining variables that should not have been affected by communications during the period leading up to the census. If these variables show no change across waves, this is evidence against alternative explanations having to do with possible confounding variables. Such "control" variables do not replace a control group, but since a control group was not possible in this study, examination of such variables can provide evidence for or against validity.

Five variables included in the survey can serve as control variables and should show no significant change over the three survey waves. One is the extent to which respondents are familiar with the Department of Agriculture; the second is the extent to which they are familiar with the Surgeon General's office; the third is the proportion who have ever heard of the school lunch program; the fourth is the proportion who have ever heard of welfare reform; and the fifth is the index of civic participation introduced in Section 4.1. Responses to these questions generally did not change (that is, estimated change is not statistically significant) from Wave 1 to 2, Wave 2 to 3, or Wave 1 to 3. See Tables 64-68. These results provide evidence against any general tendency for people to have simply reported higher awareness and behavioral intentions due to some variable correlated with time or events associated with the timing of each wave. There is some evidence of change in the total population between Waves 2 and 3 for the proportion ever heard of welfare reform and for the index of civic participation. We are uncertain of the reasons for the observed declines. We speculate that the declines may be seasonally related to the close of the school year and the beginning of summer holidays. People may simply be somewhat more detached from government and its programs during such times. It seems unlikely that the changes could be caused by some variable related to census awareness or cooperation, since such a relationship, had it existed, would have tended to cause an increase, rather than a decrease, in our control variables.

Table 64: Proportion ever heard of the Department of Agriculture

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	.93 (.011)	.92 (.015)	.92 (.009)	1.0000	1.0000	.9857
Hispanic	.64 (.047)	.68 (.037)	.70 (.037)	1.0000	1.0000	.9334
Non-Hispanic						
African American	.93 (.017)	.88 (.021)	.88 (.017)	.2735	1.0000	.0897 *
Non-Hispanic White	.99 (.003)	.98 (.007)	.98 (.008)	1.0000	1.0000	.2560
Other	.87 (.073)	.72 (.082)	.83 (.053)	.4949	.8346	1.0000
Asian	.53 (.033)	.48 (.032)	.51 (.025)	.7033	1.0000	1.0000
American Indian	.80 (.034)	.82 (.026)	.82 (.022)	1.0000	1.0000	1.0000
Native Hawaiian	.96 (.012)	.95 (.022)	.96 (.011)	1.0000	1.0000	1.0000

Table 65: Proportion ever heard of the Surgeon General's office

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	.87 (.022)	.86 (.023)	.85 (.014)	1.0000	1.0000	1.0000
Hispanic	.48 (.046)	.50 (.036)	.49 (.042)	1.0000	1.0000	1.0000
Non-Hispanic						
African American	.87 (.024)	.82 (.027)	.81 (.023)	.3719	1.0000	.1372
Non-Hispanic White	.94 (.019)	.96 (.015)	.93 (.019)	1.0000	.9521	1.0000
Other	.78 (.093)	.57 (.101)	.80 (.059)	.3410	.1455	1.0000
Asian	.41 (.032)	.37 (.031)	.42 (.025)	1.0000	.7385	1.0000
American Indian	.63 (.045)	.66 (.037)	.73 (.029)	1.0000	.4499	.1978
Native Hawaiian	.82 (.022)	.84 (.029)	.80 (.027)	1.0000	.7772	1.0000

Table 66: Proportion ever heard of the school lunch program

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	.91 (.018)	.90 (.016)	.85 (.02)	1.0000	.1692	.1600
Hispanic	.75 (.041)	.73 (.035)	.73 (.045)	1.0000	1.0000	1.0000
Non-Hispanic						
African American	.94 (.013)	.94 (.014)	.86 (.02)	1.0000	.0049 *	.0015 *
Non-Hispanic White	.93 (.023)	.93 (.019)	.88 (.025)	1.0000	.2095	.2508
Other	.80 (.092)	.81 (.053)	.83 (.056)	1.0000	1.0000	1.0000
Asian	.64 (.028)	.60 (.031)	.62 (.025)	1.0000	1.0000	1.0000
American Indian	.83 (.027)	.84 (.029)	.87 (.022)	1.0000	1.0000	.9765
Native Hawaiian	.89 (.018)	.96 (.009)	.88 (.021)	.0042 *	.0018 *	1.0000

Table 67: Proportion ever heard of welfare reform

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	.91 (.016)	.92 (.016)	.84 (.019)	1.0000	.0162 *	.0176 *
Hispanic	.76 (.038)	.72 (.034)	.75 (.040)	1.0000	1.0000	1.0000
Non-Hispanic						
African American	.97 (.010)	.93 (.017)	.89 (.022)	.2900	.3098	.0039 *
Non-Hispanic White	.94 (.022)	.96 (.014)	.86 (.026)	1.0000	.0011 *	.0520
Other	.83 (.073)	.69 (.084)	.76 (.076)	.6523	1.0000	1.0000
Asian	.60 (.033)	.55 (.033)	.57 (.026)	.7482	1.0000	1.0000
American Indian	.74 (.031)	.78 (.026)	.76 (.030)	1.0000	1.0000	1.0000
Native Hawaiian	.93 (.014)	.90 (.025)	.86 (.022)	.8685	.6208	.0186 *

Table 68: Proportion whose index of civic participation is greater than or equal to 1

Population	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Total Population	.84 (.021)	.84 (.029)	.75 (.024)	1.0000	.0408 *	.0161 *
Hispanic	.71 (.043)	.66 (.041)	.66 (.042)	1.0000	1.0000	1.0000
Non-Hispanic						
African American	.88 (.024)	.83 (.029)	.77 (.027)	.4556	.5779	.0093 *
Non-Hispanic White	.86 (.028)	.88 (.038)	.75 (.033)	1.0000	.0362 *	.0390 *
Other	.72 (.136)	.81 (.051)	.80 (.060)	1.0000	1.0000	1.0000
Asian	.49 (.029)	.50 (.032)	.52 (.026)	1.0000	1.0000	1.0000
American Indian	.81 (.022)	.81 (.021)	.76 (.024)	1.0000	.3379	.4411
Native Hawaiian	.82 (.023)	.81 (.038)	.84 (.026)	1.0000	1.0000	1.0000

4.6 Analysis of actual mailback status

4.6.1 Introduction to actual behavior

By now, we have explored a number of components of the basic communications model, including awareness, beliefs, and intended participation/self-reported participation, and the linkages between these and their presumed link to the PMP. The exploration thus far has dealt with what people said in the survey interview. But what did people really do?

Following the close of data collection for this study, the Census Bureau supplied to NORC the Census 2000 *mail return behavior* for the households included in the Wave 2 and 3 samples.

These samples had been selected from the census mailing list, and thus it was an easy matter to match the sample back to census databases and get the date, if any, of the mail return.¹⁵

Table 69 contains a tabulation of the four samples by census type of enumeration area. For example, in the core sample, 1,193 and 1,944 households were in areas eligible for returning the census form by mail. The American Indian sample was spread across both eligible and ineligible areas. In the balance of this section, we will analyze data for survey households that were eligible to respond by mail. The columns labeled "missing" reflect interviews for which the census type of enumeration area was missing on the materials the Census Bureau supplied to NORC.¹⁶

Table 69: Completed interviews by census type of enumeration area by sample type and wave

Sample Type	Type of Enumeration Area			Total
	Eligible for Mail Back	Not Eligible for Mail Back	Missing	
Wave 2				
Core	1,193	0	34	1,227
Asian	460	0	11	471
American Indian	101	74	323	498
Native Hawaiian	500	0	20	520
Wave 3				
Core	1,944	2	43	1,989
Asian	738	0	40	778
American Indian	130	66	574	770
Native Hawaiian	662	0	48	710

The mail return rate definition used for this report is different from the mail return rates calculated for Census 2000. For this study, a Wave 2 form was classified as a mail return if it had a valid census mail return date that was prior to the nonresponse followup interview date (NRD) provided on the Census Bureau file. For wave 3, a mail return must have occurred before the NORC interview date and the NRD. Currently, April 18 is the nonresponse followup cut-off date used by the Census Bureau to calculate the mail return. Note: Other differences exist between the mail return calculation for this report and for the Census Bureau, but are not provided in this report.

¹⁵ The Census Bureau achieved limited success in matching the households in Wave 1 to census files, because of the RDD sample type and other methods external to the census mailing list.

¹⁶ In some cases, Census Bureau staff were unable to match self-reported physical address information to the census files. These cases are categorized in the "missing" column. In many of these cases, respondents provided insufficient address information, mailing address information (e.g., post office box numbers), or refused to provide any address information. In contrast, the Wave 2 and 3 Core, Asian, and Native Hawaiian samples achieved a higher match rate to census files, as reflected by the relatively low proportion of "missing" cases. In these samples, "missing" cases are classified in census files as vacant housing units, duplicates of tabulated census housing units, group quarters, and other types of structures not classified as occupied housing units in the census. Please refer to the methodology section and Appendix A for more information about the sample design.

Table 70: Weighted and unweighted mail return rates for the PMPE, by wave, and for the 2000 Census

Population	Count		Weighted Mail-Return Rate		Unweighted Mail-Return Rate		Census 2000
	Wave 2	Wave 3	Wave 2	Wave 3	Wave 2	Wave 3	
Total Population	1,193	1,944	84.4 (2.2)	80.9 (2.0)	81.1	80.1	The estimates are forthcoming from the Census Bureau.
Hispanic	414	672	81.7 (3.4)	89.2 (1.8)	81.9	83.5	
Non-Hispanic							
African American	361	618	76.6 (3.4)	74.6 (2.4)	74.8	73.5	
Non-Hispanic White	356	535	87.1 (3.0)	81.7 (2.6)	87.1	83.9	
Other	62	119	79.3 (7.7)	60.9 (11.5)	79.0	79.0	
Asian	460	738	89.8 (1.6)	85.3 (2.2)	88.5	88.3	
American Indian	101	130	74.7 (6.3)	71.1 (5.3)	72.3	69.2	
Native Hawaiian	500	662	79.2 (3.5)	78.0 (2.7)	76.8	76.1	

Late mail returns are problematic for our analysis for two reasons: first, they may have occurred after the date marking the start of census nonresponse followup operations, and second, they may have occurred following the date of the Wave 3 interview. In the former case, while the census form was returned by mail, it was too late to be useful to the Census Bureau, which had already initiated the expenditure of funds and energy necessary to follow up the household in person. In the later case, we do not trust the representativeness of the mail return event, because it could have been triggered by the survey interview itself. That is, the Wave 3 sample could display mail return behavior atypical of the population to which inferences are to be made, simply because the interview itself reminds the households to mail back the census form. To guard against these problems, we recode the mail return behavior for all remaining analyses in this section. For all cases in Waves 2 and 3 in which the mail return date was on or after the nonresponse followup date, we recode the mail return status to a nonmail return. In addition, for all cases in Wave 3 in which the mail return date was on or after the interview date, we recode the mail return status to a nonmail return. We call the recoded mail return behavior the *actual behavior*. Table 71 presents a simple tabulation of frequencies before and after the recoding. For example, for the total population, 968 Wave 2 cases were coded initially as mail returns, while 841 remained after recoding. In what follows, we analyze actual behavior, self-reported participation (collected in the Wave 3 interview), intended participation (collected in the Wave 2 interview), and various covariates of mailback behavior. Our main objective is to explore what impact census communications may have had on actual behavior.

Table 71: Frequencies for mail-return behavior and for re-coded mail-return status (actual behavior) by population and by wave: eligible type of enumeration areas

Population	Mail-Return Behavior		Actual Behavior		Total
	Non-Mail Return	Mail Return	Non-Mail Return	Mail Return	
Wave 2					
Total Population	225	968	352	841	1,193
Hispanic	75	339	114	300	414
Non-Hispanic					
African American	91	270	144	217	361
Non-Hispanic White	46	310	72	284	356
Other	13	49	22	40	62
Asian	53	407	130	330	460
American Indian	28	73	39	62	101
Native Hawaiian	116	384	151	349	500
Wave 3					
Total Population	386	1,558	636	1,308	1,944
Hispanic	111	561	207	465	672
Non-Hispanic African American					
American	164	454	242	376	618
Non-Hispanic White	86	449	140	395	535
Other	25	94	47	72	119
Asian	86	652	225	513	738
American Indian	40	90	54	76	130
Native Hawaiian	158	504	192	470	662

The correlations between actual behavior and self-reported participation or intended participation appear in Table 72. The correlations are lower than the already low correlations found in earlier census studies (see, for example, Bates and Whitford, 1991). The correlations are undoubtedly attenuated somewhat by the recoding done to create the actual behavior variable. It is unclear whether such recoding was done in the earlier studies. Tables 73 and 74 present similar information in the form of cross-tabulations of actual behavior by intended participation and by self-reported participation. The percentages in the table are column percentages, except for those in the bottom row, which are row percentages. For example, of those who self-reported "returned", 77 percent actually did return the form by mail and 21 percent did not. Those who self-reported "returned" comprise 73 percent of the Wave 3 sample, while those who actually did return the form by mail comprise 66 percent of the sample. In Wave 2, 69 percent actually mailed back the form, while 81 percent said they "probably will" or "definitely will". Evidently, our survey respondents were overly optimistic about their census cooperation or were biased towards a socially desirable response, as prior census studies have shown. All of the figures in these tables are unweighted. The columns and rows labeled "missing" reflect interviews for which the corresponding variable was missing, such as an interview in which the respondent failed to report question 18, intended participation.

Table 72: Weighted and unweighted correlations between actual behavior and intended participation and self-reported participation by race/ethnicity

Population	n	Weighted Correlations		Unweighted Correlations	
		Intended Participation (Wave 2)		Self-Reported Participation (Wave 3)	
Total Population	1,093	.18	.22	.35	.38
Hispanic	365	.27	.19	.36	.33
Non-Hispanic					
African American	336	.22	.25	.30	.39
Non-Hispanic White	341	.12	.14	.38	.42
Other	51	.48	.48	.27	.44
Asian	344	.18	.14	.37	.35
American Indian	80	.05	.11	.42	.41
Native Hawaiian	452	.12	.11	.38	.41

Table 73: Actual behavior (in percent) versus intended participation, Wave 2, core sample

Actual Behavior	Intended Participation						Total
	Definitely Will	Probably Will	Might or Might Not	Probably Will Not	Definitely Will Not	Missing	
Form mailed back	76	64	44	53	17	58	69
Form not mailed back	22	35	51	44	83	36	29
Missing or Not Eligible TEA	2	1	5	3	0	6	2
Total	60 (734)	21 (258)	7 (91)	3 (32)	0 (6)	9 (106)	100 (1,227)

NOTE: n's given in parentheses.

Table 74: Actual behavior (in percent) versus self-reported behavior, Wave 3 core sample

Actual Behavior	Self-Reported Behavior				Total
	Returned	Received, Did Not Return	Did Not Received	Missing	
Form mailed back	77	28	43	42	66
Form not mailed back	21	68	55	56	32
Missing or Not Eligible TEA	2	4	2	2	2
Total	73 (1,457)	12 (243)	10 (192)	5 (97)	100 (1,989)

NOTE: n's given in parentheses.

4.6.2 Associations between actual behavior and potential covariates

We turn to analysis of associations between actual behavior and awareness of census communications, census knowledge, and census attitudes, for the total population using the core sample. Throughout the analysis, awareness of census communications refers to respondents' exposure to the sources of communications listed in Question 10. We use the term "awareness" instead of "exposure", because the survey data really represent self-reports of respondents' awareness of their exposure. Actual exposure to census communications may be something different, and it is not observed in this evaluation study.

From Tables 75-78, which are given on a weighted basis, we can begin to examine what impact census communications may have had on actual census outcomes. The first of these tables, Table 75, displays the association between actual behavior and a simple index of the number of sources of census communications cited in Question 10. The table also displays similar results from Bates and Whitford (1991) concerning the censuses of 1980 and 1990. For the categories "low" and "medium", both self-reported behavior and actual behavior are higher in Wave 3 of the 2000 PMPE than in the 1990 OES, but lower than in the 1980 KAP. Interestingly, for the category "high", actual behavior is lower in 2000 than in 1990 and in 1980, but self-reported behavior in 2000 is higher than in 1990. For both 1990 variables, there is a positive trend between the number of sources of census communications cited and actual behavior. Yet we do not find such a trend in either 1980 or in Wave 3 of the PMPE.

Table 75: Actual behavior (in percent) by number of sources of census communications cited, core sample*

Number of Sources Cited	1990 OES		2000 PMPE			
	1980 KAP Actual Behavior	Self-Reported Behavior	Actual Behavior	Wave 2 Actual Behavior	Wave 3 Self-Reported Behavior	Wave 3 Actual Behavior
Total				77.7 (3.1)	89.5 (1.7)	73.2 (1.8)
Low (0)	87.1 (4.3)	54.0 (4.7)	62.8 (4.6)	62.8 (3.2)	92.6 (2.1)	75.4 (6.1)
Medium (1-2)	93.0 (3.3)	75.8 (3.1)	70.9 (3.6)	72.9 (9.8)	83.1 (6.5)	77.1 (5.1)
High (3-7)	87.9 (2.0)	84.7 (1.4)	81.6 (1.8)	84.8 (2.9)	89.9 (2.1)	72.0 (2.3)

*This index includes television, newspapers, radio, magazines, meetings, posters/billboards, and informal conversations. The 1980 and 1990 indexes used the same sources of communications, with print advertisements replacing posters/billboards.

Table 76 examines whether awareness of some sources of census communications may be more strongly related to actual behavior than awareness of other sources. Looking across all three censuses we find no one source that stands out above all others.

Table 76: Actual behavior (in percent) by source of census information, core sample

Sources of Census Information	1990 OES			2000 PMPE		
	1980 KAP Actual Behavior	Self-Reported Behavior	Actual Behavior	Wave 2 Actual Behavior	Wave 3 Self-Reported Behavior	Wave 3 Actual Behavior
Television	91.6 (2.9)	82.9 (1.7)	81.0 (2.0)	79.3 (4.4)	89.1 (2.0)	72.3 (2.2)
Newspapers	88.6 (2.0)	86.0 (1.7)	82.7 (1.9)	88.4 (2.6)	93.5 (1.6)	73.0 (2.9)
Radio	92.2 (2.7)	82.6 (1.8)	78.6 (1.9)	81.3 (3.2)	88.9 (2.2)	71.5 (2.4)
Posters/Billboards	88.7 (2.5)	83.2 (2.2)	77.4 (2.6)	82.1 (4.3)	89.4 (2.5)	68.9 (2.9)
Magazines	89.4 (3.1)	85.6 (2.0)	80.3 (2.8)	83.5 (5.7)	91.3 (2.4)	64.9 (4.0)
Meetings	92.9 (2.6)	88.6 (2.5)	83.0 (2.8)	89.3 (3.3)	88.6 (3.8)	71.8 (5.8)
School-aged children	N/A	83.8 (3.8)	74.9 (3.3)	76.2 (8.2)	77.9 (7.4)	61.8 (7.7)
Public Official	N/A	86.5 (1.8)	81.4 (2.5)	78.9 (6.2)	86.9 (3.7)	71.2 (4.6)

For the 1980 KAP and 1990 OES, the survey questionnaires included a number of knowledge items, enabling the Census Bureau to examine the association between actual behavior and a knowledge index. Due to a lack of comparable knowledge items in the 2000 questionnaire, we are unable to perform the same examination. Our questionnaire does include at least one knowledge item, namely, "So far as you know, does the law require you to answer the census questions?" This item (Q16) was also used in 1980 and 1990. Thus, for this one item we are able to study the association between knowledge and actual behavior and the trends in this association. Results appear in Table 77. Turning first to Wave 2 actual behavior, the respondents who answered that the census is legally required returned a higher proportion of their census forms than those who believed that it is not required. The percent mail return is higher for the yes's than for the no's, as one might expect, for all populations except Asians and Other. For Wave 3 self-reported behavior, the percentage for the yes's also tends to be higher than the percentage for the no's. And for Wave 3 actual behavior, the percentages are mixed: the yes's returned at a higher rate than the no's for non-Hispanic African Americans, Asians, and Native Hawaiians, while the reverse was true for the remaining targeted populations.¹⁷ For the total population, comparable rates of mail return were produced for the 1980 KAP and the 1990 OES. We observe that Wave 2 actual behavior and Wave 3 self-reported behavior are on a par with the mail return rates from 1990, and are lower than the rate for 1980. In fact, the percent based on Wave 3 actual behavior is around 10 percentage points lower than the percent based on Wave 2 actual behavior or on 1990 actual behavior.

¹⁷Because of sampling error, some of the differences are not statistically significant.

Table 77: Actual behavior (in percent) given the knowledge item, "Is the census legally required"

Population	Is Census Legally Required?	1980 KAP	1990 OES		2000 PMPE		
		Actual Behavior	Self-Reported Behavior	Actual Behavior	Wave 2 Actual Behavior	Wave 3 Self-Reported Behavior	Wave 3 Actual Behavior
Total Population	Yes	92.1	87.0	81.7	84.2 (3.0)	91.3 (2.2)	72.8 (3.0)
	No or DK				75.6 (4.2)	88.3 (2.5)	73.6 (2.4)
Hispanic	Yes				83.0 (3.8)	84.3 (3.2)	72.3 (4.6)
	No or DK				70.5 (4.9)	91.0 (2.1)	74.8 (4.6)
Non-Hispanic African American	Yes				66.5 (8.5)	87.9 (3.1)	74.3 (4.4)
	No or DK				64.1 (4.4)	85.8 (3.4)	57.3 (4.0)
Non-Hispanic White	Yes				87.9 (4.4)	93.1 (3.1)	75.3 (4.4)
	No or DK				79.6 (5.7)	88.4 (3.3)	77.8 (3.7)
Other	Yes				63.5 (17.1)	94.1 (3.6)	26.7 (10.2)
	No or DK				75.0 (9.3)	90.6 (5.9)	71.0 (8.1)
Asian	Yes				65.6 (7.6)	87.6 (3.6)	63.6 (4.3)
	No or DK				70.5 (3.1)	79.7 (3.6)	60.7 (3.5)
American Indian	Yes				79.8 (10.0)	78.6 (5.0)	59.8 (6.9)
	No or DK				55.9 (4.9)	70.9 (10.9)	63.9 (7.8)
Native Hawaiian	Yes				81.8 (6.2)	87.0 (4.0)	73.9 (4.8)
	No or DK				67.4 (4.5)	87.1 (3.0)	71.4 (3.7)

NOTE: The percentages refer to the domain of respondents in a particular population who gave a particular response to the question, "Is the census legally required?" Shaded cells are not available.

We find an explanation for the patterns in the 2000 data in Table 78, which shows the percent of respondents who believe response to the census is legally required. Apparently, there is little change in this percent from Wave 1 to 2, while there is a big upswing from Wave 2 to 3. These findings are consistent with the fact that early phases of the PMP did not emphasize the legal burden the census places on American households, while the census form itself and the census nonresponse followup operation did. In Table 77 we saw that among the yes's to "Is the census legally required", 84.2 percent actually returned the census form by mail in Wave 2 and 72.8 percent did so in Wave 3. The reason for this decline is now clear: there was tremendous growth (almost a doubling) in the yes's from Wave 2 to 3. The yes's at Wave 2 (say 20 to 25 percent of total population, give or take) have very high propensities to cooperate with the census. These are the long-term or hard-core yes's. The yes's at Wave 3 (say 40 percent, give or take) are of two types: the long-term yes's and the incremental or newly formed yes's.¹⁵ The newly formed

¹⁵ To illustrate ideas, suppose that 25 percent of the population are hard-core yes's and another 16 percent are newly formed yes's. Further, assume 73 percent of all yes's are mail returns at Wave 3, while 84 percent of all hard-core yes's are mail return. These assumptions imply a mail return rate for newly formed yes's at Wave 3 of about 56 percent, which is actually lower than the mail return rate of the no's at Wave 2 (from which the newly formed yes's emerged).

yes's have a tenuous attachment to the census and exhibit low propensities to cooperate at least with the census mailout. By Wave 3 the body of yes's had grown considerably and these people self-reported participation in the census at a high rate, which was consistent with their beliefs about its legal burden. Their actual behavior was something quite different; it displayed a regression-to-the-mean effect. Both yes's overall and no's exhibited average mail return behavior in the low 70 percent range. Thus, we conclude that advertising and partnership messages that merely lead to newly formed but short-term yes's may not have any beneficial impact on actual behavior, although they do impact self-reported behavior. A challenge for future census managers is to stimulate -- through advertising, partnership, and other efforts -- growth in the population of long-term yes's who are committed to the census and participate at a high rate. Of course, our data are silent on the question of whether long-term knowledge of the census requirement drives the high propensities to participate, or whether some other latent variable, correlated with knowledge, drives them. These results tend to carry over to most of the targeted race/ethnicity populations. For Non-Hispanic African Americans, however, increasing knowledge of the legal requirement seems to have had a beneficial impact on actual behavior, including the behavior of newly formed yes's.

Table 78: Percent who responded yes to "Is the census legally required"

Sample	Wave 1	Wave 2	Wave 3
Total Population	21.3 (2.8)	24.6 (3.7)	40.8 (2.6)
Hispanic	29.1 (5.3)	25.9 (4.0)	39.9 (4.1)
Non-Hispanic African American	21.1 (2.6)	19.2 (2.9)	35.4 (2.8)
Non-Hispanic White	17.9 (3.7)	26.1 (5.0)	41.5 (3.6)
Other	40.2 (14.8)	14.7 (5.3)	57.6 (9.4)
Asian	17.8 (2.3)	23.0 (2.8)	41.9 (2.6)
American Indian	15.5 (2.5)	13.0 (2.1)	34.0 (4.4)
Native Hawaiian	24.1 (2.5)	11.0 (2.5)	38.2 (3.1)

One possible explanation for low census mail return rates is that negative perceptions of the federal government have resulted in low opinions and trust in government. To illuminate this matter, Table 79 presents the association between actual behavior and an index of favorable census attitudes. For the 2000 PMPE, there is no trend relating favorable attitudes to actual behavior, yet there is a positive trend relating favorable attitudes to self-reported behavior. The lack of trend between favorable attitudes and actual behavior may reflect real human behavior of the survey respondents, or it could signal a mismatch between the survey and census respondents. Trends are evident in the 1990 work, while comparable data were not available from the 1980 study.

Table 79: Actual behavior (in percent) by level of favorable attitudes, core sample*

Attitudes Index	1980 KAP Actual Behavior	1990 OES		2000 PMPE		
		Self- Reported Behavior	Actual Behavior	Wave 2 Actual Behavior	Wave 3 Self- Reported Behavior	Wave 3 Actual Behavior
Total				77.7 (3.1)	89.5 (1.7)	73.2 (1.8)
Low (0-4)	N/A	72.0 (2.7)	71.3 (2.6)	73.4 (6.2)	79.3 (4.5)	68.1 (5.1)
Medium (5)	N/A	83.3 (3.2)	76.5 (3.1)	81.0 (6.0)	90.7 (3.7)	75.8 (5.4)
High (6-7)	N/A	85.7 (1.7)	83.7 (2.2)	79.0 (3.4)	93.1 (2.0)	74.3 (2.2)

*This index includes the seven parts to Question 15. The 1980 and 1990 indexes include six items related to attitudes about the promise of confidentiality; invasion of privacy; importance of being counted; use of census data by other government agencies; using data against people; and personal pride. The 2000 index is, thus, not comparable to the corresponding 1980 and 1990 indexes.

Thus, the preliminary findings for 2000 given here suggest the PMP may have had some subtle effects on census cooperation. They do not reveal an overwhelmingly powerful association between census communications and both actual and self-reported behavior. Further, they are consistent with a hypothesis that more knowledgeable people and people with more favorable attitudes tend to self-report the socially desirable outcome (namely, mail return) at higher rates. In the next subsection, we shall use more powerful statistical methods in an attempt to explore this emergent association between census communications and actual behavior.

4.6.3 Statistical models of actual behavior

Having examined associations between actual behavior and some indexes of awareness, knowledge, and favorable attitudes, we proceed in this subsection to build and test statistical models directly relating actual behavior to various exogenous variables.¹⁹ The exogenous variables include the index of civic participation, respondent's race/ethnicity, language spoken at home, household income, respondent's highest grade attained, respondent's age, respondent's sex, household tenure status, and an indicator of whether the respondent reported receiving the census form (Q19, asked only in Wave 3). All of these variables have been examined previously in either the 1980 KAP or the 1990 OES.

We study exogenous variables that are thought to affect the chances of returning the census form by mail. For example, it is reasonable to hypothesize that the chances of mail return may increase with income, highest grade attained, age, or extent of participation in civic affairs. One may reasonably hypothesize, on the basis of prior studies of census undercount, that the chances of mail return may be lower for men than for women; for housing renters than for owners; and for members of various minority populations than for the non-Hispanic White population. Similarly, it is reasonable to speculate that the chances of mail return may be lower for those who report not receiving a census form than for those who report receiving it (which itself may be viewed as a kind of census communication). Finally, and of crucial interest to this study, one may hypothesize that the chances of mail return are positively related to the respondent's

¹⁹ We refer to *exogenous* and *endogenous* variables in the sense in which these terms are used in the field of econometric modeling. An exogenous variable, such as age, is one whose value is determined outside the model, or in this case outside the census participation mechanism. An endogenous variable is one whose value is determined by the simultaneous interaction of the relations in the model, or in this case by the mechanism determining census participation.

reported amount of exposure to mass-media and community-based communications. The purpose of the statistical models that follow is to formally examine these various hypotheses and determine which of them are supported by the survey data collected in Waves 2 and 3.

Endogenous variables such as intended participation and self-reported participation may themselves be affected by the aforementioned exogenous variables. In our analyses, we considered but ultimately rejected the possibility of modeling actual behavior as a function of both endogenous and exogenous variables. Thus, the models we consider attempt to explain actual behavior directly as a function of income, highest grade attained, and so forth. Our approach is similar to the estimation of the reduced form in an econometric system of simultaneous equations.

Within each of Waves 2 and 3, we build logistic regression models relating the log-odds of mail return to a linear function of the exogenous variables. The interpretation of the models depends on the concept of odds and the odds ratio. For the dichotomous variable actual behavior, the odds of returning the census form are equal to the probability of returning it divided by the probability of not returning it. The odds are thus 1 if the probabilities are .5/.5. The odds increase as the probability of returning increases; they decrease as the probability of not returning increases. Logistic regression coefficients are interpreted in terms of odds rather than probabilities because otherwise changes in the probabilities would depend on level of the exogenous variables.

What we would really like to learn from our analysis is whether, other factors held constant, respondents' probabilities (or odds) of mail return trended upwards during the period of the study, in response to a growing awareness of the census created by the PMP. As we have asserted a number of times in this report, a rigorous assessment of this key question could only have come from a scientifically-designed experiment, wherein different random, treatment groups received different doses, d , of census communications and each group was brought to the finality of their actual behavior. Let $p(d)$ denote the probability of a mail return, given dosage level d . Then, from such experimental data, one could study whether $p(d)$ was a monotone increasing function of d , as communications theory and common sense would suggest. Yet, a designed experiment was obviously not practical for the current evaluation of the 2000 PMP. In its place, all one can do is examine the naturally occurring variability of the dosage d within each given survey wave, and demonstrate whether or not the probability of mail return, $p(d)$, increases with d . This approach has limitations. It is entirely possible, for example, that different people are predisposed to hear census communications at various dosage level and to return the census form by mail with various probabilities. Given this possibility, the predisposition of people drives their actual behavior, and census communications does not directly influence their mail return. Despite these limitations, we proceed to build statistical models of actual behavior within each of survey Waves 2 and 3, and to examine the extent to which variability in actual behavior can be explained by variability in awareness of census communications.

The actual variables we employ in the modeling are defined in Table 80. Actual behavior (AB) is the dependent variable in all of our work. Most of the exogenous variables are derived from the questions asked in the survey interview and screener. Housing tenure, like mail-return status, is obtained via the aforementioned match to census databases. Census communications variables MM, CB, SUM, and DIFF are continuous variables on the following scales: $1 \leq MM \leq 3$, $1 \leq CB \leq 3$, $2 \leq SUM \leq 6$, and $-2 \leq DIFF \leq 2$. Remaining variables are categorical. Wolter and Porras (2002) give the sample distributions of the variables.

Table 80: Dictionary of variables used in logistic regression models

Variable Name	Description	Definition
AB	Actual behavior (obtained from census database)	0=non-mail return, 1=mail return
CIVIC	Index of civic participation	1=low (CIVIC_A < 1), 2=medium (1 ≤ CIVIC_A < 3), 3=high (CIVIC_A ≥ 3), where CIVIC_A denotes the sum of the seven indicators of civic participation
RACEETH	Race/ethnicity	1=hispanic, 2=non-Hispanic African American, 3=other, 4=non-Hispanic white
LANG	Language spoken at home	1=spanish (core sample only), 2=other languages, 3=english
INCOME	Household income	1=under \$15K (1st quartile), 2=\$15K to \$24,999 (2nd quartile), 3=\$25K to \$44,999 (3rd quartile), 4=\$45K and over (4th quartile)
GRADE	Highest grade completed	1=less than high school (low), 2=high school and some college (medium), 3= college degree or higher (high)
AGE	Age	1=18 to 34 (low), 2=35-54 (medium), 3=55 and over (high)
SEX	Sex	1=male, 2=female
TENURE	Tenure status (obtained from census database)	1=renter, 2=owner
RECEIVE	Did you receive census form?	1=yes, 2=no
MM	Mass-media communications	Simple mean of non-missing mass-media items in Q10 series (scale of 1 to 3)
CB	Community-based communications	Simple mean of non-missing community based items in Q10 series (scale of 1 to 3)
DIFF	Difference between MM and CB variables	MM-CB
SUM	Sums of MM and CB variables	MM+CB

NOTE: The seven indicators of civic participation are Q1_2=attend PTA meeting; Q1_3=attend services or meetings of a religious group; Q1_5=attend regular meeting of a community or charity group; Q1_6=attend meetings or speeches of a political party or candidate; Q1_7= attend an event benefitting a community, charity, school, religious group, or political group; Q1_8=donate blood; and Q2= did you vote. Item responses are divided by the maximum values of their items before summing. Thus the index is on a scale of 0 to 7.

The following linear equation illustrates our approach:

$$\begin{aligned} \log\left(\frac{p}{1-p}\right) = & \beta_o + \sum_{j=1}^3 \beta_j \text{CIVIC}(j) + \sum_{j=1}^4 \beta_{j+3} \text{RACEETH}(j) + \sum_{j=1}^3 \beta_{j+7} \text{LANG}(j) \\ & + \sum_{j=1}^4 \beta_{j+10} \text{INCOME}(j) + \sum_{j=1}^3 \beta_{j+14} \text{GRADE}(j) + \sum_{j=1}^3 \beta_{j+17} \text{AGE}(j) \\ & + \sum_{j=1}^2 \beta_{j+20} \text{SEX}(j) + \sum_{j=1}^2 \beta_{j+22} \text{TENURE}(j) + \sum_{j=1}^2 \beta_{j+24} \text{RECEIVE}(j) + \beta_{27} \text{MM} + \beta_{28} \text{CB} \end{aligned}$$

This equation describes a logistic regression model relating the log-odds of mail return to the main effects of our various exogenous variables. For the categorical variables (all except MM and CB), the notation $VARIABLE(j)$ signifies an indicator of the j -th level of $VARIABLE$. For example,

$$\begin{aligned} \text{RACEETH}(1) &= 1, \text{ if Hispanic} \\ &= 0, \text{ otherwise.} \end{aligned}$$

In general, we identify our models by taking the last level of $VARIABLE$ as the reference category, setting its coefficient equal to zero. Thus, remaining coefficients represent the contrast between the indicated levels and the reference level. For example, the coefficient on $\text{RACEETH}(1)$, namely β_4 , reflects the contrast between Hispanics and non-Hispanic Whites. Exceptions to this general parameterization will be noted.

The focus of our research is on whether the coefficients, β_j , are significantly and substantively different from zero. A significant coefficient implies the data support the hypothesis that the corresponding variable had an impact on actual behavior, while a nonsignificant coefficient implies the data do not support this hypothesis. In our research, we also examine extensions of the model which include two-way interactions between the various categorical variables and mass-media (MM) and community-based (CB) communications.

Core Sample, Wave 2

Our analytic strategy is to start by fitting the most detailed model (including the two-way interactions); test for statistically significant effects; and drop nonsignificant terms in a stepwise fashion. For all models, we use the logistic procedure in the software package SUDAAN. Thus, the analysis accounts for the complex survey design and inferences incorporate the design effect. We use a significance level of $\alpha = 0.1$ in all testing.²⁰

The opening model is labeled C.2.A and it appears in Table 81. The table gives the estimated coefficients (e.g., the estimated values of the β_j); the estimated standard errors of the estimated coefficients; the p -values corresponding to tests of the hypotheses that the coefficients are zero; and the factors, labeled $Exp(\text{Estimated Coefficient})$, that represent the estimated impacts of the

²⁰ P -values smaller than α correspond to rejection of the null hypothesis.

variables on the odds of mail return. As an example of the last column, for a categorical variable, the value 2 signifies a doubling of the odds relative to the reference category and the value 0.5 signifies a halving of the reference odds. Significant terms are identified by an asterisk in the column headed "*p*-Value of Test Coefficient = 0." A few main effects are statistically significant at this stage of modeling, such as LANG, TENURE, and MM. Several of the interactions are also significant but many are not. We defer any attempt at interpretation until we reach a reasonably final model.

In a footnote to Table 81, we report the statistic "-2*log-likelihood ratio" and its degrees of freedom. This is a goodness-of-fit type statistic for the overall model, and it is distributed approximately as a χ^2 random variable given the null hypothesis that all coefficients in the model are zero. In this case, the observed test statistic, 285.61, well exceeds the critical value of the test and we conclude that the null model is soundly rejected by these data. In a second footnote to the table, we cite a "run number" for the model presented. This number, used by the authors for internal bookkeeping purposes, should be ignored by the reader. Similar footnotes appear below each of the remaining tables in this section, mainly for the benefit of technical readers.

We drop nonsignificant terms one by one -- starting with the interactions and then moving to main effects. Throughout stepwise fitting, we often find CB significant, with MM not significant. Yet occasionally the significance of these two main communications effects flip flops. Apparently, we are faced with a difficult model-fitting problem. We are concerned about collinearity because MM and CB are strongly correlated: the unweighted correlation coefficient is 0.70. Also, we observe the analysis is not identifying strong and distinct effects for MM and CB.

To address these technical concerns, we reparameterize the model by replacing MM and CB by SUM and DIFF. Because of the collinearity, SUM and DIFF should tend to be orthogonal or uncorrelated variables. Including these variables in the model should improve the stability of the model fit, and provide a convenient means of testing whether the coefficients on MM and CB are equal.

We find the SUM significant and the DIFF nonsignificant. From here we try several additional models, replacing the CIVIC*CB and LANG*CB interactions with CIVIC*SUM and LANG*SUM interactions, and adding a RACEETH*SUM interaction. Subsequently, we continue our backward fitting scheme, dropping nonsignificant terms one-by-one. Eventually, we reach model C.2.B, which appears in Table 82. SUM is not significant, the LANG*SUM interaction is significant. The results suggest a significant differential effect of census communications on the other-languages population in reference to the English population, and no differential effect on the Spanish population in reference to the English population. In our opinion, this model provides a reasonable and final representation of the variability in AB for the core sample, Wave 2.

What might we conclude from this final model? In our opinion, it is reasonable to conclude that the log-odds of actual behavior are affected by race/ethnicity. The negative coefficients (e.g.,

-0.91 for Hispanics) signal lower odds of mail return for the Hispanic and non-Hispanic African American populations than for the non-Hispanic White population. It is reasonable to conclude that the log-odds are affected strongly by tenure. The negative coefficient (-1.74) signals lower log-odds of mail return for renters than for owners. It is also reasonable to conclude that the log-odds are affected by language and by overall census communications. The effects are especially significant for the other-languages population. The log-odds for this population differ from the log-odds for the English population by the quantity 5.86-2.06 SUM. (Since SUM is on a scale from 2 to 6, this quantity varies from 1.74 for an individual who reports no awareness of census communications, to -6.5 for someone who heard a lot via both mass-media and community-based communications. Correspondingly, the odds for the other-languages population differ from the odds for the English-speaking population by a multiplicative factor ranging from 0.0 ($= e^{-6.5}$) for some one who heard a lot to 5.7 ($= e^{1.74}$) for some one who heard nothing.) These results suggest that as census communications increase, the odds of mail return increase relatively more for the English population than for the other-languages population. In our opinion, this finding may be discounted somewhat because of the relatively small sample size for the other-languages population. The odds for the Spanish-speaking population differ from the odds for the English-speaking population by the factor 0.84 + 0.01 SUM, this difference is not significant.

Table 81: Summary of model C.2.A*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	-5.42	3.20	0.09*	0.00
AGE				
Low	1.62	2.21	0.46	5.05
Medium	-0.02	2.02	0.99	0.98
INCOME				
1 st Quartile	3.92	2.56	0.13	50.40
2 nd Quartile	2.72	2.40	0.26	15.18
3 rd Quartile	1.95	2.19	0.37	7.03
GRADE				
Low	-0.27	2.74	0.92	0.76
Medium	1.67	2.22	0.45	5.31
CIVIC				
Low	4.63	3.32	0.16	102.51
Medium	5.36	3.01	0.08*	212.72
RACEETH				
Hispanic	2.94	2.14	0.17	18.92
Non-Hispanic African American	-0.93	1.89	0.62	0.39
Other	-1.47	3.34	0.66	0.23
LANG				
Spanish	-4.69	2.76	0.09*	0.01
Other Languages	9.62	3.56	0.01*	15063.05
TENURE				
Renter	-4.24	2.10	0.04*	0.01
SEX				
Male	-0.51	1.53	0.74	0.60
MM	6.07	3.55	0.09*	432.68
CB	0.69	4.30	0.87	1.99
AGE*MM				
Low*MM	-6.02	2.61	0.02*	0.00

Medium*MM	-3.03	2.44	0.22	0.05
AGE*CB				
Low*CB	5.63	3.39	0.10*	278.66
Medium*CB	2.71	3.70	0.46	15.03
INCOME*MM				
1 st Quartile*MM	1.17	1.62	0.47	3.22
2 nd Quartile*MM	0.07	1.29	0.96	1.07
3 rd Quartile*MM	-0.01	1.39	0.99	0.99
INCOME*CB				
1 st Quartile*CB	-4.74	3.06	0.12	0.01
2 nd Quartile*CB	-3.17	2.31	0.17	0.04
3 rd Quartile*CB	-1.73	2.67	0.52	0.18
GRADE*MM				
Low*MM	-1.90	1.83	0.30	0.15
Medium*MM	-1.44	1.83	0.43	0.24
GRADE*CB				
Low*CB	1.87	2.68	0.49	6.49
Medium*CB	-0.02	1.87	0.99	0.98
CIVIC *MM				
Low	-0.73	1.78	0.68	0.48
Medium	0.05	1.66	0.97	1.05
CIVIC *CB				
Low	-2.55	2.82	0.37	0.08
Medium	-4.46	2.42	0.07*	0.01
RACEETH *MM				
Hispanic*MM	-1.64	1.61	0.31	0.19
Non-Hispanic African American*MM	-1.83	1.75	0.30	0.16
Other*MM	-5.04	2.63	0.06*	0.01
RACEETH *CB				
Hispanic*CB	-1.18	2.26	0.60	0.31
Non-Hispanic African American*CB	2.70	2.77	0.33	14.88
Other*CB	6.15	3.03	0.04*	468.72
LANG *MM				
Spanish*MM	0.51	1.46	0.73	1.67
Other Languages*MM	-0.45	2.16	0.83	0.64
LANG *CB				
Spanish*CB	4.19	2.63	0.11	66.02
Other Languages*CB	-6.41	3.11	0.04*	0.00
TENURE *MM				
Renter*MM	1.65	1.46	0.26	5.21
TENURE *CB				
Renter*CB	-0.10	2.18	0.96	0.90
SEX*MM				
Male*MM	1.50	0.96	0.12	4.48
SEX*CB				
Male*CB	-1.98	1.74	0.26	0.14

NOTE: n = 836, -2*log-likelihood ratio = 285.61, df = 50.

*Run number 2.15B'.

Summary of model C.2.B* (Table 82)

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	1.27	0.97	0.19	3.56
RACEETH				
Hispanic	-0.91	0.46	0.05*	0.40
Non-Hispanic African American	-0.63	0.45	0.17	0.53
Other	-0.77	0.84	0.36	0.46
LANG				
Spanish	0.84	1.32	0.52	2.32
Other Languages	5.86	2.60	0.02*	350.72
TENURE				
Renter	-1.74	0.34	0.00*	0.18
SUM	0.43	0.38	0.26	1.54
LANG *SUM				
Spanish	0.01	0.48	0.99	1.01
Other Languages	-2.06	0.91	0.02*	0.13

NOTE: n = 1,070, -2*log-likelihood ratio = 150.38, df = 9.

*Run number 2.34.

Core sample, Wave 3

The most detailed model for the core sample, Wave 3, appears in Table 83 and is labeled C.3.A. The model includes all of the exogenous variables studied for Wave 2 and a new indication variable, RECEIVE. This variable indicates whether or not the household respondent reported receipt of the census form (Q19), which is another type of census communications, distinct from MM and CB, that one might reasonably expect to impact the odds of mail return. Our analysis shows that RECEIVE's main effect is not significant, nor are its interactions with MM and CB.

As before, we drop nonsignificant terms one by one, using a backward fitting method, eventually reaching model C.3.B. Most terms remaining in this model are significant. Notably, the main communications effects, MM and CB, are not significant, although interactions between communications and AGE and RACEETH are significant. In particular, we find that MM produces a significantly different effect for Other than for non-Hispanic Whites, and that CB produces a significantly different effect on non-Hispanic African Americans than for non-Hispanic Whites. Apparently, MM and CB do not have a significantly different effect on Hispanics as on non-Hispanic Whites.

We explored a reparameterization of the model, replacing the MM and CB main effects by SUM and DIFF. Unlike Wave 2, the latter parameterization does not prove useful to an understanding of Wave 3 data. Thus, in our opinion, model C.3.B provides a reasonable and final representation of the variability in AB for the core sample, Wave 3.

The model suggests a counterintuitive age main effect, where the log-odds of mail return are higher for younger adults than for older adults. Log-odds are lower for minority populations than for the non-Hispanic White population, as expected, especially for the non-Hispanic African American population. As in Wave 2, language and tenure have significant effects on the log-odds of mail return. Renters have lower odds than owners, as expected. Echoing the surprising Wave 2 finding, the main effect due to language is positive for the other-languages population

relative to the English population. As before we would tend to discount this result somewhat due to small sample size.

Unlike Wave 2, Wave 3 displays no significant interactions between language and census communications. Wave 3 brings new interactions between age and community-based communications and between race/ethnicity and both mass media and community-based communications. This means the communications effects are not homogeneous, but rather they vary by age and race/ethnicity. From model C.3.B, we find that mass media's effect on the Other population is lower than its effect on the non-Hispanic White population. All other factors being equal, the difference in the log-odds of mail return between Others and non-Hispanic Whites is $-1.76 - 1.51*MM + 2.01*CB$. Again, we may discount this finding somewhat because of small sample size. Community-based communications have the effect of increasing the log-odds for the non-Hispanic African American population relative to the non-Hispanic White population. All other factors being equal, the difference in the log-odds of mail return between non-Hispanic African Americans and non-Hispanic Whites is $-2.55 - 0.17*MM + 1.92*CB$. This finding accords with expectation, because historically hard-to-count populations were a main focus of the partnership program. The analysis does not reveal a significant difference in the log-odds of mail return between Hispanics and non-Hispanic Whites. Finally, community-based communications favorably affected older adults more than younger adults. All other factors being equal, the difference in the log-odds of mail return from older adults is $2.12 - 2.46*CB$ and $1.76 - 1.99*CB$, for the youngest and medium age groups, respectively.

Table 83: Summary of model C.3.A*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	4.40	3.24	0.17	81.45
AGE				
Low	3.09	1.75	0.08*	21.98
Medium	2.04	2.05	0.32	7.69
INCOME				
1 st Quartile	-0.53	2.09	0.80	0.59
2 nd Quartile	-2.50	1.83	0.17	0.08
3 rd Quartile	-0.86	1.58	0.59	0.42
GRADE				
Low	0.26	2.23	0.91	1.30
Medium	0.70	1.66	0.67	2.01
CIVIC				
Low	-1.90	2.41	0.43	0.15
Medium	-0.43	2.12	0.84	0.65
RACEETH				
Hispanic	0.52	1.66	0.75	1.68
Non-Hispanic African American	-3.09	1.45	0.03*	0.05
Other	-0.61	2.51	0.81	0.54
LANG				
Spanish	0.12	1.68	0.94	1.13
Other Languages	-3.19	3.27	0.33	0.04
TENURE				
Renter	-3.18	1.12	0.00*	0.04
SEX				
Male	-0.78	1.33	0.55	0.46
RECEIVE				
Yes	-0.84	2.05	0.68	0.43
MM	-4.15	2.29	0.07*	0.02
CB	3.17	2.95	0.28	23.81
AGE*MM				
Low*MM	2.04	1.39	0.14	7.69
Medium*MM	1.36	1.55	0.38	3.90
AGE*CB				
Low*CB	-5.98	2.18	0.01*	0.00
Medium*CB	-4.32	2.12	0.04*	0.01
INCOME*MM				
1 st Quartile*MM	1.46	1.56	0.35	4.31
2 nd Quartile*MM	1.80	1.83	0.33	6.05
3 rd Quartile*MM	0.82	1.41	0.56	2.27
INCOME*CB				
1 st Quartile*CB	-2.26	2.03	0.27	0.10
2 nd Quartile*CB	-1.19	2.38	0.62	0.30
3 rd Quartile*CB	-0.93	1.67	0.58	0.39
GRADE*MM				
Low*MM	-0.56	1.21	0.64	0.57
Medium*MM	0.45	1.16	0.70	1.57
GRADE*CB				
Low*CB	0.67	2.26	0.77	1.95
Medium*CB	-1.10	1.57	0.48	0.33
CIVIC*MM				
Low	0.41	1.22	0.74	1.51
Medium	-1.19	1.26	0.35	0.30

CIVIC*CB				
Low	1.05	1.85	0.57	2.86
Medium	1.93	1.44	0.18	6.89
RACEETH*MM				
Hispanic*MM	-0.47	0.94	0.61	0.63
Non-Hispanic African American*MM	-1.13	0.94	0.23	0.32
Other*MM	-2.39	1.74	0.17	0.09
RACEETH*CB				
Hispanic*CB	0.75	1.59	0.64	2.12
Non-Hispanic African American*CB	3.47	1.48	0.02*	32.14
Other*CB	2.86	2.01	0.15	17.46
LANG*MM				
Spanish*MM	-1.37	1.27	0.28	0.25
Other Languages*MM	1.28	2.10	0.54	3.60
LANG*CB				
Spanish*CB	1.45	1.70	0.40	4.26
Other Languages*CB	0.68	1.78	0.70	1.97
TENURE*MM				
Renter*MM	1.00	0.94	0.29	2.72
TENURE*CB				
Renter*CB	0.55	1.42	0.70	1.73
SEX*MM				
Male*MM	2.13	0.80	0.01*	8.41
SEX*CB				
Male*CB	-2.28	1.21	0.06*	0.10
RECEIVE*MM				
Yes*MM	1.73	1.36	0.20	5.64
RECEIVE*CB				
Yes*CB	-0.07	2.11	0.97	0.93

NOTE: n = 1,283, -2*log-likelihood ratio = 298.65, df = 53.

*Run number 3.15B".

Table 84: Summary of model C.3.B*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	1.17	0.93	0.21	3.22
AGE				
Low	2.12	1.26	0.09*	8.33
Medium	1.76	1.12	0.12	5.81
RACEETH				
Hispanic	-0.98	1.24	0.43	0.38
Non-Hispanic African American	-2.55	0.97	0.01*	0.08
Other	-1.76	1.64	0.29	0.17
LANG				
Spanish	-0.03	0.36	0.94	0.97
Other Languages	1.20	0.58	0.04*	3.32
TENURE				
Renter	-0.93	0.27	0.00*	0.39
MM	0.37	0.58	0.52	1.45
CB	0.40	0.81	0.62	1.49
AGE*CB				
Low	-2.46	0.94	0.01*	0.09
Medium	-1.99	0.83	0.02*	0.14
RACEETH*MM				
Hispanic*MM	-0.19	0.67	0.78	0.83
Non-Hispanic African American*MM	-0.17	0.68	0.80	0.84
Other*MM	-1.51	0.83	0.07*	0.22
RACEETH*CB				
Hispanic*CB	1.17	0.93	0.21	3.22
Non-Hispanic African American*CB	1.92	0.98	0.05*	6.82
Other*CB	2.01	1.36	0.14	7.46

NOTE: n = 1,653, -2*log-likelihood ratio = 192.59, df = 18.

*Run number 3.29.

Asian sample, Wave 2

We alter our analytic strategy for the three supplemental samples, including the Asian sample. These samples are much smaller than the core sample, and in our judgement, it would be a mistake to try to over parameterize them. Thus, we focus our efforts on fitting a complete main-effects model and examining the statistical significance of individual terms. In a backward stepwise process, we drop nonsignificant terms from the emerging model. It is worth noting that we are now fitting models to sample data for individual race/ethnicity populations. Thus, the main effect of a variable here is essentially equivalent to the interaction of the variable with race/ethnicity in the core sample, although the core models may or may not contain these interactions.

Model A.2.A is the starting point for the Asian sample. In Table 85, we find that several of the factors are statistically significant, including MM and CB.

We step backwards, dropping nonsignificant terms. Throughout this process, the significant terms remain very stable. The resulting model A.2.B appears in Table 86. AGE, GRADE, and TENURE all display significant effects. (As an alternative, we tried the core sample, Wave 2

model, but this proved to be quite ineffective.) In our opinion, model A.2.B is a reasonable, final model describing the variability in the Asian data for Wave 2.

The log-odds of mail return are lower for younger adults than for older adults, as might be expected. Similarly, the log-odds are lower for less educated people than for college graduates. Tenure has a negative sign, -0.98, for the Asian population, signifying that the log odds are lower for renters than for owners. These data offer no evidence that census communications impacted actual behavior.

Table 85: Summary of model A.2.A*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	3.10	1.12	0.01*	22.20
AGE				
Low	-1.64	0.55	0.00*	0.19
Medium	-0.47	0.52	0.36	0.63
INCOME				
1 st Quartile	0.31	0.72	0.67	1.36
2 nd Quartile	-0.14	0.54	0.80	0.87
3 rd Quartile	-0.18	0.54	0.74	0.84
GRADE				
Low	-0.97	0.45	0.03*	0.38
Medium	-0.21	0.38	0.59	0.81
CIVIC				
Low	-0.07	0.76	0.92	0.93
Medium	-0.40	0.77	0.60	0.67
LANG				
Other Languages	-0.36	0.45	0.43	0.70
TENURE				
Renter	-0.82	0.46	0.07*	0.44
SEX				
Male	0.05	0.35	0.88	1.05
MM	1.01	0.42	0.02*	2.75
CB	-1.24	0.72	0.09*	0.29

NOTE: n = 301, -2*log-likelihood ratio = 54.82, df = 14.

*Run number A.2.1.

Table 86: Summary of model A.2.B*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	3.35	0.79	0.00*	28.50
AGE				
Low	-1.91	0.49	0.00*	0.15
Medium	-1.12	0.46	0.01*	0.33
GRADE				
Low	-0.76	0.41	0.06*	0.47
Medium	-0.39	0.37	0.29	0.68
TENURE				
Renter	-0.98	0.33	0.00*	0.38
MM	0.36	0.43	0.40	1.43
CB	-0.66	0.71	0.35	0.52

NOTE: n = 391, -2*log-likelihood ratio = 57.01, df = 7.

*Run number A.2.7

Asian sample, Wave 3

Table 87 presents the complete main-effects model, which is our starting point. CB is borderline significant and MM is not significant.

We step backwards from A.3.A, dropping nonsignificant terms. Throughout this process, the significant terms remain very stable. (We tried the core sample, Wave 3 model, but this proved to be ineffective.) In our opinion, a reasonable, final model is A.3.B. The CB and MM effects are not significant. AGE, LANG, and RECEIVE all display significant effects.

The log-odds of mail return are significantly lower for younger adults than for older adults; for other languages than for English; and for renters than for owners. The log-odds are significantly higher for people who report receiving a census form than for those who do not. All of these findings are within expectation. Neither mass-media nor community-based communications had a significant effect on the log-odds of mail return.

Table 87: Summary of model A.3.A*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	3.25	1.14	0.00*	25.79
AGE				
Low	-0.94	0.43	0.03*	0.39
Medium	-0.97	0.41	0.02*	0.38
INCOME				
1 st Quartile	-0.79	0.51	0.13	0.45
2 nd Quartile	-0.29	0.46	0.53	0.75
3 rd Quartile	-0.58	0.42	0.17	0.56
GRADE				
Low	0.06	0.42	0.88	1.06
Medium	0.33	0.33	0.32	1.39
CIVIC				
Low	-0.79	0.72	0.27	0.45
Medium	-1.01	0.69	0.15	0.36
LANG				
Other Languages	-0.33	0.35	0.35	0.72
TENURE				
Renter	-0.86	0.35	0.01*	0.42
SEX				
Male	0.22	0.28	0.44	1.25
RECEIVE				
Yes	1.54	0.38	0.00*	4.66
MM	0.06	0.41	0.88	1.06
CB	-0.96	0.59	0.10 [#]	0.38

NOTE: n = 469, -2*log-likelihood ratio = 66.39, df = 15.

*Run number A.3.1.

[#]The p-value to four decimal places, .1033, slightly exceeds .1.

Table 88: Summary of model A.3.B*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	1.66	0.65	0.01*	8.41
AGE				
Low	-0.70	0.38	0.07*	0.45
Medium	-0.54	0.36	0.13	0.59
LANG				
Other Languages	-0.50	0.28	0.07*	0.54
TENURE				
Renter	-0.78	0.25	0.00*	0.50
RECEIVE				
Yes	1.36	0.35	0.00*	4.06
MM	0.08	0.34	0.81	1.08
CB	-0.69	0.54	0.20	0.39

NOTE: n = 618, -2*log-likelihood ratio = 72.76, df = 6.

*Run number A.3.7.

American Indian sample, Wave 2

The American Indian samples fell primarily in areas not eligible for mailback. We are left with quite small samples to support our analysis. Although we report results from our analysis, they should be interpreted with appropriate caution.

Model AI.2.A is the starting point, as displayed in Table 89. At this stage, MM is significant, CB is not.

We step backwards from AI.2.A, dropping nonsignificant terms. Throughout this process, the significant terms remain very stable. (We tried the core sample, Wave 2 model, but this proved to be ineffective.) In our opinion, a reasonable, final model is AI.2.B. At this stage MM is significant, CB is not.

Income and sex significantly affect the log-odds of mail return for the American Indian population, unlike previous populations we have examined. Log-odds are lower for lower income groups than for the highest income group. They are lower for men than for women.

Language apparently affects the odds, with greater odds for other languages than for English. However, this finding should probably be discounted due to small sample size.

Results for census communications are mixed. Mass-media significantly increases the odds of mail return, while the effect of community-based communications is not significantly different from zero. (It may be that partnership activities were not deployed as vigorously in the eligible type of enumeration areas studied here as in the non-eligible areas not studied.)

Table 89: Summary of model AI.2.A*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	4.47	1.91	0.02*	87.36
AGE				
Low	-0.69	0.66	0.30	0.50
Medium	-0.28	0.80	0.72	0.76
INCOME				
1 st Quartile	-2.91	1.53	0.06*	0.05
2 nd Quartile	-2.39	1.78	0.18	0.09
3 rd Quartile	-0.64	1.91	0.74	0.53
GRADE				
Low	1.30	1.63	0.43	3.67
Medium	0.47	1.06	0.66	1.60
CIVIC				
Low	-0.40	1.20	0.74	0.67
Medium	-0.62	0.93	0.51	0.54
LANG				
Other Languages	5.54	1.10	0.00*	254.68
TENURE				
Renter	0.42	1.22	0.73	1.52
SEX				
Male	-1.06	0.76	0.16	0.35
MM	1.29	0.70	0.07*	3.63
CB	-2.56	1.61	0.12	0.08

NOTE: n = 67, -2*log-likelihood ratio = 16.70, df = 14.

*Run number AI.2.1.

Table 90: Summary of model AI.2.B*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	1.94	1.11	0.08*	6.96
INCOME				
1 st Quartile	-2.84	0.82	0.00*	0.06
2 nd Quartile	-2.55	1.41	0.07*	0.08
3 rd Quartile	-2.15	1.28	0.10*	0.12
LANG				
Other Languages	6.98	0.97	0.00*	1074.92
SEX				
Male	-1.30	0.62	0.04*	0.27
MM	1.26	0.68	0.07*	3.53
CB	-0.57	1.22	0.64	0.57

NOTE: n = 77, -2*log-likelihood ratio = 16.29, df = 7.

*Run number AI.2.7.

American Indian sample, Wave 3

Model AI.3.A in Table 91 is the starting point, giving the complete main effects model. Because of a lack of observations on other languages, this factor is not estimable. At this stage, the CB effect is significant, while the MM effect is not.

We step backwards from AI.3.A, dropping nonsignificant terms. Throughout this process, the significant terms remain very stable. (We tried the core sample, Wave 3 model, but this proved

to be ineffective.) In our opinion, a reasonable, final model is AI.3.B, which appears in Table 92. AGE, INCOME, and SEX have significant effects, and CB is borderline. MM is not significant.

For American Indians, income and sex continue as significant effects, as they were in Wave 2. The log-odds of mail return is lower for lower income groups than for the corresponding reference category. The log-odds are higher for men than for women, reversing the sign of the difference found in Wave 2.

Age significantly affects the log-odds of mail return, with lower odds for younger adults than for older adults. Census communications offers, once again, mixed results: no significant effect due to mass-media and a borderline, positive effect, 0.95, due to community-based communications.

Table 91: Summary of model AI.3.A*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	4.35	2.91	0.14	77.48
AGE				
Low	-0.45	1.04	0.67	0.64
Medium	-2.51	0.69	0.00*	0.08
INCOME				
1 st Quartile	-9.18	1.23	0.00*	0.00
2 nd Quartile	-7.72	1.32	0.00*	0.00
3 rd Quartile	-8.60	1.53	0.00*	0.00
GRADE				
Low	1.79	0.81	0.03*	5.99
Medium	1.55	0.96	0.11	4.71
CIVIC				
Low	-0.99	0.68	0.15	0.37
Medium	-0.63	0.73	0.39	0.53
LANG				
Other Languages	-----	-----	-----	-----
TENURE				
Renter	-0.33	0.67	0.62	0.72
SEX				
Male	0.28	0.80	0.73	1.32
RECEIVE				
Yes	0.98	1.38	0.48	2.66
MM	-1.29	1.07	0.23	0.28
CB	4.32	1.92	0.03*	75.19

NOTE: n = 48, -2*log-likelihood ratio = 21.62, df = 14.

*Run number AI.3.1.

Table 92: Summary of model AI.3.B*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	2.89	1.84	0.12	17.99
AGE				
Low	-2.00	1.02	0.05*	0.14
Medium	-2.02	0.82	0.01*	0.13
INCOME				
1 st Quartile	-2.62	1.37	0.06*	0.07
2 nd Quartile	-1.60	1.04	0.13	0.20
3 rd Quartile	-1.55	1.32	0.24	0.21
SEX				
Male	1.00	0.58	0.08*	2.72
MM	-0.57	0.54	0.29	0.57
CB	0.95	0.57	0.10 [#]	2.59

NOTE: n = 97, -2*log-likelihood ratio = 19.85, df = 8.

*Run number AI.3.8.

[#]The *p*-value to four decimal places, .1006, slightly exceeds .1.

Native Hawaiian sample, Wave 2

The complete, main-effects model NH.2.A appears in Table 93. Census communications effects are not significant at this stage.

We step backwards from NH.2.A, dropping nonsignificant terms. Throughout this process, the significant terms remain very stable. (We also tried the core sample, Wave 2 model, but this proved to be ineffective.) In our opinion, a reasonable, final model is NH.2.B, which appears in Table 94. TENURE is the only significant factor.

Evidently, the log-odds of mail return are lower for renters than for owners, as expected. Census communications does not significantly affect the odds.

Table 93: Summary of model NH.2.A*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	2.01	1.16	0.08*	7.46
AGE				
Low	-1.40	0.58	0.02*	0.25
Medium	-0.79	0.57	0.17	0.45
INCOME				
1 st Quartile	-1.29	0.73	0.08*	0.28
2 nd Quartile	-0.51	0.65	0.43	0.60
3 rd Quartile	0.27	0.61	0.66	1.31
GRADE				
Low	-0.60	0.99	0.55	0.55
Medium	-0.99	0.58	0.09*	0.37
CIVIC				
Low	2.01	0.91	0.03*	7.46
Medium	0.42	0.53	0.42	1.52
LANG				
Other Languages	-0.74	0.99	0.46	0.48
TENURE				
Renter	-1.46	0.51	0.00*	0.23
SEX				
Male	-0.30	0.52	0.56	0.74
MM	0.62	0.73	0.40	1.86
CB	-0.01	1.07	1.00	0.99

NOTE: n = 390, -2*log-likelihood ratio = 96.95, df = 14.

*Run number NH.2.1.

Table 94: Summary of model NH.2.B*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	0.58	0.83	0.48	1.79
TENURE				
Renter	-1.46	0.43	0.00*	0.23
MM	1.00	0.67	0.14	2.72
CB	-0.43	0.99	0.67	0.65

NOTE: n = 454, -2*log-likelihood ratio = 61.15, df = 3

*Run number NH.2.21.

Native Hawaiian sample, Wave 3

Model NH.3.A in Table 95 is the starting point. Almost nothing is significant at this stage. This model is surely the flattest of any studied thus far.

We step backwards from NH.3.A, dropping nonsignificant terms. (We tried the core sample, Wave 3 model, but this proved to be ineffective.) In our opinion, a reasonable, final model is NH.3.B in Table 96. Little has changed from NH.3.A: the only significant factor is the indicator 3rd Quartile, INCOME.

The log-odds of mail return are higher for middle income households than for high income households. Sampling variability may account for this unexpected finding. There is little evidence in these data of any other effect. In particular, the odds are unaffected by census communications.

Table 95: Summary of model NH.3.A*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	1.20	1.17	0.31	3.32
AGE				
Low	-0.20	0.56	0.72	0.82
Medium	-0.54	0.47	0.25	0.58
INCOME				
1 st Quartile	0.20	0.68	0.78	1.22
2 nd Quartile	0.23	0.57	0.69	1.26
3 rd Quartile	0.91	0.44	0.04*	2.48
GRADE				
Low	1.07	0.71	0.13	2.92
Medium	-0.14	0.45	0.76	0.87
CIVIC				
Low	0.09	0.71	0.90	1.09
Medium	-0.37	0.47	0.43	0.69
LANG				
Other Languages	-0.68	0.94	0.47	0.51
TENURE				
Renter	-0.24	0.46	0.60	0.79
SEX				
Male	-0.08	0.38	0.84	0.92
RECEIVE				
Yes	0.65	0.58	0.26	1.92
MM	-0.53	0.43	0.22	0.59
CB	0.48	0.70	0.49	1.62

NOTE: n = 499, -2*log-likelihood ratio = 45.92, df = 15.

*Run number NH.3.1.

Table 96: Summary of model NH.3.B*

Independent Variables	Estimated Coefficient	Estimated Standard Error	p-Value of Test Coefficient = 0	Exp(Estimated Coefficient)
Intercept	0.50	0.65	0.44	1.65
INCOME				
1 st Quartile	0.64	0.57	0.26	1.90
2 nd Quartile	0.25	0.44	0.57	1.28
3 rd Quartile	1.00	0.36	0.01*	2.72
MM	-0.16	0.42	0.71	0.85
CB	0.30	0.59	0.61	1.35

NOTE: n = 567, -2*log-likelihood ratio = 17.44, df = 5.

*Run number NH.3.10.

4.6.4 Summing up models of actual behavior

We have examined logistic regression models relating the log-odds of a mail return to a number of exogenous variables suggested by previous research. We addressed models for each of the four survey samples and for each of Waves 2 and 3.

As a device for summarizing the massive amount of information produced and extracting some substantive meaning, we present Table 97. The table highlights the statistically significant coefficients in each of the eight final models defined by sample and by wave. Only significant effects appear in the table.

Table 97: Significant effects on the odds of mail return, by final models

Independent Variables	Final Models							
	C.2.B	C.3.B	A.2.B	A.3.B	AI.2.B	AI.3.B	NH.2.B	NH.3.B
AGE								
Low		8.33	0.15	0.45		0.14		
Medium			0.33			0.13		
INCOME								
1st Quartile					0.06	0.07		
2nd Quartile					0.08			
3rd Quartile					0.12			2.72
GRADE								
Low			0.47					
Medium								
CIVIC								
Low								
Medium								
RACEETH								
Hispanic	0.4							
Non-Hispanic		0.08						
African American								
Other								
LANG								
Spanish								
Other Languages	350.72	3.32		0.54	1074.92			
TENURE								
Renter	0.18	0.39	0.38	0.5			0.23	
SEX								
Male					0.27	2.72		
RECEIVE								
Yes				4.06				
MM						3.53		
CB								
SUM								
LANG*SUM								
Spanish								
Other Languages	0.13							
AGE*CB								
Low		0.09						
Medium		0.14						
RACEETH*MM								
Hispanic								
Non-Hispanic								
African American								
Other		0.22						
RACEETH*CB								
Hispanic								
Non-Hispanic		6.82						
African American								
Other								

Several broad findings are evident in these summary statistics:

- Level of education (or highest grade) and civic participation are not always significant factors in the odds of mail return. We hypothesized that they would be.
- Tenure is a significant factor for all populations except the American Indian population, and household income is never a significant factor except for the American Indian population. Because tenure and income are correlated with one another, it is reasonable to conclude that some dimension of economic well-being affects the odds of return for all populations.
- Race/ethnicity is a significant factor: odds are generally lower for minority populations relative to the non-Hispanic White population.
- Households who speak languages other than English or Spanish were significantly more likely to return their census forms than English-speaking households, while Spanish speaking households were apparently no different from English-speaking households with respect to the odds of mail return. We suggest a strong discount on the other-languages results because of small sample size.
- Receipt of the census form is a significant factor only for Asians.
- The central issue in this report is to develop an understanding of the effects of census communications. With the possible exception of American Indians, Wave 2, we find no significant effects of census communications on the odds of mail return for Asians, American Indians, and Native Hawaiians. Because of small sample size, even American Indians, Wave 2 should be discounted as a possible exception.
- From the core sample, we find census communications effects are differential by language, age and race/ethnicity:
 - Overall census communications (defined as the sum of mass media and community-based communications) are less effective for other languages than for English.
 - Overall census communications are less effective for younger adults than for older adults.
 - Mass media is less effective for Other races than for non-Hispanic Whites.
 - Community-based communications were more effective in reaching non-Hispanic African Americans than non-Hispanic Whites.

A final comment about languages is in order. The Census Bureau and Y&R targeted non-English speaking populations by using additional forms of mass-media and by partnering with all types of organizations working with these populations. Because of this targeting, we included

language as a possible independent variable for samples and both waves. This factor was not significant in a number of the final models, perhaps due the small sample sizes of non-English respondents in the corresponding samples. Although sample sizes prevent us from making any definitive conclusions, mass-media exposure appeared to positively influence actual behavior among the few non-English respondents in the Asian and Native Hawaiian samples. Alternatively, community-based communications did not appear to influence mailback behavior among the few non-English respondents in these two populations. We must stress that the small sample sizes and high correlation between mass-media exposure and community-based communications prevent us from concluding that these components of the PMP impacted mailback behavior among non-English speaking Asian-Americans and Native Hawaiians.

4.7 Comparisons between the Censuses of 1980, 1990, and 2000

In this section, we make comparisons between the 1980, 1990, and 2000 Censuses. We compare some results from the 2000 PMP to a comparable study conducted for the 1980 Census, known as the Knowledge, Attitudes, and Practices (KAP) Survey, and another study conducted for the 1990 Census, known as the Outreach Evaluation Survey (OES).

For all three of these censuses, questionnaires were fielded in multiple waves of data collection. Table 98 shows a timeline of the waves.

Table 98: A comparison of time periods for each wave of three Census evaluation studies

Month	1980 KAP	1990 OES	2000 PMP
September, Census Year - 1			1
October, Census Year - 1			1
November, Census Year - 1			1
December, Census Year - 1			
January, Census Year	1	1	2
February, Census Year	1	1	2
March, Census Year	2		2
April, Census Year		2	3
May, Census Year		2	3
June, Census Year			3

For example, Wave 1 was collected during January and February in both 1980 and 1990, but during September, October, and November 1999 for the 2000 Census. Thus, Wave 2 of the 2000 PMP is most comparable to Waves 1 and 2 of the 1980 KAP and Wave 1 of the 1990 OES. Wave 3 for the 2000 PMP is most comparable to Wave 2 of the 1990 OES. Wave 1 for the 2000 PMP is not directly comparable to any waves from previous years. To simplify the notation, we will refer to waves by year and by wave number (e.g., 2000-2 is Wave 2 from January-March, 2000).

No data were reported in 1980 and 1990 for the supplementary samples collected during the 2000 PMP for Asians, American Indians, and Native Hawaiians. Some of the standard errors for the 2000 PMP are larger than corresponding standard errors for the 1980 KAP or the 1990 OES, because either the estimated percent is closer to 50 percent, the 2000 PMP employed a more aggressive level of oversampling (larger design effect) to minimize screening costs, or both.

Table 99 shows a comparison of the percent who had heard recently of the census. This table shows (as expected) an increase in awareness with the approach of census day. Table 99 also shows a significant increase in census awareness between Waves 1980-1 and 1990-1 for all subgroups. The most comparable wave for Census 2000 is Wave 2000-2, which shows a possible further increase from 1990 to 2000. Post-census awareness is lower in Wave 2000-3 than in Wave 1990-2 for all comparable populations except non-Hispanic African Americans.

Table 99: Comparison of percent who heard recently about census

Population	1980 KAP		1990 OES		2000 PMP		
	Wave 1 (Jan/Feb)	Wave 2 (Mar)	Wave 1 (Jan/Feb)	Wave 2 (Apr/May)	Wave 1 (Sept/Nov)	Wave 2 (Jan/Mar)	Wave 3 (Apr/June)
Total Population	40.7 (4.9)	72.5 (2.4)	56.9 (1.8)	90.6 (1.2)	35.2 (3.0)	74.5 (4.2)	83.1 (2.1)
Hispanic	24.5 (6.0)	74.8 (6.2)	54.4 (4.1)	89.7 (2.5)	38.5 (4.2)	70.1 (3.0)	79.1 (4.2)
Non-Hispanic							
African American	37.3 (4.0)	65.8 (3.9)	47.0 (5.6)	78.4 (3.9)	32.5 (3.6)	77.3 (2.4)	86.4 (1.7)
Non-Hispanic							
White	44.1 (6.6)	73.7 (3.2)	59.2 (2.1)	93.2 (1.0)	37.5 (4.6)	75.2 (6.4)	82.8 (3.0)
Other	_*	_*	48.1 (7.8)	80.0 (5.6)	16.5 (7.3)	65.2 (8.6)	89.4 (4.8)
Asian					24.8 (2.4)	63.6 (2.8)	80.5 (1.9)
American Indian					21.0 (2.4)	57.2 (5.8)	74.2 (4.6)
Native Hawaiian					26.0 (3.8)	53.2 (4.3)	82.8 (2.4)

*The category of "Other" race/ethnicity in 1980 is not presented in any of the tables as these estimates are affected by extremely large sampling errors.

Respondents were asked if they had heard or seen information about the census from each of seven sources (television, newspapers, radio, magazines, community meetings, print advertisements, and informal conversations). Table 100 shows a comparison in the mean number of sources reported. Again, the number of sources tends to increase as Census Day approaches in all three censuses. Just as for Table 99, it is difficult to compare 1990 and 2000, but there does appear to be an increase in 2000 over 1990. There is also an increase from 1980 to 2000 because Wave 2000-2 has higher means than either 1980-1 or 1980-2. There is an increase in the post-census mean number of information sources cited from 1990 (Wave 1990-2) to 2000 (Wave 2000-3), especially among non-Hispanic African Americans.

Table 100: Comparison of mean number of sources heard, seven-point scale*

Population	1980 KAP		1990 OES		2000 PMP		
	Wave 1 (Jan/Feb)	Wave 2 (Mar)	Wave 1 (Jan/Feb)	Wave 2 (Apr/May)	Wave 1 (Sept/Nov)	Wave 2 (Jan/Mar)	Wave 3 (Apr/June)
Total Population	0.7 (.09)	1.7 (.17)	1.4 (.06)	3.1 (.08)	0.8 (.07)	2.5 (.19)	3.5 (.11)
Hispanic	0.6 (.13)	2.2 (.23)	1.4 (.13)	3.4 (.10)	1.2 (.16)	2.6 (.15)	3.6 (.20)
Non-Hispanic							
African American	0.9 (.13)	1.8 (.15)	1.2 (.23)	2.6 (.36)	1.0 (.14)	3.1 (.15)	3.9 (.13)
Non-Hispanic White	0.8 (.11)	1.6 (.20)	1.4 (.07)	3.2 (.08)	0.7 (.10)	2.4 (.28)	3.4 (.16)
Other	-	-	1.1 (.21)	2.6 (.23)	0.6 (.34)	2.1 (.35)	4.2 (.41)
Asian					0.6 (.07)	2.2 (.13)	3.1 (.09)
American Indian					1.0 (.21)	2.3 (.30)	3.2 (.27)
Native Hawaiian					0.7 (.09)	1.9 (.20)	3.6 (.14)

*The seven sources comprising the index include: television, newspapers, radio, magazines, meetings, print advertisement, and informal conversations.

Respondents were also asked about their attitudes and beliefs about the census. In particular, three items can be compared across censuses: 1) whether respondents can trust the census promise of confidentiality, 2) whether respondents believe it is important to participate (not collected in 1980), and 3) whether respondents believe that results can not be used against them. These items are shown for total population only in Table 101. Across all waves of data collection in 1990 and 2000, almost 95 percent of the respondents believe that it is important for as many people as possible to participate. There was an increase in the trust of confidentiality from Wave 1980-1 to Wave 1990-1, but there was a dramatic drop in trust from 1990 to 2000. Trust was especially low during Wave 2000-1 before any PMP efforts by the Census Bureau. The percentage of the population who believe the census will not be used against them increases from wave to wave. The increase from 1990-1 to 1990-2 does not appear to be significant. It is interesting to note that the percentages by the end of data collection are higher with each passing censuses.

Table 101: Comparison of total population percent with favorable attitudes/beliefs about census

Population	1980 KAP		1990 OES		2000 PMP		
	Wave 1 (Jan/Feb)	Wave 2 (Mar)	Wave 1 (Jan/Feb)	Wave 2 (Apr/May)	Wave 1 (Sept/Nov)	Wave 2 (Jan/Mar)	Wave 3 (Apr/June)
Can trust promise of confidentiality	66.0 (1.8)	73.3 (1.2)	78.4 (1.4)	79.0 (1.6)	46.8 (4.0)	59.1 (3.3)	60.2 (2.5)
Important to count	-	-	95.1 (0.8)	93.3 (1.0)	94.8 (1.4)	94.4 (1.3)	95.1 (1.1)
Not used against you	65.7 (3.2)	72.2 (2.0)	78.4 (2.3)	81.0 (1.4)	79.6 (3.4)	87.9 (3.0)	85.7 (2.3)

Table 102 shows the extent of television, newspaper, radio, and magazine usage. For the 2000 PMP, we present the data from Wave 2. Historical documents do not reveal what wave is used for the 1980 and 1990 data. For television, the percentage watching one hour a day or more appears to peak in 1990, closely followed by 1980, with a drop to 2000 in all subgroups. There are not wide differences between populations.

Table 102: Comparison of percent of population using various mass-media channels

Population	1980 KAP	1990 OES	2000 PMP
Percent watching television 1 hr/day or more			
Total Population	93.7 (1.7)	97.6 (0.3)	82.1 (2.4)
Hispanic	95.5 (1.1)	97.9 (0.5)	86.1 (2.8)
Non-Hispanic, African American	94.6 (1.2)	98.6 (0.5)	88.3 (2.6)
Non-Hispanic, White	94.8 (2.1)	97.7 (0.4)	79.7 (3.1)
Other	-	96.2 (1.2)	87.4 (4.8)
Asian			86.8 (2.2)
American Indian		N/A	84.4 (2.4)
Native Hawaiian			89.4 (2.5)
Percent reading newspapers one day per week or more			
Total Population	87.1 (2.1)	87.6 (0.9)	78.9 (3.1)
Hispanic	73.7 (3.8)	80.3 (2.5)	67.5 (4.7)
Non-Hispanic, African American	81.0 (3.7)	79.7 (3.5)	75.3 (3.1)
Non-Hispanic, White	89.5 (2.2)	90.1 (1.1)	81.8 (3.9)
Other	-	77.1 (4.3)	82.8 (5.3)
Asian			80.3 (2.6)
American Indian		N/A	79.0 (3.2)
Native Hawaiian			86.6 (2.9)
Percent listening to radio 1 hr/day or more			
Total Population	80.6 (2.3)	83.9 (1.1)	51.3 (2.8)
Hispanic	88.0 (2.0)	83.0 (3.0)	57.4 (4.9)
Non-Hispanic African American	82.1 (2.1)	79.4 (3.1)	54.1 (3.9)
Non-Hispanic White	80.0 (2.6)	85.1 (0.9)	49.9 (4.3)
Other	-	85.2 (3.0)	43.3 (10.6)
Asian			40.2 (3.1)
American Indian		N/A	51.2 (4.3)
Native Hawaiian			59.9 (4.1)
Percent reading magazines once/month or more			
Total Population	70.5 (.93)	78.8 (1.4)	71.5 (3.2)
Hispanic	58.9 (6.0)	69.6 (3.0)	65.0 (3.7)
Non-Hispanic African American	63.3 (2.4)	65.5 (5.3)	67.6 (3.7)
Non-Hispanic White	73.5 (1.3)	81.9 (1.8)	73.9 (4.3)
Other	-	77.2 (4.2)	65.4 (9.9)
Asian			61.3 (3.1)
American Indian		N/A	63.1 (3.4)
Native Hawaiian			70.2 (3.9)

The percentage of the total population reading newspapers at least one day per week and the percentage listening to radio at least one hour per day appear to drop in 2000 after holding steady in 1980 and 1990. For radio in 2000, the Asian percentage was appreciably lower than that of the other populations, while for newspapers, the Hispanic percentage was lowest. For magazines, 1980 and 2000 are similar in terms of the percentage reading magazines at least once a month, while 1990 may have been slightly higher.

Because of differences in question wording between the three censuses, the data in Table 102, and the statements just made about this table, should be interpreted with extreme caution. The following table describes the differences by source:

Table 103: Summary of different scales used in 1990 and 2000 Census evaluation studies

Source	Scale of Measurement	
	1990 OES	2000 PMP
Television	Hours per day usually watched	Hours per day for each separate day in a typical week
Radio	Hours per day usually listened	Hours per week in a typical week
Newspapers	Days per week read	Hours per week in a typical week
Magazines	Magazines per month read	Hours per week in a typical week

In preparing Table 102, we recoded the data from the 2000 PMP to correspond as closely as possible to the data from the 1990 OES and the 1980 KAP. Nevertheless, some of the sources are surely mismatched across censuses. We believe radio represents the most extreme mismatch, where reporting on an hours per week basis is probably very different (lower) than reporting on an hours per day basis. The drop in radio usage reflected in the table, in our opinion, is due to the mismatch and not to a real decline in listening habits of American households. The comparisons for other sources may also be affected by mismatched concepts, but to a lesser extent.

In Table 104, we examine the percentage of persons who heard of the census through the various media sources. To make sound comparisons across the censuses, one really needs to know the timing of the advertising and partnership campaigns for each census. Because we did not have access to such information, the reader must interpret the following remarks with caution.

There is an overall increase in the percentage of persons who heard of Census 2000 through television across the waves. The increases are substantial across all the race/ethnicity categories in 2000. Comparing censuses, the percentages in 2000 compare favorably with the 1990 percentages. The non-Hispanic African American group stands out as the group with the highest increase in 2000 relative to their 1990 percentages. It appears that the percentages in 2000 are higher across the race/ethnicity groups than the percentages in 1980.

The percentage that heard of the census through newspapers in the 2000 Census is possibly comparable to the corresponding percentage for the 1990 Census. However, non-Hispanic African Americans display a higher percentage in 2000 than in 1990. When comparing censuses, the 2000-2 and 1990-1 periods are comparable, but the 1990-2 percentages are markedly higher than the 2000-3 percentages. The 2000 percentages seem higher than the 1980 percentages across the race/ethnicity groups.

The percentage of persons who heard of the census through radio increased across the waves for the 2000 Census. Comparing the 2000 percentages to the 1990 percentages, both show significant increases from 1990-1/2000-2 to 1990-2/2000-3, but the 2000 percentages are more impressive, especially for the non-Hispanic African American group. The 2000 percentages seem larger than their 1980 counterparts for all the race/ethnicity groups. In short, the percentage of persons who heard of the census through radio in 2000 is higher than the 1980 and 1990 percentages.

The percentage of people who heard of the census through print advertisement increased across the three waves for the 2000 Census. The percentages in 2000 are markedly higher than the

1980 and 1990 percentages. This is true for the total population and the various race/ethnicity groups as well.

The percentage of people who heard of the census through magazines increased significantly from Wave 1 to 2, and then appeared to level off by Wave 3. The percentages in 2000 are similar across the race/ethnicity groups. The 2000 Census was more effective than the preceding two censuses at using magazines.

The percentage that heard of the census through meetings increases in 2000 from Wave 1 to 2, and then levels off by Wave 3, with 18.4 percent of the total population having heard of the census through meetings. The percentages from the 1980 and 1990 Censuses are much lower.

The percentage that heard of the census through informal conversations increased from wave to wave in the 2000 Census. Overall, informal conversations about the census seem to be more frequent in 2000 than in 1980 and 1990.

In summary, Table 104 appears to show generally that the radio, print advertisements, magazines, meetings, and informal conversations played a more prominent role in terms of people hearing about the census in 2000 than in 1980 and 1990. The role of television in 2000 was on par with that of 1990. Newspapers were less effective in 2000 than in 1990, but more effective than in 1980.

Table 104: Comparison of percent of population hearing of Census by source of communications

Population	1980 KAP		1990 OES		2000 PMP		
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 3
Percent who heard of census through television							
Total Population	24.7 (2.6)	51.4 (6.3)	37.3 (1.7)	77.9 (1.4)	12.6 (1.9)	61.8 (5.4)	76.4 (2.3)
Hispanic	18.1 (3.7)	61.8 (7.7)	40.1 (3.3)	78.2 (4.0)	29.9 (4.1)	64.3 (3.2)	75.5 (4.1)
Non-Hispanic African American	27.3 (3.5)	51.0 (4.0)	34.0 (5.7)	64.1 (8.1)	18.4 (2.4)	68.3 (2.9)	81.7 (2.2)
Non-Hispanic White	24.4 (2.6)	51.7 (7.8)	38.3 (2.0)	80.6 (1.4)	8.7 (2.4)	60.4 (8.0)	74.8 (3.2)
Other	-	-	26.5 (7.6)	63.5 (7.1)	9.6 (5.8)	51.0 (10.1)	86.2 (5.0)
Asian					11.3 (1.8)	51.7 (3.2)	70.6 (2.3)
American Indian	N/A		N/A		11.2 (1.9)	45.6 (5.5)	61.7 (4.1)
Native Hawaiian					16.7 (3.4)	43.0 (4.2)	74.0 (2.8)
Percent who heard of census through newspapers							
Total	20.8 (2.3)	29.7 (6.3)	39.4 (1.6)	66.1 (1.8)	16.7 (2.0)	37.2 (3.1)	51.7 (2.7)
Hispanic	8.6 (4.2)	39.9 (6.2)	29.6 (3.5)	57.0 (4.0)	19.6 (3.5)	29.1 (3.2)	46.7 (3.7)
Non-Hispanic African American	16.3 (2.9)	35.9 (3.7)	25.9 (4.2)	50.2 (6.0)	15.5 (2.3)	40.9 (4.2)	48.4 (3.3)
Non-Hispanic White	22.3 (2.9)	28.6 (7.5)	43.1 (2.2)	70.1 (1.9)	17.1 (3.2)	37.6 (4.6)	52.9 (3.8)
Other	-	-	23.4 (5.4)	53.1 (6.2)	11.7 (6.7)	46.0 (10.1)	65.3 (8.6)
Asian					14.4 (2.0)	40.1 (3.0)	57.7 (2.4)
American Indian	N/A		N/A		11.3 (1.9)	34.5 (4.5)	52.0 (4.7)
Native Hawaiian					18.6 (3.9)	39.7 (4.1)	61.6 (3.3)
Percent who heard of census through radio							
Total	11.5 (1.7)	30.4 (2.4)	18.0 (1.5)	47.3 (1.9)	9.2 (1.4)	39.6 (4.5)	56.0 (2.5)
Hispanic	13.3 (3.9)	36.0 (5.8)	29.4 (3.8)	55.9 (3.2)	24.7 (3.4)	47.8 (4.7)	65.2 (4.7)
Non-Hispanic African American	12.8 (2.2)	32.6 (3.9)	17.4 (4.6)	38.4 (7.8)	11.7 (2.2)	53.5 (3.2)	68.5 (2.4)
Non-Hispanic White	11.2 (2.1)	30.2 (2.9)	17.2 (1.8)	48.2 (2.1)	6.7 (1.9)	35.4 (6.7)	50.7 (3.7)
Other	-	-	12.2 (3.7)	42.9 (4.7)	3.0 (1.4)	26.8 (8.7)	68.8 (7.8)
Asian					8.2 (1.4)	29.2 (2.5)	40.5 (2.3)
American Indian	N/A		N/A		6.5 (1.5)	32.4 (5.5)	48.2 (4.4)
Native Hawaiian					14.9 (3.7)	28.9 (3.8)	55.0 (3.2)

Percent who heard of census through print advertisement

Total Population	5.4 (.99)	16.9 (4.0)	10.1 (1.0)	32.1 (1.3)	9.1 (2.0)	31.3 (2.7)	55.6 (2.8)
Hispanic	4.9 (1.6)	19.3 (5.8)	13.6 (2.4)	43.3 (3.7)	8.6 (1.7)	35.1 (3.9)	59.4 (5.3)
Non-Hispanic African American	5.0 (1.6)	16.1 (2.3)	13.1 (3.2)	32.5 (4.7)	12.2 (2.2)	43.2 (3.5)	58.8 (2.6)
Non-Hispanic White	5.5 (1.2)	16.8 (4.9)	9.5 (1.1)	31.5 (1.5)	8.6 (2.8)	27.6 (3.5)	53.8 (4.1)
Other	-	-	6.0 (2.5)	28.0 (6.5)	8.1 (5.6)	36.3 (10.6)	62.8 (8.8)
Asian					8.4 (1.7)	28.5 (2.9)	49.5 (2.5)
American Indian		N/A		N/A	8.5 (1.7)	38.6 (5.0)	49.8 (4.0)
Native Hawaiian					14.3 (4.0)	18.8 (2.8)	44.5 (3.2)

Percent who heard of census through magazines

Total Population	7.8 (1.6)	9.6 (2.1)	12.2 (1.1)	26.2 (1.4)	9.2 (2.0)	29.5 (2.4)	33.1 (2.5)
Hispanic	2.9 (1.7)	17.1 (4.5)	7.2 (1.6)	24.5 (3.1)	12.5 (3.1)	27.7 (3.6)	33.4 (2.9)
Non-Hispanic African American	10.9 (3.0)	12.0 (2.4)	11.2 (3.1)	17.9 (3.8)	12.6 (3.0)	37.2 (3.1)	36.2 (2.9)
Non-Hispanic White	7.3 (1.9)	9.2 (2.4)	12.9 (1.3)	27.8 (1.5)	8.0 (2.9)	28.8 (3.2)	31.5 (3.7)
Other	-	-	15.0 (5.9)	22.8 (5.1)	7.1 (5.5)	16.5 (5.1)	51.9 (9.9)
Asian					8.3 (1.6)	23.1 (2.7)	29.1 (2.0)
American Indian		N/A		N/A	8.5 (1.7)	25.2 (4.4)	31.0 (4.4)
Native Hawaiian					11.9 (3.2)	17.1 (3.0)	28.7 (2.8)

Percent who heard of census through meetings

Total Population	3.3 (0.82)	5.5 (1.3)	4.8 (0.70)	9.1 (0.75)	4.1 (0.8)	17.4 (2.6)	18.4 (1.8)
Hispanic	4.1 (1.4)	10.5 (3.1)	6.1 (1.6)	14.0 (2.0)	5.9 (1.5)	14.8 (4.1)	18.1 (2.8)
Non-Hispanic African American	9.2 (3.0)	7.3 (1.8)	8.4 (2.8)	12.4 (3.1)	13.7 (3.1)	21.6 (3.1)	27.3 (3.6)
Non-Hispanic White	2.1 (0.61)	5.1 (1.5)	3.8 (0.62)	8.4 (0.86)	1.1 (0.3)	17.3 (4.1)	16.3 (2.6)
Other	-	-	7.4 (4.8)	7.0 (2.7)	3.6 (1.0)	9.3 (1.9)	18.5 (1.3)
Asian					9.4 (2.2)	16.9 (3.0)	26.8 (4.3)
American Indian		NA		N/A	7.9 (1.6)	14.5 (3.1)	27.1 (2.8)
Native Hawaiian					7.8 (5.7)	10.1 (4.3)	18.5 (6.8)

Percent who heard of census through informal conversations

Total Population	11.0 (2.0)	22.3 (5.1)	14.2 (1.1)	52.8 (2.4)	15.8 (2.5)	37.7 (4.6)	60.8 (2.8)
Hispanic	7.6 (3.0)	39.1 (6.3)	16.7 (2.7)	62.8 (5.2)	18.6 (3.5)	39.1 (4.3)	66.2 (4.7)
Non-Hispanic African American	10.9 (2.1)	31.9 (3.9)	13.8 (3.6)	44.8 (5.4)	18.9 (2.6)	47.4 (3.6)	67.5 (2.5)
Non-Hispanic White	11.0 (2.5)	20.5 (5.7)	13.8 (1.2)	53.8 (2.6)	15.5 (3.9)	35.8 (6.9)	57.9 (3.9)
Other	-	-	18.2 (5.9)	41.8 (5.2)	10.5 (1.9)	33.9 (3.1)	67.6 (2.3)
Asian					13.1 (2.6)	35.1 (5.5)	50.5 (4.9)
American Indian		N/A		N/A	11.0 (1.8)	28.1 (3.8)	65.4 (3.1)
Native Hawaiian					9.0 (5.7)	26.5 (10.5)	67.6 (8.2)

*Totals for 1980 represent estimates from reprocessed data

4.8 Examining trends and possible interventions

In this section, we analyze time trends in 1). general awareness of and 2). intended participation in the 2000 Census. Our main goal is to look for possible interventions, or spikes, in general awareness or intended participation, possibly due to special events (favorable or adverse) of census publicity, such as the attention arising from the census advance letter. This section contains one bar graph for each of these two variables for total population and each of the six race/ethnicity populations.

Each of the bar graphs divides up the date-sorted responses into one-week time intervals. Each bar represents one week of responses. Often, there were not enough data points (e.g., less than 20) in some one-week periods, such as at the beginning or end of the data collection wave. These one-week periods are not shown in the graphs. Each break in a graph (other than for lack of data) represents the time periods between the three waves of data collection. The reader should interpret these data with caution, because each weekly set of responses is a small non-randomized subsample of the complete wave-by-wave samples. The responses in a given week represent those cases that just happened to be interviewed that week.

4.8.1 General awareness

In this section, we examine the question, “Have you heard or seen anything *recently* about Census 2000?” “Don’t Know’s” (under the assumption that they were unsure whether they had heard or seen anything recently) were treated as “No’s”, as were persons not asked this question because they responded “No” to an earlier question asking if they had ever heard of the census. Therefore, for Figures 54 through 60, each point represents the percentage of respondents (within that one-week time period) who had recently heard or seen anything about Census 2000. The overall trends are very similar in all seven of the graphs. Awareness starts out low in Wave 1 (September 1999 to November 1999), below 50 percent. Awareness is noticeably higher in Wave 2 (January 2000 to March 2000), generally rising above 60 percent. Finally, Wave 3 (April 2000 to June 2000) after Census Day shows the highest awareness rates, generally topping 80 percent (except for American Indians). It does seem that respondents took the word “recent” literally, since all groups show a dropoff in “recent” awareness during Wave 3 as Census Day moves further into the past.

Comparing the various populations, Wave 1 awareness seems to be highest among Hispanics and non-Hispanic Whites (around 40 percent), and lowest among Native Hawaiians (around 20 percent). During Wave 2, the awareness for populations featured in the core sample (Hispanic, non-Hispanic African American, and non-Hispanic White) (above 70 percent) seems to be higher than for the populations featured in the supplemental samples (Asian, American Indian, and Native Hawaiian) (60-65 percent), but awareness seems to be very similar (over 80 percent) among all subgroups during Wave 3.

Figure 54: Percentage of total population with recent awareness of census

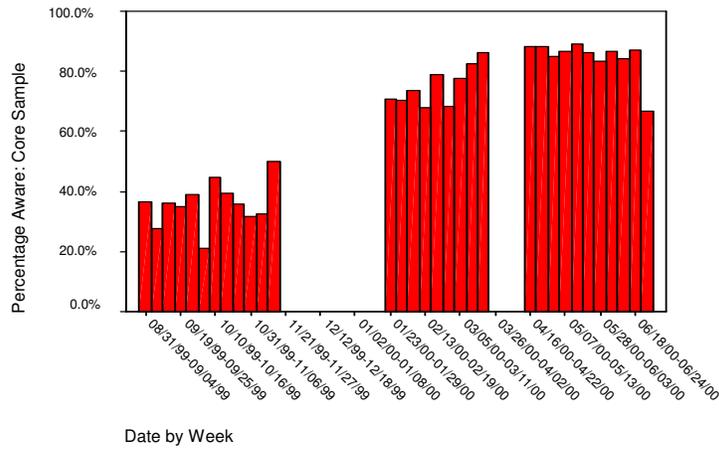


Figure 55: Percentage of Hispanics with recent awareness of census

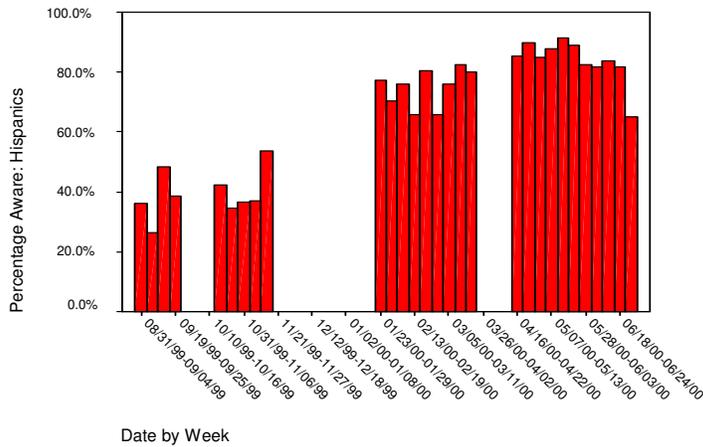


Figure 56: Percentage of non-Hispanic African Americans with recent awareness of census

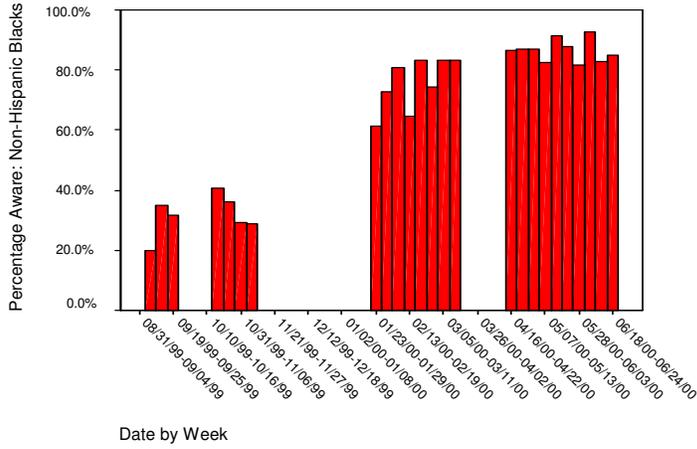


Figure 57: Percentage of non-Hispanic Whites with recent awareness of census

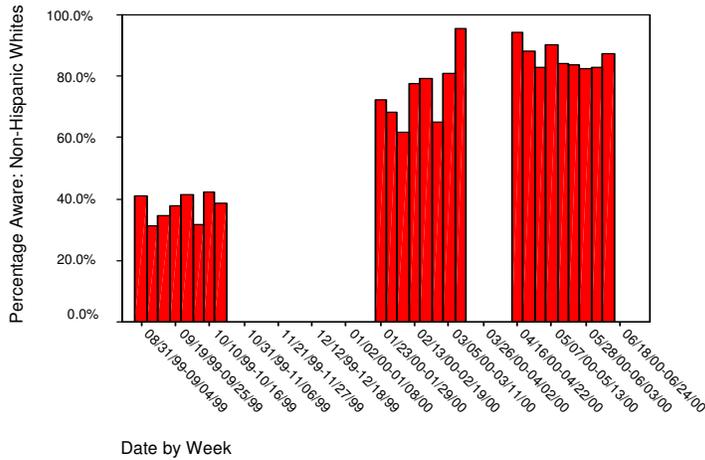


Figure 58: Percentage of Asians with recent awareness of census

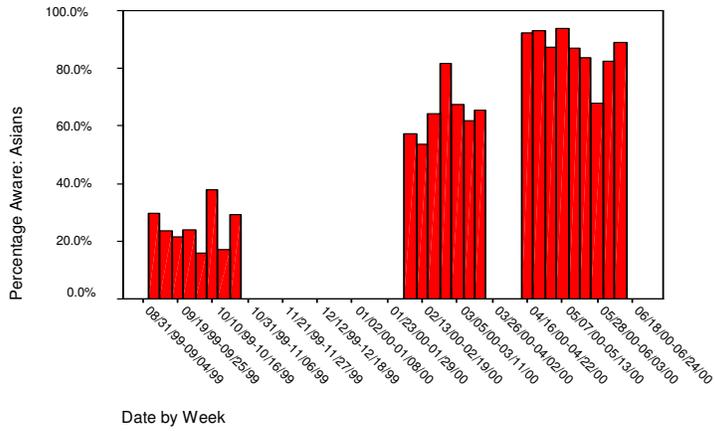


Figure 59: Percentage of American Indians with recent awareness of census

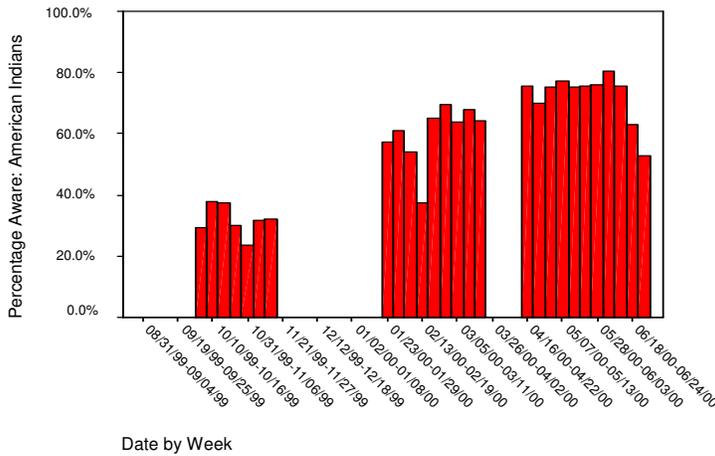
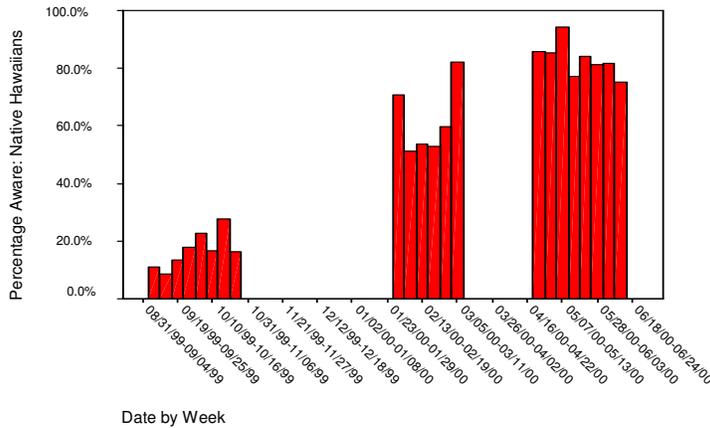


Figure 60: Percentage of Native Hawaiians with recent awareness of census



Returning to our main goal, there do not seem to be sudden, significant changes in the levels of awareness. All of the spikes in Figures 54 through 60 seem to last only one week, and are different for each population. These spikes are probably due to random chance.

4.8.2 Intended participation

We now analyze a combination of two questions that were asked in different waves. In Waves 1 and 2, respondents were asked how likely they were to answer and send back their Census 2000 form. This question used a five-point scale:

- 1= Definitely Will Not,
- 2= Probably Will Not,
- 3= Might or Might Not,
- 4= Probably Will, and
- 5= Definitely Will.

Refusals and “Don’t Know’s” were treated as missing data because, unlike for general awareness, these response categories do not indicate how likely the respondent is to participate. In Wave 3, respondents were asked whether or not they had returned the Census 2000 form. For this section, a “Yes” was recoded as a “5” (Definitely Will) and a “No” was recoded as a “1” (Definitely Will Not) in order to keep the scale for all three waves between 1 and 5. In Figures 61 through 67, each bar represents the average score within that one-week time period.

The Wave 2 intended participation scores are higher than the Wave 1 score, especially for the Native Hawaiians. For Asians and American Indians, the intended participation score seems to rise throughout Wave 2 after starting Wave 2 at about the same level as Wave 1. This may indicate that the programs affected these two subgroups later or slower. The intended participation score is mainly flat in Wave 2 for the other populations, indicating that the PMP influenced them earlier, between Waves 1 and 2 of data collection. Comparing Waves 2 and 3 is difficult because in Wave 3, intended participation is replaced by whether they have participated

or not (self reported). Using the recoding described above seems to match the Wave 2 intentions pretty well. A score of 4.0 in Wave 3 represents a 75 percent mailback rate. The Wave 3 score does seem lower among American Indians. The Wave 3 bar graphs are mostly flat, although there does seem to be more volatility than in the previous waves, and there is a possible rising trend among non-Hispanic African Americans.

It is difficult to be conclusive about within-wave trends, because of small and possibly atypical samples. There are several dips in the average intended participation scores, but they are not consistent across the subgroups. They also do not seem to correspond to single events of special census publicity that might have affected intended participation, such as Senator Lott’s encouragement of leaving some items blank; the attention over the non-English-side of the advance letter; or the controversy over the race item. The Wave 3 volatility among American Indians seems due to small sample sizes rather than to any event.

Comparing the seven figures, Wave 1 intended participation seems to be lower among Native Hawaiians and American Indians than the other groups. American Indians continue to be the least likely to participate during Wave 2, while non-Hispanic Whites and Hispanics seem the most likely to respond. In Wave 3, non-Hispanic Whites again seem the most likely to participate, while American Indians are the least likely with participation rates below 75 percent (that is, score below 4.0).

Figure 61: Mean intended participation for total population

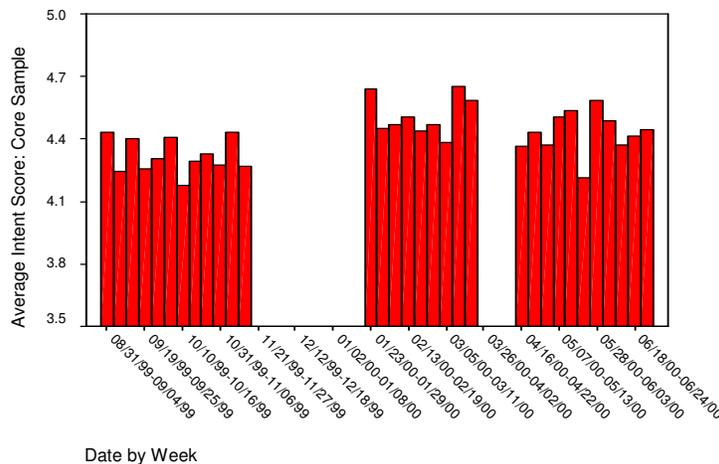


Figure 62: Mean intended participation for Hispanics

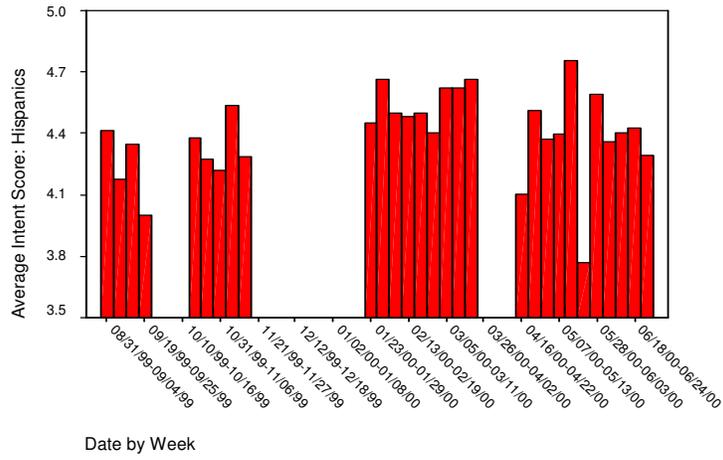


Figure 63: Mean intended participation for non-Hispanic African Americans

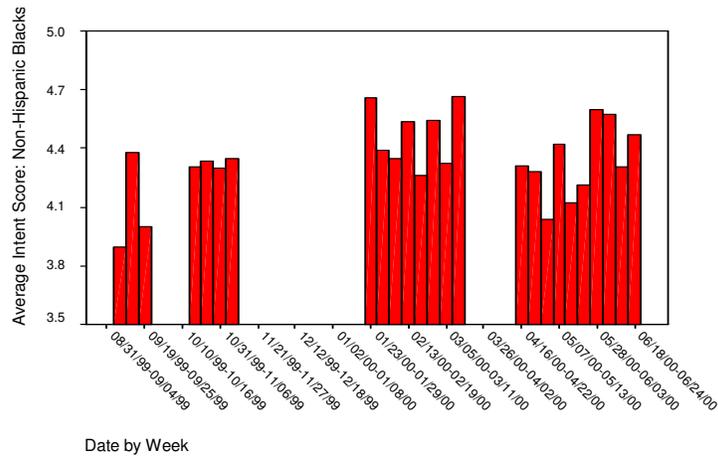


Figure 64: Mean intended participation for non-Hispanic Whites

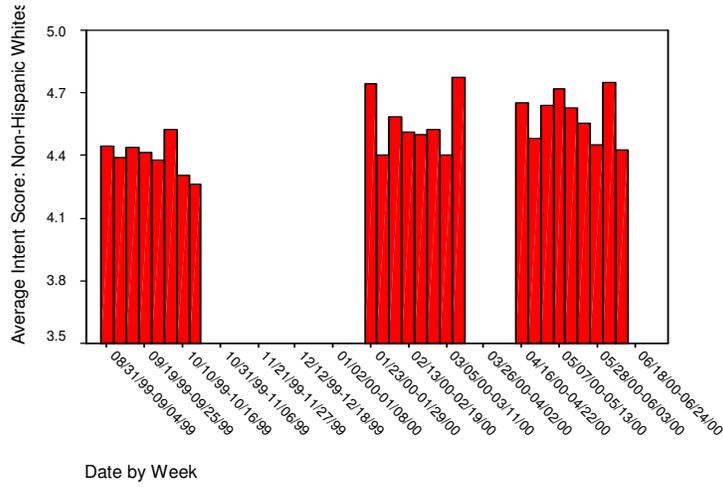


Figure 66: Mean intended participation for American Indians

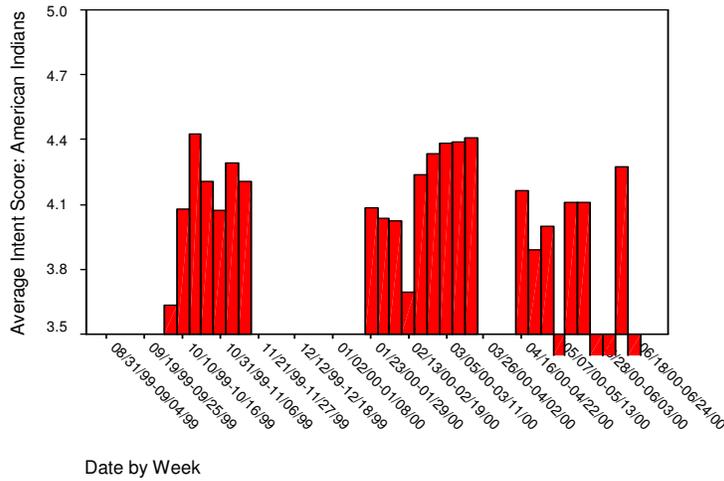
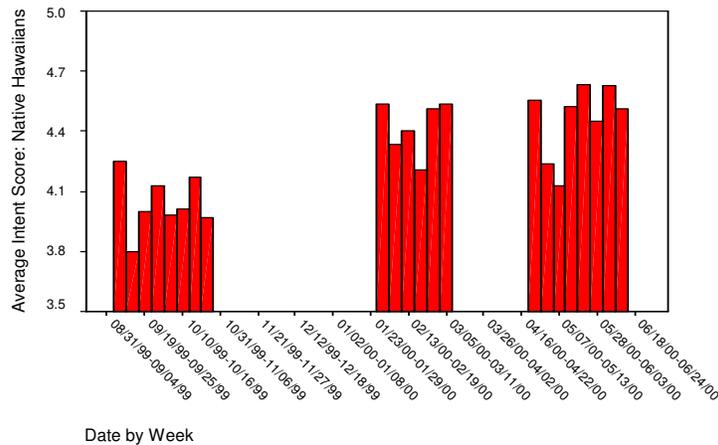


Figure 67: Mean intended participation for Native Hawaiians



None of the trends examined in this section offer basis for inference to the national populations represented by the PMPE samples. For inferential statistics, see earlier sections of this report. Rather, this section was intended to be purely descriptive in nature and to provide insight into special interventions, if any. In our opinion, there is no evidence of major interventions.

5. CONCLUSIONS AND RECOMMENDATIONS

In the final analysis of the mail return rate, Census 2000 is higher than the 1990 rate, this fact will establish a *prima facie* case for the effectiveness of the PMP. In this report, we have sought to examine this case -- and buttress or refute it -- using statistical analysis of data collected from three waves of an evaluation survey, using a before, during, and after design.

Broadly speaking, we find strong statistical evidence that the 2000 PMP was successful in increasing public awareness of Census 2000. We also find evidence that the PMP successfully changed beliefs and motivated households to complete and return their census form, but this evidence is somewhat weaker and less uniform.

1. How effective was the PMP, as a whole, in increasing general awareness about the census? Among hard-to-enumerate populations? How effective were mass-media and community-based communications in increasing general awareness about the census? Among hard-to-enumerate populations?

People were asked in this study about how much they had heard about Census 2000. This general level of awareness of communications about Census 2000 increased significantly over time. It was greater after the PMP than before the onset of the program. Those who had heard a great deal about the census increased from around 5 percent at Wave 1, to almost 30 percent at Wave 2, to about 50 percent by Wave 3. There were sharp declines in those who had heard nothing over this same roughly nine-month period.

Throughout our analysis, we focused on examination of the total population and six race/ethnicity populations: Hispanic, non-Hispanic African American, non-Hispanic White, Asian, American Indian, and Native Hawaiian. In fact, the total population and all six race/ethnicity populations exhibit significant increases in awareness over the period of the study.

Using a four-point scale, mean general awareness for the total population increased from 1.60 at Wave 1 to 3.02 at Wave 3. For the non-Hispanic African American population, it increased from 1.62 to 3.17. Similar beneficial increases were achieved for non-Hispanic Whites, Asians, American Indians, and Native Hawaiians. General awareness may have leveled off for Hispanics, who increased significantly from Wave 1 to 2, but not from Wave 2 to 3. Overall, it appears that the program was effective for all populations in stimulating awareness.

Many people are interested in understanding the separate effects of mass-media and community-based communications. Yet most respondents themselves probably can not accurately recall the separate communications sources. Further, the PMP was not a designed experiment. Both sources of communications probably complemented one another. Most people who were exposed to one source were probably also exposed to the other. Some who were exposed may have received relatively more exposure from mass media, while others may have received more community-based communications. In light of the complementary nature of the sources of communications and the nonexperimental nature of the PMP, we find it impossible to clearly establish the separate effects of mass-media and community-based communications.

On its face, awareness of both mass-media and community-based communications increases throughout the period of the study. In terms of specific mass-media sources, reported awareness is greatest for television, radio, and newspapers, in that order. Awareness due to magazines and billboards is lower.

Most of the race/ethnicity populations recalled most of the components of mass media. Five populations – Hispanics, non-Hispanic African Americans, non-Hispanic Whites, Asians, and Native Hawaiians – exhibit significant positive trends for television, radio, newspapers, and billboard ads, while trends from Wave 2 to 3 for recalling census awareness from magazines are usually not significant. For American Indians, the trends for television and newspapers are significant; for other sources, trends from Wave 1 to 2 are significant but trends from Wave 2 to 3 are not. What this indicates is that census awareness during these periods was constant -- it did not significantly increase or decrease. For most targeted populations, recall of television is at a higher level with a stronger positive trend than recall of other mass-media sources. These findings are consistent with the fact that most magazine ads would have appeared before or by census day.

Using a three point scale to measure specific awareness by source, mean awareness due to informal conversations for the total population increases from 1.19 at Wave 1 to 1.84 at Wave 3. For other community-based communications, the biggest effects seem to come from census job announcements (mean awareness of 1.10 at Wave 1 to 1.64 at Wave 3), signs or posters inside buildings (mean awareness of 1.07 at Wave 1 to 1.53 at Wave 3), and schools you attended (mean awareness of 1.03 at Wave 1 to 1.30 at Wave 3). Paycheck or utility bill, the Internet, conference exhibit booths, and participation on complete count committees were least effective among the community-based sources.²¹ Religious groups, community/government organizations, schools your children attended, speeches, and articles fall in the middle ground.

The race/ethnicity populations also display significantly increased awareness of community-based communications, and each generally follow the overall pattern cited above. Often, because the changes due to individual community-based sources are small, we are able to detect change from Wave 1 to 3. For example, Hispanics display means of 1.07, 1.18, and 1.29 for awareness due to religious groups; the Wave 1 to 2 and Wave 1 to 3 trends are statistically significant, but the Wave 2 to 3 trend is not.

We conducted analysis of general census awareness by language spoken at home. We find a significant difference between English- and other-language-speaking Asians. We do not find a significant difference for other populations. But there is a broad pattern of slightly lower estimated awareness in the non-English speaking populations.

We also find that awareness is largely independent of age, except for Native Hawaiians. Awareness seems largely independent of sex, except for non-Hispanic African Americans. Awareness is associated with highest grade completed, particularly for some of the hard-to-

²¹ Participation on complete count committees was included as an activity on the survey questionnaire for purposes of completeness but the actual purpose of the complete count committees was to serve as planning groups. Not all planning groups referred to themselves as complete count committees, so this data should not be used to interpret the effectiveness of the Census 2000 Partnership and Marketing Program on encouraging participation on complete count committees.

enumerate populations, such as Hispanics, non-Hispanic African Americans, and American Indians. However, awareness and highest grade completed are independent for non-Hispanic Whites. The pattern of findings for highest grade also applies to the association between awareness and household income. Amount of media usage tends to be unrelated to census awareness. Yet whether people use media at all, or not, is associated with census awareness. Although the Internet was not a major source of awareness, it is associated with awareness for all populations except Hispanics. An index of civic participation is associated with census awareness for the total population, non-Hispanic African Americans, Asians, and American Indians, but for other populations the evidence is weaker and we are unable to declare the observed associations significantly different from zero.

To simplify this summary, we have tried to discern and describe broad general patterns observed in a massive and complicated body of data. In so doing, we may have oversimplified the findings and missed a specific and important, but narrow, effect that correlates well with a specific PMP action. For accurate specific findings, we urge the reader to consult the appropriate material in Section 4.

2. How effective was mass-media in positively changing attitudes/beliefs about the census among the general public? How effective were community-based communications in positively changing attitudes/beliefs about the census among the general public? Among the hard-to-enumerate populations?

Our research examined a variety of beliefs that people might hold relevant to participating in the census. An example was the survey item "Filling out the census will let the government know what my community needs." Confidence in the conclusion that the PMP was successful is enhanced if changes in these beliefs are observed that are consistent with the trends in awareness of communications and intentions to return the census form. This was the case. However, the American Indian population showed no change in their beliefs from before to after the onset of the program, and this is consistent with the lack of any increase in their intentions to return the census form.

For total population, non-Hispanic African Americans, non-Hispanic Whites, and Native Hawaiians, there is a significant increase in positive census beliefs from Wave 1 to 2 and from Wave 1 to 3. None of the Wave 2 to 3 trends are significant. The evidence is weaker for Asians, where only the trend from Wave 1 to 3 is significant, and for Hispanics, where only the trend from Wave 1 to 2 is significant. Analysis by language spoken at home shows that English-speaking Asians may have changed beliefs, but that other-language-speaking Asians did not.

We examined the associations between awareness of Census 2000 and various census beliefs to ascertain whether awareness may influence beliefs. Table 105 summarizes the significant associations by belief and by race/ethnicity population. Among the various populations, non-Hispanic African Americans exhibit the most consistent association between census awareness and beliefs. Among the beliefs, "lets government know what my community needs" and "answers could be used against me" have the broadest effects across the populations. Clearly, awareness is associated with beliefs.

Table 105: Summary of significant associations between awareness of Census 2000 and various Census beliefs Wave 2

Census Belief	Total Population	Hispanics	Non-Hispanic African Americans	Non-Hispanic Whites	Asians	American Indians	Native Hawaiians
Lets government know what my community needs	x		x	x	x		x
Counts citizens and noncitizens alike		x					x
Participation is important			x				
Answers could be used against you		x	x		x		x
Important for family and community		x	x			x	
Confidentiality can be trusted			x				
Responding doesn't matter			x		x	x	x
Could harm personally					x	x	

We also examined the association between census beliefs and self-reported participation (reported in Wave 3). We find no statistically significant evidence of association between the belief that “confidentiality can be trusted” and participation. Perhaps the public does not fully understand the word “confidentiality” or feels that regardless of whether census data are confidential it is willing to participate. On the other hand, the belief “could be used against me” is associated with participation for the American Indian population, providing further support for earlier findings. All populations, except Hispanics, exhibit an association between participation and the belief that census "lets government know what my community needs." Continuing to build this belief should be cornerstone of future advertising and partnership programs.

3. What impact did the PMP, as a whole, have on the likelihood of returning a census form? Specifically, what was the impact of mass-media? Of community-based communications?

Although awareness of communications about Census 2000 increased for all populations the findings of a corresponding increase in the reported likelihood of returning the census form were mixed and more subtle. Four race/ethnicity populations did indicate that they were more likely to return the census form (increased mean intended participation) after the PMP than before its onset. The groups whose intentions grew more positive were non-Hispanic African Americans, non-Hispanic Whites, Asians, and Native Hawaiians. We were not able to demonstrate from our data that the Hispanic and American Indian populations intended to return the census form any more after the PMP than before it, although the data hint at the possibility of a favorable effect and do not rule it out.

We used a five-point scale to measure intended participation. In absolute terms, intended participation started high at Wave 1 and stayed high until census day: for example, in the total population, the category “definitely will” starts just under 60 percent at Wave 1 and rises to close to 70 percent at Wave 2.

There is no significant increase from Wave 1 to 2 in mean intended participation for Hispanics (4.50 to 4.54) nor for American Indians (4.05 to 4.19). Looking deeper, we find that mean intended participation does increase significantly for English-speaking American Indians (4.04 to

4.28), even though it neither increases overall (4.05 to 4.19) nor increases for other-languages American Indians (4.10 to 3.90). These are important findings that may suggest future advertising and partnership activities need to work even harder to reach the Hispanic and other-languages, American Indian populations. The lack of significant positive findings for American Indians may be due, in part, to small sample sizes.

As noted, we found mean intended participation high, regardless of whether it increased or not. To strengthen our findings we examined the correlations between general awareness of census communications and intended participation. The correlations increase significantly from Wave 1 to 2 except for the American Indian population. Correlations between mass-media and intended participation increase significantly except for Asians and American Indians. We reach similar conclusions regarding the correlations between community-based communications and intended participation.

Higher awareness of communications about Census 2000 translates into a greater likelihood or intention of returning the census form for five of the targeted populations. For these groups, the higher levels of awareness occurring after the onset of the program correlate with the greater likelihood of returning the census form. All but the American Indian population shows this effect. Hispanics show this effect even though their mean intended participation was relatively high and did not increase from Wave 1 to 2, suggesting that the program may have had less impact on them. For non-Hispanic African Americans, non-Hispanic Whites, Asians, and Native Hawaiians, it appears that people in these groups became more aware of census communications and that this awareness was linked to intentions to return the census form.

We also examined control variables for which we would not normally expect a change from wave to wave. In fact, we did not see an important change. In particular, the proportions of people who have heard of the Department of Agriculture, the Surgeon General's office, and the school lunch program do not change significantly and consistently from wave to wave. Heard of welfare reform and an index of civic participation display limited evidence of a decline at Wave 3 -- which is directionally opposite the buildup in census communications -- and thus does not signal the existence of a hidden variable, other than census communications, driving the increase in intended participation. These findings suggest that the general environment is not changing during the census period, and thus that change in intended participation can reasonably be attributed to change in census awareness mediated by change in census beliefs. Such control variables replace a control group, which was not feasible for this study.

We analyzed the association between census communications and intent to participate using Wave 2 data, and between census communications and self-reported behavior using the Wave 3 data. We also matched the samples for Waves 2 and 3 to census returns and determined which households actually returned the form by mail and the dates of mail return. From these data, we were able to analyze the effect of census communications on actual behavior.

We found a low correlation between actual mailback behavior and both intended participation and self-reported behavior. In the total population in Wave 2, 81 percent of households responded that they definitely will or probably will participate, while 69 percent of these households actually participated by mail.

Similarly in Wave 3, 73 percent self-reported that they returned the form, while 66 percent actually did. (These percentages for actual participation are somewhat attenuated due to the fact that we reclassified late mail returns -- those occurring after the NORC interview date or after the start of nonresponse follow up operations -- as non-mail returns.)

For all four survey samples and for both Waves 2 and 3, we constructed logistic regression models, attempting to directly explain the log-odds of mail return in terms of various exogenous variables. The independent variables include two measures of census communications -- mean of mass-media and mean of community-based communications -- and nine categorical variables suggested by prior census research, including an index of civic participation, race/ethnicity, language spoken at home, household income, highest grade completed, age, sex, household tenure status, and an indicator of whether the household reported receipt of the census form. For the core sample only, they also include two-way interactions between the categorical variables and the census communications variables. Because of limited sample size, we were not able to consider interactions in the models for the Asian, American Indian, and Native Hawaiian samples.

Despite earlier evidence that census communications had a clear and favorable impact on what people said they would do -- that is, their intended participation (Waves 1 and 2) and self-reported behavior (Wave 3) -- we now find limited and mixed evidence that it affected what people actually did (their actual behavior). In fact, from the logistic regression modeling we essentially find no significant effects of census communications on the odds of mail return for Asians, American Indians, and Native Hawaiians. It is possible that the small sample sizes, especially for American Indians, prevent us from revealing the true communications effects for these populations.

From the models for the core sample, we find census communications effects are differential by language, age, and race/ethnicity. In Wave 2, overall communications were less effective for the other-languages population than for the English-speaking population, while its impact on the Spanish-speaking population was no different from its impact on the English population. In Wave 3, community-based communications were less effective for younger adults than for older adults. Mass media was less effective for Other races than for non-Hispanic Whites, and community-based communications were more effective in reaching non-Hispanic African Americans than non-Hispanic Whites.

The models for Waves 2 and 3 are somewhat different, despite the fact that both waves use identical sampling designs that entail independent and representative samples of the total population. One possible reason for the differences is that Wave 3 was generally exposed to additional census communications not available at Wave 2, due to continuing PMP activity and the arrival of the census form itself. However, we did include a variable indicating receipt of the census form in the Wave 3 models.

We urge the reader to exercise a degree of caution in interpreting the results of the logistic regression models. These models are not able to explain most of the variability in actual behavior, although the quality of fit is typical of social-science research data of this type. One of the problems with this approach is that the models are fit cross-sectionally, within Wave 2 and

then within Wave 3. The variability in the mass media and community-based variables across respondents within wave is narrow. Fitting across the narrow span provides a model with a bit of instability, similar to a child's teeter-totter. In an ideal world, let alone a world of statistical experimentation, one would devise a combined sample comprised of Wave 1 respondents who received no additional exposure to census communications; Wave 2 respondents who received no additional exposure; and Wave 3 respondents. In the combined sample, one should find greater variability in the communications variables, and thus presumably a better, more stable model than the one found here. Because such a sample is not feasible, we are left no choice but to fit cross-sectional models with caution.

4. *Were differences in awareness, knowledge, and attitudes before and after the Census 2000 campaign significantly different from those measured before and after the 1990 campaign (which had no mass-media)?*

The Census Bureau developed and implemented an Outreach Evaluation Survey (OES) at the time of the 1990 Census with objectives similar to those of the 2000 PMPE. Yet it is nearly impossible to make exact comparisons between the 1990 and 2000 Censuses, because of non-comparabilities (1) between the timing of the waves of data collection in the OES and PMPE, and (2) between the question wording and response scales in the two surveys. In approximate terms, awareness of the impending Census 2000 started at a relatively low level at Wave 1, a point in time for which there is no corresponding data from the 1990 OES. By mid-winter, before census day, awareness in 2000 seems to eclipse awareness of the impending 1990 Census. Furthermore, in terms of mean number of sources of information cited by respondents, the 2000 PMPE reflects higher levels following Census Day than does the 1990 OES at the same point in time. Interestingly, the percent that heard recently about the census is lower following Census Day in 2000 than at the same point in 1990, perhaps reflecting literal reporting by PMPE respondents.

For non-Hispanic African Americans, we find higher percentages for television and radio awareness in 2000 than in 1990. Over all populations, awareness due to newspapers is lower in 2000 than in 1990, and awareness due to print ads and meetings is higher. Magazine awareness is also higher in 2000, but it still remains much lower than awareness of other media.

According to our data, attitudes towards census confidentiality declined at the close of the 20th Century. Favorable attitudes started at a low level prior to Census 2000 and never recovered to the levels reported in 1990. Although this finding is cause for concern, the fact that trust in confidentiality apparently does not influence participation, at least according to these data, mitigates the concern.

On the other hand, respondents' views of the importance of participating in the census remained quite stable: both censuses exhibited similarly favorable attitudes, and neither exhibited a significant trend from wave to wave within the census period. Designers of future advertising and partnership programs should be challenged by this result to find ways of instilling in the population the belief that census is important.

Finally, the 2000 PMP seems to have achieved greater success than comparable efforts in 1990 to create a favorable attitude that the census cannot be used against you. Despite this apparent progress, as we reviewed earlier, fear that the census could be used against you continues as an important predictor of census participation. Again, all comparisons between OES and PMPE should be interpreted with considerable caution because of the non-comparabilities cited earlier.

5. *Was awareness or intended participation influenced by census controversies or by other special events of census publicity?*

We made some analyses of week-to-week movements in awareness within each of the three waves. Our objective was to ascertain whether any events of special publicity -- such as the controversy arising from the census advance letter -- may have affected census awareness or intended participation. This analysis should be viewed with caution, because the weekly data are based upon small, potentially nonrepresentative subsamples. We found no evidence of any substantial intervention. We do find an interesting falloff in recent awareness as time passes into May and June. We do not view this decline a failure of the PMP, but rather we suppose it simply represents literal reporting by largely cooperative respondents who, by May or June, probably had not heard anything about the census in several weeks. In fact, the PMP did not target those most likely to respond after mid-April.

Summarizing our findings, the total population and all six populations seem to have become more aware of census communications during the nine-month period of the study. Non-Hispanic African Americans, Native Hawaiians, and non-Hispanic Whites appear to have been most clearly affected beyond this increased awareness. Their intentions to participate in the census increased as well and their awareness and became associated at the individual level with self-reported participation. Asians and Hispanics appear less affected, particularly when they are examined in terms of specific sources of communication. American Indians seem to have been aware of census communications but there is little statistical evidence they were affected by them. Results for American Indians are subject to a larger design effect than results for other targeted populations. It is possible that sampling error obscures their real trends. Census communications did not have a favorable impact on actual mail-return behavior for the Asian, American Indian, and Native Hawaiian populations. For remaining populations, census communications were helpful in promoting mail response, but the help was differential by language, age, and race/ethnicity.

In light of these findings, it is appropriate to consider what recommendations we might offer to planners of Census 2010. We approach this final task with considerable trepidation. We know what we know on the basis of the evaluation study concluded here. But we realize there is a considerable amount we do not know from other census evaluation studies, from specific advertising and partnership protocols, and from the 2000 Census experience itself. Thus, we formulate and advance the following recommendations based upon the PMPE data we have collected and analyzed. Census executives will have to meld our recommendations with their broader understanding of Census 2000 and its promotional activities in order to formulate an appropriate set of actions for the next census.

- R1. The 2000 PMP was generally successful in promoting awareness and intent to participate in the census. Even though the program had a limited and mixed impact on peoples' actual behavior, we strongly recommend this program of mass-media and community-based communications be repeated in general form, content, and intensity for Census 2010. Some minor adjustments to the program, as follows, may achieve superior results.
- R2. The 2000 PMP demonstrated that, in general, mass-media and community-based communications are a powerful means of reaching people. Some sources of census communications were more effective than others. As Census 2010 approaches, the Census Bureau should evaluate the then current communications channels in America, with an eye towards optimizing the allocation of PMP resources among the various channels. In particular, the Census Bureau should reevaluate use of the Internet, magazines, conference exhibit booths, and paycheck or utility bill inserts. The first in this list of channels may be increasing in importance, while remaining channels may be decreasing in importance. Other channels, such as television, radio, and schools you attend will probably continue to be as important in 2010, as they were in 2000. Furthermore, the Census Bureau should examine opportunities to tailor census messages to the source of communications.
- R3. Awareness of census communications may have declined slightly after Census Day 2000. The Census Bureau should conduct additional study of this matter, to confirm its validity and consequences. The end purpose of the study should be to determine whether a stronger post-Census-Day communications program would have achieved favorable results at an acceptable price.
- R4. As Census 2010 approaches, the Census Bureau should reevaluate what promotional messages resonate best with the American population overall, and with targeted race/ethnicity populations. Based on the 2000 experience, a traditional message -- census confidentiality can be trusted -- seems to be declining in effectiveness. Meanwhile, two newer messages
- Answers cannot be used against you
 - Lets government know what my community needs
- appear to be increasing in effectiveness. Use of the right messages will optimize the effectiveness of the 2010 PMP. In view of the demonstrated sophistication of the 2000 PMP, the Census Bureau should go on to explore use of even more subtle beliefs for Census 2010.
- R5. Mass-media and community-based communications effectively reached the African American community during Census 2000, and communications changed census beliefs. For this population, the 2010 PMP should build on the success of the 2000 PMP.

- R6. For Census 2010, the Census Bureau should reevaluate the communications approach for the Hispanic, Native Hawaiian, and especially the American Indian populations. The 2000 PMP changed census awareness for these populations, but there is little or no significant evidence that it impacted intent to participate. For American Indians, mean census beliefs were unchanged from before the onset of the PMP through Census Day. To better reach these populations, the Census Bureau may develop new communications messages, deliver more frequent messages at the time of the census, or communicate on more of an ongoing basis throughout the decade. The Census Bureau may identify beliefs that are truly critical to peoples' behavior in these communities, and formulate communications messages accordingly. The reevaluation should consider the design and outcomes of the 2000 PMP and whether further refinements would be successful.
- R7. English-speaking Asians changed census beliefs as a result of the 2000 PMP, but non-English-speaking Asians apparently did not. For 2010, the Census Bureau should develop and implement communications channels and messages that get through to this population.
- R8. The 2000 PMP cost money, and the current evaluation study demonstrated a limited linkage between the PMP effort and improvements in actual mail return behavior. During early stages of planning for Census 2010, the Census Bureau should conduct a formal cost-benefit analysis, attempting to demonstrate the tradeoffs between increased expenditures on PMP activities and reduced followup costs. The analysis may be used as one small part of the base of information the Census Bureau uses to justify its plan for Census 2010. If evaluation of the 2010 PMP is undertaken, in light of 2000 experiences, then it would be desirable to develop some specific hypotheses that can be tested directly.
- R9. Ultimately, once congressional appropriations have been finalized, during late stages of planning for Census 2010, there will be a fixed amount of money to support PMP activities. The Census Bureau will be faced with the daunting task of allocating this fixed pie among the many worthy components of the program. In making this allocation, the Census Bureau should continue to be guided by the twin goals of (1) increasing the overall mail return rate and (2) reducing the differential undercount, weighted by size, of historically undercounted populations.
- R10. Future research should use an experimental design to measure the effectiveness and benefit of a partnership and marketing program

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Appendix A

Detailed description of the four evaluation samples

American Indian sample

A total of 21 American Indian reservations and tribal areas (see Table A-1 for a list of selected reservations/tribal areas and their probabilities of selection) were randomly selected as 15 primary sampling units (PSU's) for the American Indian sample for all three waves of data collection. In order to minimize costs, the three largest reservations (in 1990 American Indian population) were defined as certainty PSU's, meaning that these reservations had a selection probability of one. For the remaining reservations and tribal areas, the probability of selection was determined using each reservation's 1990 Decennial Census American Indian population as a proportion of all American Indians living in reservations and tribal areas. The sampling universe consisted of all reservations/tribal areas with 1000 or more American Indian population as of the 1990 Census.

Personal visit interviews were used to collect data for this sample to eliminate the possibility of coverage bias due to poor telephone coverage, and to increase the likelihood of response.

Since physical address information was unavailable for many housing units on the Master Address File (DMAF) at the time of sample selection (August 1999), 1990 Decennial Census tabulation blocks were randomly selected in the second stage of the sample for 16 of the 21 reservations/tribal areas. For the third and final stage of sampling in the 16 reservations/tribal areas, no up-to-date list of housing units (HUs) was available for the selected blocks. To maximize cost effectiveness, a sample-and-go method was implemented whereby a random start was provided for each selected block. Interviewers were instructed to start at the northwest corner of a selected block and to travel around the block in a clockwise direction, counting HUs as they went. They were further instructed to include up to 10 HUs in the sample, starting with the HU corresponding to the pre-assigned random start and continuing through the nine following HUs. If the block contained a total of 10 or fewer HUs, then all HUs were included in the sample.

In the remaining five selected reservations/tribal areas with sufficient physical address information (i.e., Creek, Lumbee, Kiowa-Comanche-Apache, Cheyenne-Arapaho, and Salt River reservations/tribal areas), HUs were randomly selected from the DMAF.

This design was used in all three waves of data collection, since physical address information from the update/leave phase of Census 2000 was not included in the DMAF until March 2000.

Table A-1: Sampling conditions by reservation and primary sampling unit (PSU) for the American Indian sample

PSU	Reservations	Probability of Selection	Certainty Status	Sampling Type	Explicit Density Stratification with PSU
201	Navajo Reservation and Trust Land	1.0000	Yes	Block	No
202	Cherokee TJSA	1.0000	Yes	Block	Yes
203	Creek TJSA	1.0000	Yes	DMAF	Yes
204	Lumbee TDSA (state)	0.8867	No	DMAF	No
205	Choctaw TJSA	0.8704	No	Block	Yes
206	Kiowa-Comanche-Apache-For	0.4000	No	DMAF	Yes
207	Fort Apache Reservation	0.3051	No	Block	No
208	Rosebud Reservation and Trust Land	0.2465	No	Block	No
209	Hopi Reservation and Trust Land	0.4261	No	Block	Yes
209	Cheyenne-Arapaho TJSA	0.4261	No	DMAF	Yes
210	Osage Reservation	0.1880	No	Block	Yes
211	Standing Rock Reservation	0.1501	No	Block	No
212	Red Lake Reservation	0.2190	No	Block	No
212	Salt River Reservation	0.2190	No	DMAF	No
213	Isleta Pueblo	0.2500	No	Block	No
213	Santo Domingo Pueblo	0.2500	No	Block	No
213	Uintah and Ouray Reservation	0.2500	No	Block	No
214	Cattaraugus Reservation	0.1203	No	Block	No
214	Omaha Reservation	0.1203	No	Block	No
215	San Juan Pueblo	0.0779	No	Block	No
215	Taos Pueblo and Trust Land	0.0779	No	Block	No

Asian sample

Five large cities (see Table A-2 for a list of the cities) were selected as certainty PSU's for the Asian sample for all three waves of data collection. These PSU's were selected because of their large population size and their relatively high proportion of Asian-American residents. No other areas of the country were subjected to sampling.

Personal visit interviews were used to collect data for this sample to eliminate the possibility of coverage bias due to poor telephone coverage, and to increase the likelihood of response among Asian-Americans that do not speak English.

In order to maximize cost efficiency, housing units were grouped into two strata per PSU according their block group's proportion of Asian-American residents in the 1990 Census. We sampled the high density (20 percent or greater Asian population) stratum at five times the rate used in the low density stratum (less than 20 percent Asian) in each PSU. The DMAF was used as a sampling frame in Waves 2 and 3, but the incomplete status of the DMAF at the time of Wave 1 sample selection (August 1999) forced the use of an alternative sample frame.

For Wave 1, we used a standard area-probability sampling design, selecting segments at the second stage and HUs at the third and final stage.²² Following the selection of segments (with probability proportional to the Asian population from the 1990 Census), we classified the specified segments as to high or low density and determined the subsampling rate for each segment such that the unconditional probability of selection of HUs in high-density areas was five times the unconditional probability in low-density areas. Instead of performing a conventional two-step listing and sampling operation in the specified segments, which would have been expensive, we pre-specified the selected lines within each specified segment in accordance with the segment's subsampling rate. Starting at the Northwest corner of each specified block, interviewers were instructed to travel around the block in a clockwise direction, counting HUs as they went, and to conduct interviews at the HUs corresponding to the pre-specified lines.

Table A-2: Sampling conditions by primary sampling unit (PSU) for the Asian sample

PSU	City	Probability of Selection	Certainty Status	Sampling Type	Explicit Density Stratification within PSU
301	Chicago	1.0000	Yes	Area Probability in Wave 1, DMAF in Waves 2 & 3	Yes
302	Los Angeles	1.0000	Yes	Area Probability in Wave 1, DMAF in Waves 2 & 3	Yes
303	New York	1.0000	Yes	Area Probability in Wave 1, DMAF in Waves 2 & 3	Yes
304	San Francisco	1.0000	Yes	Area Probability in Wave 1, DMAF in Waves 2 & 3	Yes
305	Seattle	1.0000	Yes	Area Probability in Wave 1, DMAF in Waves 2 & 3	Yes

²² Large census blocks were segments in their own right, while small blocks were combined to achieve a minimum segment size of 75 HUs.

Native Hawaiian sample

The State of Hawaii (see Table A-3) was the only PSU specified for the Native Hawaiian sample; no other areas were subjected to sampling. It simply would not have been cost effective to sample from the other 49 states, because their Native Hawaiian populations are extremely small and widely dispersed.

To save money, we mainly used telephone interviewing for this sample. Wave 1 was conducted entirely by telephone, while for Waves 2 and 3 about four-fifths of the interviews were obtained via telephone and one-fifth via personal visit.

Contrary to our original plan, the DMAF was not ready or available at the time of sampling for Wave 1. To enable the project to proceed on a timely and cost-effective basis, a backup plan was needed, and after consideration of alternatives, we quickly shifted the sampling design to a list-assisted, random digit dialing (RDD) approach in one-plus, 100-banks. To maximize cost efficiency, we grouped census tracts into two strata prior to sampling, according to their Native Hawaiian density in the 1990 Census.²³ In turn, telephone exchanges were matched to census tracts and thus were classified into the high or low density strata. We obtained and implemented an RDD sample of telephone numbers from each of the two strata, sampling the high-density stratum at about five times the rate used in the low-density stratum.

Fortunately, the DMAF was ready and available in time for sampling for Waves 2 and 3, and thus we were able to proceed with our original plan. We grouped HUs into a high- or low-density stratum based upon their block group's proportion of Native Hawaiian residents in the 1990 Census. Again, we sampled the high-density stratum at five times the rate in the low-density stratum. Following sampling, we asked Telematch to supply telephone numbers for the selected addresses, and they were successful in doing so for about 25 percent of the addresses. This low match rate (the expected match rate was 50 percent) was attributable in part to a large number of less than fully complete addresses from the DMAF; to apartment buildings where matching is especially difficult; and to other factors. Before proceeding, we considered means of improving the match rate -- such as use of the Select Phone CD and of SSI, another well-known vendor of telephone matching services -- but none proved helpful.

Ultimately for Wave 2, we released enough of the matches to telephone interviewing (CATI) to yield about 400 Native Hawaiian completed interviews. To avoid the possibility of a sampling bias, we subsampled the non-matches and released enough of them to personal-visit interviewing to yield about 100 Native Hawaiian completed interviews. Advance letters were sent to all sample cases.

²³ The high-density stratum consisted of tracts whose population was 20 percent or more Native Hawaiian, while the low-density stratum consisted of all other tracts in the State of Hawaii.

Table A-3: Sampling conditions by primary sampling unit (PSU) for the Native Hawaiian sample

PSU	Area	Probability of Selection	Certainty Status	Sampling Type	Explicit Density Stratification within PSU
401	State of Hawaii	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes

Core sample

The purpose of the core sample is to provide evaluation statistics for the census marketing and partnership campaigns both for the population as a whole and for the Hispanic, non-Hispanic African American, and non-Hispanic White populations. For obvious reasons, a main thrust of these programs is to motivate hard-to-count groups to participate in the 2000 Census, especially by mail.

For this evaluation, fifty PSU's (see Table A-4) were selected with probability proportional to the 1990 Census HU count to represent the general U.S. population in all three waves of data collection. The 10 largest metropolitan areas were selected with certainty, including the New York CMSA, Los Angeles CMSA, Chicago CMSA, San Francisco CMSA, Philadelphia CMSA, Detroit CMSA, Dallas CMSA, Washington DC MSA, Houston CMSA, and Boston NECMA. This left 40 noncertainty PSUs.

To save money, we used telephone interviewing as much as possible in all three waves. To avoid bias, we used personal-visit interviewing too, as explained below.

To provide reliable statistics for the hard-to-count populations, we oversampled Hispanic and non-Hispanic-African American households (households) by partitioning each PSU into the four density sampling strata set forth in Table A-5, and imposing higher sampling rates in the three high-density strata. A few of the strata in a few of the PSUs turned out to be empty (e.g., in PSU 081, Sandusky Co., OH, there are no areas of high Hispanic or high non-Hispanic-African American density), but essentially we employed a sampling design with a total of 200 sampling strata, four density strata in each of 50 PSUs.

As in the case of the three specialized samples, the DMAF was not ready or available for use at the time of sampling operations for Wave 1, and we quickly devised and implemented a backup plan. The DMAF was available for our use for Waves 2 and 3 and we did use it at that time as the sampling frame for HUs within PSUs.

For Wave 1, our backup plan involved RDD sampling and telephone interviewing in the 50 PSUs, along with an area-probability sample and personal-visit interviewing in the five PSUs that correspond to the PSUs employed in the Asian sample. We chose the RDD design because of cost considerations, and the area-probability supplement because of coverage considerations. We felt that a comparison of the RDD and area-probability results in the five PSUs may provide a formal measurement of the effect on Wave 1, if any, of nontelephone households. In turn, we reasoned that this measurement could be used, if necessary, to calibrate the overall results from the Wave 1 RDD interviews.

For the RDD component, we implemented the same list-assisted approach as we used for the Native Hawaiian sample. To maximize cost efficiency, we grouped census tracts into the approximately 200 density strata prior to sampling, according to their Hispanic and non-Hispanic-African American populations in the 1990 Census. In turn, telephone exchanges were matched to census tracts and thus were classified into the high- or low-density strata. We obtained and implemented an RDD sample of telephone numbers from each of the strata, sampling the high-density strata at about five times the rate used in the low-low strata. For the area-probability supplement, we selected segments²⁴ at the second-stage of sampling and HUs at the third stage. Segments were not stratified within PSUs, but they were selected with probability proportional to the 1990 Census HU count. HUs were subsampled within segments at a rate determined to equalize the overall unconditional probabilities of selection within the area-probability supplement. Thus, the supplement was designed to be essentially self-weighting.

For Waves 2 and 3, we grouped HUs into the 200 density strata based upon their block group's proportion of Hispanic and non-Hispanic-African American residents in the 1990 Census. Again, we sampled the high-density strata at about five times the rate used in the low-low strata. Following sampling, we asked Telematch to supply telephone numbers for the selected addresses, and they were successful in doing so for about 28 percent of the addresses. This low match rate (the expected match rate was 50 percent) was attributable in part to the lack of resident names as a matching field; to apartment buildings where matching is especially difficult; and to other factors.

For the matches, we attempted telephone interviews from one of our centralized CATI centers. Noncontacts, refusals, and cases with an erroneous telephone number were sent to the field for personal-visit interviewing. All nonmatches, of course, were assigned to the field for personal-visit interviewing. Advance letters were sent to all sample cases with a complete mailing address.

Table A-4: Sampling conditions by primary sampling unit (PSU) for the core sample

PSU	Area	Probability of Selection	Certainty Status	Sampling Type	Explicit Density Stratification Within PSU
1	New York CMSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
2	Los Angeles CMSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
3	Chicago CMSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
4	San Francisco CMSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
5	Philadelphia CMSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes

²⁴ Single blocks or clusters of adjacent blocks, with a minimum size of 75 HUs.

6	Detroit CMSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
7	Dallas CMSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
8	Washington, D.C. MSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
9	Houston CMSA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
10	Boston NECMA	1.0000	Yes	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
11	Atlanta MSA	0.6345	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
13	St. Louis MSA	0.5437	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
15	Phoenix MSA	0.5146	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
17	Baltimore MSA	0.5075	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
19	Seattle MSA	0.4493	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
21	Worcester, MA, NECMA	0.1510	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
23	Buffalo, NY, PMSA	0.2173	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
26	Syracuse, NY, MSA	0.1438	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
28	Eau Claire, WI, MSA	0.0291	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
30	Jackson, MI, MSA	0.0313	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
33	Cleveland, OH, MSA	0.4102	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
35	Columbus, OH, MSA	0.3024	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
37	Saginaw-Bay City, MI, MSA	0.0841	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
40	Springfield, MO, MSA	0.0544	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
42	Ft. Myers-Cape Coral, FL, MSA	0.1022	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes

44	Charlotte-Gaston, IA, MSA	0.2556	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
46	Lynchburg, VA MSA	0.0307	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
49	Miami, FL, PMSA	0.4169	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
51	Charleston, SC, MSA	0.1080	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
53	Birmingham, AL, MSA	0.2037	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
56	Enid, OK, MSA	0.0143	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
58	Waco, TX, MSA	0.0426	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
60	New Orleans, LA, MSA	0.2832	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
63	Denver, CO, MSA	0.3871	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
65	Boulder, CO, PMSA	0.0511	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
67	Tacoma, WA	0.1237	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
69	Santa Barbara, CA, MSA	0.0747	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
72	Franklin, CO., PA	0.0263	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
74	Lee Co., IL	0.0072	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
76	Riley Co., KS	0.0124	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
79	Barry Co., MO	0.0070	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
81	Sandusky Co., OH	0.0128	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
83	Choctaw Co., AL	0.0037	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
85	Floyd Co., GA	0.0177	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes

88	Copiah Co., MS	0.0055	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
90	Edgecombe Co., NC	0.0118	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
92	Greene County, TN	0.0126	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
95	Caroline Co., VA	0.0039	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
97	Mesa County, CO	0.0212	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes
99	Wasco County, OR	0.0057	No	RDD in Wave 1, DMAF in Waves 2 & 3	Yes

Table A-5: Stratification by density of Hispanic and non-Hispanic African American populations

	High Density Hispanic (≥33%)	Low Density Hispanic (< 33%)
High Density Non-Hispanic African American (≥33%)	Stratum 1	Stratum 2
Low Density Non-Hispanic African American (< 33%)	Stratum 3	Stratum 4

Appendix B

Survey response rates

Tables B-1 through B-13 contain four sets of response rates for each wave and each sample, as follows:

1. Conservative response rates with no allowance for language barrier / incapacitated cases.
2. Conservative response rates with an allowance for language barrier / incapacitated cases.
3. Alternate response rates with no allowance for language barrier / incapacitated cases.
4. Alternate response rates with an allowance for language barrier / incapacitated cases.

The best response rates are probably those making an allowance for the language barrier / incapacitated cases. Although the difference is relatively small, attention should be focused on the sets 2 and 4. In any event, readers may use the set of response rates with which they are most comfortable philosophically.

In what follows, we describe the column headings that appear in Tables B-2 to B-13:

1. **Incapacitated or Language Barrier, Main Interview:** Number of households that were determined to be eligible, but did not complete the main interview because of incapacitated and/or language barrier problems.
2. **Incapacitated or Language Barrier, Screening Interview:** Number of households for which eligibility could not be determined because of incapacitated and/or language barrier problems at the screening interview.
3. **Completed Cases:** Number of households for which the main interview was completed.
4. **Eligible Cases:** Number of households determined to be eligible for the main interview.
5. **Eligibility Determined:** Number of households for which the eligibility status for the main interview was determined.
6. **Occupied Households:** Number of cases determined to be occupied households or working residential numbers.
7. **Determined Household Status:** Number of cases for which the occupancy status was determined.

8. **Sample Size:** Total number of cases released.
9. **Completion Rate for Household Status:** Percentage of sample size for which the occupancy status was determined.
10. **Screener Completion Rate:** Percentage of occupied households for which the eligibility status was determined.
11. **Interview Completion Rate:** Percentage of households determined to be eligible for the main interviews that were completed.
12. **Response Rate:** Unconditional response rate calculated as the product of the three completion rates.

Conservative response rates are defined in the spirit of AAPOR (1998) and CASRO (1982) standards. The problem is that these standards do not apply to a two-stage interview -- screener followed by main -- of the type used in the PMPE. Thus, NORC has established its own standards that extend the APPOR and CASRO standards to real two-stage interviews. Conservative response rates exactly follow the NORC standard.

Another problem is that conservative response rates fail to address some special circumstances that arose in the conduct of the PMPE.

Towards that end, three broad adjustments were made as follows:

1. The “no action” cases—within released replicates—were treated as not in the sample in the alternate calculations. The conservative approach treated them as eligible non-respondents. Of course, non-released replicates are not in the sample for any of our calculations. By virtue of field management and procedure, the “no action” cases reasonably may be viewed as a random subsample of all released cases.
2. In Waves 2 and 3, interviewers encountered a large number of bad-addresses from the DMAF. The conservative response rate calculation treated these cases as eligible, non-respondents, whereas the alternative treats them as not in the sample.
3. In the Native Hawaiian telephone sample, the cases that were not completed were not recycled to the field for follow-up. That practice artificially depressed the response rate. For the alternate response rate #4, the calculation assumes that a certain portion of these cases that could have been recycled to the field would have been completed. This adjustment is similar in spirit to the allowance made for language barrier/incapacitated cases.

The results of implementing these adjustments are embodied in alternative response rates.

Table B-1 displays the overall response rates across samples for all three waves. The conservative response rates and the alternate response rates with an allowance for language barrier and incapacitated cases are presented. The table shows that the overall alternate response rates are just under 50 percent, 65 percent and 68 percent for Waves 1, 2 and 3, respectively. It should be noted that the response rates in Wave 1 were significantly lower than that of Waves 2 and 3 because of the RDD designs that had no field follow-up.

Table B-1: Summary of response rates over all samples by wave

Wave	Conservative Response Rate #2 (%)	Alternate Response Rate #4 (%)
1	46.4	48.4
2	49.2	64.5
3	51.6	67.7

Table B-2: Wave 1, unweighted response rates #1

Sample	Incapacitated or Language Barrier, Main Interview	Incapacitated or Language Barrier, Screening Interview	Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status	Screener Completion Rate	Interview Completion Rate	Unconditional Response Rate
American Indian	18	0	510	790	1427	1428	2033	3182	63.9	99.9	64.6	41.2
Asian	29	0	517	951	4286	4286	4494	4528	99.2	100.0	54.4	54.0
Core	6	80	1536	1833	2209	5442	11037	11105	99.4	40.6	83.8	33.8
Field	1	0	199	274	274	274	289	289	100.0	100.0	72.6	72.6
RDD	5	80	1337	1559	1935	5168	10748	10816	99.4	37.4	85.8	31.9
Native Hawaiian	4	189	438	506	2353	5159	10900	10900	100.0	45.6	86.6	39.5
Total	57	269	3001	4080	10275	16315	28464	29715	95.8	63.0	73.6	44.4

Table B-3: Wave 1, unweighted response rates #2

Sample	Incapacitated or Language Barrier, Main Interview	Incapacitated or Language Barrier, Screening Interview	Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status	Screener Completion Rate	Interview Completion Rate	Unconditional Response Rate
American Indian	18	0	510	790	1427	1428	2033	3182	63.9	99.9	66.8	42.7
Asian	29	0	517	951	4286	4286	4494	4528	99.2	100.0	57.4	57.0
Core	6	80	1536	1833	2209	5442	11037	11105	99.4	42.1	84.1	35.2
Field	1	0	199	274	274	274	289	289	100.0	100.0	73.0	73.0
RDD	5	80	1337	1559	1935	5168	10748	10816	99.4	39.0	86.1	33.4
Native Hawaiian	4	189	438	506	2353	5159	10900	10900	100.0	49.3	87.4	43.0
Total	57	269	3001	4080	10275	16315	28464	29715	95.8	64.6	75.0	46.4

Table B-4: Wave 1, unweighted response rates #3

Sample	Incapacitated or	Incapacitated or	Completed	Eligible	Eligibility	Occupied	Determined	Sample Size	Completion	Screener	Interview	Unconditional
	Language Barrier, Main	Language Barrier, Screening										
American Indian	18	0	510	790	1427	1428	3182	3182	100.0	99.9	64.6	64.5
Asian	29	0	517	951	4286	4286	4528	4528	100.0	100.0	54.4	54.4
Core	6	80	1536	1833	2209	5442	11105	11105	100.0	40.6	83.8	34.0
Field	1	0	199	274	274	274	289	289	100.0	100.0	72.6	72.6
RDD	5	80	1337	1559	1935	5168	10816	10816	100.0	37.4	85.8	32.1
Native Hawaiian	4	189	438	506	2353	5159	10900	10900	100.0	45.6	86.6	39.5
Total	57	269	3001	4080	10275	16315	29715	29715	100.0	63.0	73.6	46.3

Table B-5: Wave 1, unweighted response rates #4

Sample	Incapacitated or	Incapacitated or	Completed	Eligible	Eligibility	Occupied	Determined	Sample Size	Completion	Screener	Interview	Unconditional
	Language Barrier, Main	Language Barrier, Screening										
American Indian	18	0	510	790	1427	1428	3182	3182	100.0	99.9	66.8	66.8
Asian	29	0	517	951	4286	4286	4528	4528	100.0	100.0	57.4	57.4
Core	6	80	1536	1833	2209	5442	11105	11105	100.0	42.1	84.1	35.4
Field	1	0	199	274	274	274	289	289	100.0	100.0	73.0	73.0
RDD	5	80	1337	1559	1935	5168	10816	10816	100.0	39.0	86.1	33.6
Native Hawaiian	4	189	438	506	2353	5159	10900	10900	100.0	49.3	87.4	43.0
Total	57	269	3001	4080	10275	16315	29715	29715	100.0	64.6	75.0	48.4

Table B-6: Wave 2, unweighted response rates #1

Sample	Incapacitated or Language Barrier, Main Interview	Incapacitated or Language Barrier, Screening Interview	Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status	 Screener Response Rate	Interview Response Rate	Unconditional Response Rate
American Indian	0	0	498	537	1628	2120	3078	3345	92.0	76.8	92.7	65.5
Asian	7	46	471	549	4117	4895	5457	5932	92.0	84.1	85.8	66.4
Core	50	0	1227	2122	2122	2122	2412	2600	92.8	100.0	57.8	53.6
Native Hawaiian	7	66	520	1198	2835	3274	3499	4250	82.3	86.6	43.4	30.9
Field	0	0	119	128	444	552	627	850	73.8	80.4	93.0	55.2
Phone	7	66	401	1070	2391	2722	2872	3400	84.5	87.8	37.5	27.8
Total	64	112	2716	4406	10702	12411	14446	16127	89.6	86.2	61.6	47.6

Table B-7: Wave 2, unweighted response rates #2

Sample	Incapacitated or Language Barrier, Main Interview	Incapacitated or Language Barrier, Screening Interview	Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status	 Screener Response Rate	Interview Response Rate	Unconditional Response Rate
American Indian	0	0	498	537	1628	2120	3078	3345	92.0	76.8	92.7	65.5
Asian	7	46	471	549	4117	4895	5457	5932	92.0	85.0	87.1	68.1
Core	50	0	1227	2122	2122	2122	2412	2600	92.8	100.0	60.2	55.8
Native Hawaiian	7	66	520	1198	2835	3274	3499	4250	82.3	88.6	44.0	32.1
Field	0	0	119	128	444	552	627	850	73.8	80.4	93.0	55.2
Phone	7	66	401	1070	2391	2722	2872	3400	84.5	90.3	38.1	29.1
Total	64	112	2716	4406	10702	12411	14446	16127	89.6	87.1	63.1	49.2

Table B-8: Wave 2, unweighted response rates #3

Sample	Incapacitated or Language Barrier, Main Interview	Incapacitated or Language Barrier, Screening Interview	Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status	Screener Response Rate	Interview Response Rate	Unconditional Response Rate
Asian	7	46	471	549	4117	4895	5932	5932	100.0	84.1	85.8	72.2
Core	50	0	1227	2122	2122	2122	2600	2600	100.0	100.0	57.8	57.8
Native Hawaiian	7	66	520	1198	2835	3952	4250	4250	100.0	92.7	78.7	73.0
Field	0	0	119	128	444	552	850	850	100.0	80.4	93.0	74.8
Phone	7	66	401	1070	2391	3400	3400	3400	100.0	94.7	77.3	73.2
Total	64	112	2716	4406	10702	13089	16127	16127	100.0	88.1	71.6	63.1

Table B-9: Wave 2, unweighted response rates #4

Sample	Incapacitated or Language Barrier, Main Interview	Incapacitated or Language Barrier, Screening Interview	Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status	Screener Response Rate	Interview Response Rate	Unconditional Response Rate
Asian	7	46	471	549	4117	4895	5932	5932	100.0	85.0	87.1	74.0
Core	50	0	1227	2122	2122	2122	2600	2600	100.0	100.0	60.2	60.2
Native Hawaiian	7	66	520	1198	2835	3952	4250	4250	100.0	93.0	79.0	73.5
Field	0	0	119	128	444	552	850	850	100.0	80.4	93.0	74.8
Phone	7	66	401	1070	2391	3400	3400	3400	100.0	95.1	77.6	73.8
Total	64	112	2716	4406	10702	13089	16127	16127	100.0	88.5	72.9	64.5

Table B-10: Wave 3, unweighted response rates #1

Sample	Incapacitated or Language Barrier, Main Interview		Incapacitated or Language Barrier, Screening Interview		Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status		Interview Response Rate	Unconditional Response Rate
	2	0	770	919							2418	2716		
American Indian	2	0	770	919	2418	2716	3742	4581	81.7	89.0	83.8	60.9		
Asian	114	9	778	1269	6721	7399	7924	8748	90.6	90.8	61.3	50.4		
Core	74	0	1989	3079	3079	3079	3421	3729	91.7	100.0	64.6	59.3		
Native Hawaiian Field	10	137	710	1444	3805	4562	4945	6345	77.9	83.4	49.2	32.0		
Phone	1	1	109	126	441	524	606	867	69.9	84.2	86.5	50.9		
	9	136	601	1318	3364	4038	4339	5478	79.2	83.3	45.6	30.1		
Total	200	146	4247	6711	16023	17756	20032	23403	85.6	90.2	63.3	48.9		

Table B-11: Wave 3, unweighted response rates #2

Sample	Incapacitated or Language Barrier, Main Interview		Incapacitated or Language Barrier, Screening Interview		Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status		Interview Response Rate	Unconditional Response Rate
	2	0 <th>770</th> <th>919 <th>2418</th> <th>2716</th> <th>3742</th> <th>4581</th> <th>81.7</th> <th>89.0</th> </th>	770	919 <th>2418</th> <th>2716</th> <th>3742</th> <th>4581</th> <th>81.7</th> <th>89.0</th>							2418	2716		
American Indian	2	0	770	919	2418	2716	3742	4581	81.7	89.0	84.0	61.1		
Asian	114	9	778	1269	6721	7399	7924	8748	90.6	91.0	70.2	57.8		
Core	74	0	1989	3079	3079	3079	3421	3729	91.7	100.0	67.0	61.5		
Native Hawaiian Field	10	137	710	1444	3805	4562	4945	6345	77.9	86.4	49.9	33.6		
Phone	1	1	109	126	441	524	606	867	69.9	84.4	87.3	51.5		
	9	136	601	1318	3364	4038	4339	5478	79.2	86.7	46.3	31.8		
Total	200	146	4247	6711	16023	17756	20032	23403	85.6	91.1	66.2	51.6		

Table B-12: Wave 3, alternate unweighted response rates #3

Sample	Incapacitated or Language Barrier., Main Interview	Incapacitated or Language Barrier, Screening Interview	Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status	Screener Response Rate	Interview Response Rate	Unconditional Response Rate
American Indian	2	0	770	919	2418	2716	4581	4581	100.0	89.0	83.8	74.6
Asian	114	9	778	1269	6721	7399	8748	8748	100.0	90.8	61.2	55.6
Core	74	0	1989	3079	3079	3079	3729	3729	100.0	100.0	64.6	64.6
Native Hawaiian	10	137	710	1444	3805	6002	6345	6345	100.0	92.4	78.6	72.6
Field	1	1	109	126	441	524	867	867	100.0	84.2	86.5	72.8
Phone	9	136	601	1318	3364	5478	5478	5478	100.0	93.1	78.1	72.7
Total	200	146	4247	6711	16023	19196	23403	23403	100.0	92.5	70.2	65.0

Table B-13: Wave 3, unweighted response rates #4

Sample	Incapacitated or Language Barrier., Main Interview	Incapacitated or Language Barrier, Screening Interview	Completed Cases	Eligible Cases	Eligibility Determined	Occupied Households	Determined Household Status	Sample Size	Completion Rate for Household Status	Screener Response Rate	Interview Response Rate	Unconditional Response Rate
American Indian	2	0	770	919	2418	2716	4581	4581	100.0	89.0	84.0	74.8
Asian	114	9	778	1269	6721	7399	8748	8748	100.0	91.0	70.2	63.9
Core	74	0	1989	3079	3079	3079	3729	3729	100.0	100.0	67.0	67.0
Native Hawaiian	10	137	710	1444	3805	6002	6345	6345	100.0	92.8	79.1	73.4
Field	1	1	109	126	441	524	867	867	100.0	84.4	87.3	73.6
Phone	9	136	601	1318	3364	5478	5478	5478	100.0	93.6	78.5	73.5
Total	200	146	4247	6711	16023	19196	23403	23403	100.0	92.7	73.0	67.7

The formulas we employed for response rates in this appendix are based upon the disposition statuses given in Table B-14. We cite many of these dispositions statuses in Tables B-2 to B-13. The columns headed "Completed Cases" correspond to disposition status C. The two columns headed "Incapacitated and Language Barrier" correspond to LB and SLB, respectively. The column headed "Eligible Cases" corresponds to E, and the column "Eligibility Determined" corresponds to E + NE. The column "Occupied household" corresponds to WRN, and "Determined household Status" corresponds to WRN + NRN. Finally, "Sample Size" corresponds to WRN + NRN + ND.

From the disposition statuses and the data presented in the Tables B-2 to B-12, we calculated completion and response rates according to the following formulas.

$$\text{Completion rate for household status} = ACR = \frac{WRN + NRN}{WRN + NRN + ND}$$

$$\text{ Screener completion rate} = SCR = \frac{E + NE}{E + NE + \left(\frac{E + NE}{E + NE + SLB}\right)SNR}$$

$$\text{Interview completion rate} = ICR = \frac{C}{C + \left(\frac{C}{C + LB}\right)NR}$$

Overall response rate =

$$\begin{aligned} ORR &= \frac{C}{C + \left(\frac{C}{C + LB}\right)NR + \left(\frac{C}{C + LB}\right)\left(\frac{E + NE}{E + NE + SLB}\right)SNR + \left(\frac{C}{C + LB}\right)\left(\frac{E + NE}{E + NE + SLB}\right)\left(\frac{WRN}{WRN + NRN}\right)ND} \\ &= \frac{C}{C + eNR + fSNR + gND} \\ &= IRR \times SRR \times ARR \end{aligned}$$

These rates appear in the four columns on the right side of Tables B-2 to B-12.

The completion and response rates cited follow NORC Standard 15. The NORC standard extends the AAPOR standard to multiple-stage survey designs, including designs with both screening and main interviews.

Table B-14: Disposition categories

Main interview	
C	Complete
LB	Language barrier or incapacitated
NR	Interview nonresponse
 Screener	
E	Eligible
NE	Not eligible
SLB	Screener language barrier or incapacitated
SNR	Screener nonresponse
Address or Telephone Number Status	
WRN	Occupied household/working residential number
NRN	Not occupied household
ND	Status not determined

Appendix C

Tables of mean awareness for individual communication sources by language spoken at home

Table C-1: Awareness of different sources of mass-media communications, total population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (.020)	1.87 (.089)	2.24 (.044)	<.0001 *	.0005 *	<.0001 *
Magazines	1.11 (.021)	1.35 (.033)	1.42 (.032)	<.0001 *	.3341	<.0001 *
Radio	1.11 (.020)	1.52 (.055)	1.88 (.038)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.21 (.028)	1.51 (.047)	1.72 (.036)	<.0001 *	.0010 *	<.0001 *
Billboard	1.07 (.015)	1.23 (.033)	1.50 (.048)	<.0001 *	<.0001 *	<.0001 *

Table C-2: Awareness of different sources of mass-media communications, total English-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.11 (.019)	1.86 (.097)	2.24 (.050)	<.0001 *	.0013 *	<.0001 *
Magazines	1.09 (.022)	1.35 (.036)	1.41 (.034)	<.0001 *	.8164	<.0001 *
Radio	1.08 (.012)	1.50 (.057)	1.86 (.040)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.20 (.031)	1.52 (.052)	1.72 (.037)	<.0001 *	.0035 *	<.0001 *
Billboard	1.05 (.012)	1.22 (.035)	1.49 (.052)	<.0001 *	<.0001 *	<.0001 *

Table C-3: Awareness of different sources of mass-media communications, total Spanish-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.40 (.078)	2.06 (.069)	2.30 (.106)	<.0001 *	.1707	<.0001 *
Magazines	1.20 (.070)	1.31 (.042)	1.55 (.092)	.4440	.0566 *	.0062 *
Radio	1.46 (.190)	1.86 (.067)	2.13 (.140)	.1539	.2280	.0141 *
Newspaper	1.34 (.099)	1.51 (.075)	1.72 (.101)	.5510	.2773	.0231 *
Billboard	1.30 (.133)	1.39 (.045)	1.68 (.098)	1.0000	.0215 *	.0651 *

Table C-4: Awareness of different sources of mass-media communications, total other language-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.28 (.073)	1.68 (.155)	1.92 (.211)	.0596 *	1.0000	.0125 *
Magazines	1.20 (.077)	1.15 (.048)	1.39 (.105)	1.0000	.1070	.4358
Radio	1.30 (.110)	1.42 (.132)	1.75 (.188)	1.0000	.4408	.1098
Newspaper	1.27 (.107)	1.33 (.099)	1.72 (.174)	1.0000	.1537	.0802 *
Billboard	1.06 (.039)	1.21 (.077)	1.46 (.135)	.2254	.3412	.0137 *

Table C-5: Awareness of different sources of mass-media communications, Asian population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (.022)	1.76 (.047)	2.15 (.042)	<.0001 *	<.0001 *	<.0001 *
Magazines	1.10 (.023)	1.31 (.037)	1.36 (.025)	<.0001 *	.6524	<.0001 *
Radio	1.10 (.017)	1.43 (.039)	1.59 (.034)	<.0001 *	.0052 *	<.0001 *
Newspaper	1.20 (.032)	1.60 (.047)	1.82 (.035)	<.0001 *	.0004 *	<.0001 *
Billboard	1.06 (.016)	1.28 (.031)	1.56 (.032)	<.0001 *	<.0001 *	<.0001 *

Table C-6: Awareness of different sources of mass-media communications, Asian English-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.18 (.036)	1.76 (.108)	2.45 (.066)	<.0001 *	<.0001 *	<.0001 *
Magazines	1.17 (.052)	1.40 (.101)	1.39 (.055)	.1299	1.0000	.0087
Radio	1.11 (.029)	1.38 (.095)	1.83 (.069)	.0162 *	.0005 *	<.0001 *
Newspaper	1.25 (.064)	1.61 (.112)	1.90 (.083)	.0179 *	.1112	<.0001 *
Billboard	1.06 (.019)	1.24 (.056)	1.74 (.083)	.0067 *	<.0001 *	<.0001 *

Table C-7: Awareness of different sources of mass-media communications, Asian other-language-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.12 (.027)	1.76 (.051)	2.05 (.048)	<.0001 *	<.0001 *	<.0001 *
Magazines	1.06 (.014)	1.28 (.037)	1.35 (.029)	<.0001 *	.3458	<.0001 *
Radio	1.09 (.020)	1.44 (.042)	1.52 (.037)	<.0001 *	.5285	<.0001 *
Newspaper	1.17 (.032)	1.59 (.053)	1.80 (.040)	<.0001 *	.0068 *	<.0001 *
Billboard	1.06 (.023)	1.29 (.035)	1.50 (.037)	<.0001 *	<.0001 *	<.0001 *

Table C-8: Awareness of different sources of mass-media communications, American Indian population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.22 (.045)	1.69 (.077)	1.97 (.076)	<.0001 *	.0266 *	<.0001 *
Magazines	1.15 (.044)	1.37 (.073)	1.46 (.073)	.0381 *	1.0000	.0011 *
Radio	1.20 (.052)	1.50 (.089)	1.73 (.071)	.0115 *	.1410	<.0001 *
Newspaper	1.25 (.054)	1.52 (.076)	1.77 (.074)	.0125 *	.0566 *	<.0001 *
Billboard	1.14 (.044)	1.33 (.065)	1.49 (.059)	.0424 *	.2128	<.0001 *

Table C-9: Awareness of different sources of mass-media communications, American Indian English-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.20 (.044)	1.74 (.087)	2.10 (.089)	<.0001 *	.0114 *	<.0001 *
Magazines	1.15 (.048)	1.32 (.061)	1.51 (.097)	.0867 *	.2870	.0025 *
Radio	1.21 (.052)	1.44 (.092)	1.68 (.090)	.0828 *	.1763	<.0001 *
Newspaper	1.25 (.056)	1.47 (.064)	1.77 (.087)	.0306 *	.0166 *	<.0001 *
Billboard	1.13 (.043)	1.29 (.061)	1.49 (.076)	.0915 *	.1293	<.0001 *

Table C-10: Awareness of different sources of mass-media communications, American Indian other-language-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.31 (.084)	1.53 (.140)	1.61 (.091)	.5269	1.0000	.0475 *
Magazines	1.18 (.050)	1.51 (.162)	1.33 (.052)	.1559	.8142	.1428
Radio	1.18 (.094)	1.68 (.143)	1.84 (.062)	.0107 *	.9691	<.0001 *
Newspaper	1.26 (.083)	1.67 (.162)	1.77 (.064)	.0713 *	1.0000	<.0001 *
Billboard	1.19 (.080)	1.45 (.121)	1.49 (.068)	.2228	1.0000	.0126 *

Table C-11: Awareness of different sources of mass-media communications, Native Hawaiian population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (.026)	1.58 (.062)	2.20 (.053)	<.0001	<.0001	<.0001
Magazines	1.10 (.021)	1.21 (.042)	1.37 (.039)	.0855	.0144	<.0001
Radio	1.07 (.016)	1.37 (.049)	1.82 (.053)	<.0001	<.0001	<.0001
Newspaper	1.13 (.021)	1.57 (.066)	1.95 (.056)	<.0001	<.0001	<.0001
Billboard	1.03 (.010)	1.14 (.028)	1.35 (.042)	.0008	<.0001	<.0001

Table C-12: Awareness of different sources of mass-media communications, Native Hawaiian English-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (.026)	1.60 (.064)	2.21 (.054)	<.0001	<.0001	<.0001
Magazines	1.10 (.022)	1.20 (.042)	1.37 (.041)	.1375	.0098	<.0001
Radio	1.07 (.016)	1.37 (.051)	1.82 (.054)	<.0001	<.0001	<.0001
Newspaper	1.13 (.022)	1.59 (.069)	1.95 (.058)	<.0001	<.0001	<.0001
Billboard	1.03 (.010)	1.14 (.029)	1.35 (.044)	.0008	.0002	<.0001

Table C-13: Awareness of different sources of communications, Native Hawaiian other-language-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.11 (.082)	1.35 (.203)	1.90 (.252)	.8571	.2569	.0085 *
Magazines	1.11 (.113)	1.32 (.203)	1.34 (.143)	1.0000	1.0000	.6519
Radio	1.06 (.056)	1.34 (.203)	1.66 (.223)	.5256	.8639	.0253 *
Newspaper	1.11 (.113)	1.35 (.203)	1.78 (.266)	.9416	.5844	.0621 *
Billboard	1.06 (.056)	1.10 (.093)	1.32 (.139)	1.0000	.5355	.2309

Table C-14: Awareness of different sources of community-based communications, total population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.05 (.015)	1.12 (.022)	1.27 (.031)	.0224 *	.0006 *	<.0001 *
Community/Government Organization	1.05 (.010)	1.23 (.036)	1.25 (.026)	<.0001 *	1.0000	<.0001 *
Conversations	1.19 (.034)	1.52 (.068)	1.84 (.040)	<.0001 *	.0002 *	<.0001 *
Schools Attended	1.03 (.009)	1.13 (.024)	1.30 (.052)	.0009 *	.0059 *	<.0001 *
Schools Children Attend	1.02 (.008)	1.11 (.027)	1.19 (.025)	.0059 *	.1246	<.0001 *
Census Job Announcements	1.10 (.020)	1.64 (.064)	1.64 (.036)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.03 (.009)	1.08 (.027)	1.08 (.018)	.2208	1.0000	.0305 *
Signs or Posters Inside Buildings	1.07 (.020)	1.26 (.030)	1.53 (.034)	<.0001 *	<.0001 *	<.0001 *
Speeches	1.10 (.018)	1.21 (.036)	1.33 (.031)	.0115 *	.0412 *	<.0001 *
Articles	1.25 (.044)	1.44 (.043)	1.51 (.043)	.0065 *	.5885	<.0001 *
Internet	1.07 (.023)	1.15 (.053)	1.16 (.023)	.5089	1.0000	.0267 *
Paycheck or Utility Bill Inserts	1.03 (.009)	1.09 (.020)	1.18 (.034)	.0330 *	.0642 *	<.0001 *
Participation on Complete Count Committee	1.01 (.005)	1.02 (.007)	1.06 (.014)	.7874	.0268 *	.0022 *

Table C-15: Awareness of different sources of community-based communications, total English-speaking population

Sources	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.05 (.016)	1.11 (.024)	1.26 (.034)	.0694 *	.0017 *	<.0001 *
Community/Government Organization	1.05 (.009)	1.23 (.041)	1.26 (.029)	<.0001 *	1.0000	<.0001 *
Conversations	1.18 (.038)	1.52 (.074)	1.84 (.042)	<.0001 *	.0006 *	<.0001 *
Schools Attended	1.03 (.010)	1.12 (.028)	1.29 (.055)	.0061 *	.0159 *	<.0001 *
Schools Children Attend	1.01 (.006)	1.10 (.029)	1.17 (.026)	.0160 *	.1550	<.0001 *
Census Job Announcements	1.09 (.021)	1.64 (.071)	1.64 (.039)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.02 (.009)	1.08 (.030)	1.07 (.019)	.2363	1.0000	.0526 *
Signs or Posters Inside Buildings	1.07 (.022)	1.27 (.034)	1.52 (.038)	<.0001 *	<.0001 *	<.0001 *
Speeches	1.08 (.018)	1.21 (.040)	1.33 (.034)	.0083 *	.0900 *	<.0001 *
Articles	1.24 (.048)	1.46 (.046)	1.51 (.046)	.0035 *	1.0000	<.0001 *
Internet	1.06 (.022)	1.16 (.059)	1.16 (.025)	.4026	1.0000	.0077 *
Paycheck or Utility Bill Inserts	1.03 (.009)	1.09 (.021)	1.17 (.036)	.0237 *	.1365	.0003 *
Participation on Complete Count Committee	1.01 (.003)	1.02 (.007)	1.06 (.015)	.2487	.0305 *	.0006 *

Table C-16: Awareness of different sources of community-based communications, total Spanish-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.10 (.058)	1.22 (.039)	1.35 (.061)	.2781	.2179	.0100 *
Community/Government Organization	1.10 (.059)	1.17 (.043)	1.25 (.064)	1.0000	.8380	.2526
Conversations	1.31 (.097)	1.57 (.044)	1.93 (.104)	.0468 *	.0041 *	<.0001 *
Schools Attended	1.03 (.017)	1.19 (.027)	1.48 (.166)	<.0001 *	.2727	.0237 *
Schools Children Attend	1.14 (.069)	1.18 (.036)	1.36 (.054)	1.0000	.0184 *	.0358 *
Census Job Announcements	1.16 (.059)	1.54 (.050)	1.61 (.081)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.07 (.057)	1.10 (.026)	1.11 (.022)	1.0000	1.0000	1.0000
Signs or Posters Inside Buildings	1.06 (.016)	1.23 (.029)	1.72 (.122)	<.0001 *	.0003 *	<.0001 *
Speeches	1.24 (.102)	1.26 (.055)	1.47 (.094)	1.0000	.1933	.3322
Articles	1.32 (.129)	1.26 (.062)	1.54 (.114)	1.0000	.0804 *	.5641
Internet	1.18 (.108)	1.09 (.033)	1.12 (.033)	1.0000	1.0000	1.0000
Paycheck or Utility Bill Inserts	1.09 (.058)	1.09 (.019)	1.28 (.105)	1.0000	.2349	.3480
Participation on Complete Count Committee	1.06 (.057)	1.03 (.020)	1.04 (.010)	1.0000	1.0000	1.0000

Table C-17: Awareness of different sources of community-based communications, total other language-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.07 (.027)	1.24 (.108)	1.40 (.113)	.3371	.9888	.0144 *
Community/Government Organization	1.07 (.037)	1.19 (.103)	1.18 (.079)	.8379	1.0000	.6001
Conversations	1.20 (.058)	1.43 (.144)	1.60 (.151)	.3839	1.0000	.0409 *
Schools Attended	1.02 (.010)	1.05 (.027)	1.20 (.082)	.8954	.2444	.0871 *
Schools Children Attend	1.03 (.015)	1.29 (.157)	1.12 (.047)	.3055	.9497	.1648
Census Job Announcements	1.18 (.080)	1.67 (.225)	1.53 (.152)	.1136	1.0000	.1165
Conference Exhibit Booths	1.05 (.025)	1.02 (.014)	1.21 (.112)	.8652	.2990	.5308
Signs or Posters Inside Buildings	1.08 (.038)	1.16 (.061)	1.38 (.101)	.8897	.1758	.0166 *
Speeches	1.26 (.110)	1.19 (.100)	1.22 (.071)	1.0000	1.0000	1.0000
Articles	1.29 (.115)	1.15 (.058)	1.45 (.138)	.8306	.1231	1.0000
Internet	1.13 (.083)	1.20 (.160)	1.10 (.038)	1.0000	1.0000	1.0000
Paycheck or Utility Bill Inserts	1.06 (.039)	1.11 (.064)	1.20 (.071)	1.0000	.9350	.2240
Participation on Complete Count Committee	1.03 (.016)	1.02 (.017)	1.05 (.025)	1.0000	.8982	1.0000

Table C-18: Awareness of different sources of community-based communications, Asian population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.03 (.010)	1.16 (.026)	1.19 (.022)	<.0001 *	1.0000	<.0001 *
Community/Government Organization	1.04 (.013)	1.14 (.027)	1.16 (.020)	.0031 *	1.0000	<.0001 *
Conversations	1.13 (.026)	1.42 (.039)	1.66 (.031)	<.0001 *	<.0001 *	<.0001 *
Schools Attended	1.02 (.006)	1.16 (.048)	1.21 (.028)	.0068 *	1.0000	<.0001 *
Schools Children Attend	1.00 (.002)	1.14 (.034)	1.22 (.034)	.0004 *	.2587	<.0001 *
Census Job Announcements	1.10 (.024)	1.38 (.045)	1.41 (.028)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.03 (.013)	1.03 (.008)	1.04 (.009)	1.0000 *	.6249	1.0000
Signs or Posters Inside Buildings	1.07 (.017)	1.26 (.044)	1.41 (.038)	<.0001 *	.0281 *	<.0001 *
Speeches	1.07 (.018)	1.10 (.017)	1.23 (.024)	.6225	<.0001 *	<.0001 *
Articles	1.12 (.020)	1.25 (.033)	1.41 (.033)	.0019 *	.0026 *	<.0001 *
Internet	1.03 (.009)	1.13 (.029)	1.21 (.027)	.0023 *	.1513	<.0001 *
Paycheck or Utility Bill Inserts	1.04 (.010)	1.08 (.016)	1.14 (.019)	.1153	.0333 *	<.0001 *
Participation on Complete Count Committee	1.01 (.005)	1.02 (.010)	1.01 (.004)	.8410	1.0000	1.0000

Table C-19: Awareness of different sources of community-based communications, Asian English-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.04 (.021)	1.09 (.034)	1.23 (.052)	.4893	.0664 *	.0014 *
Community/Government Organization	1.08 (.031)	1.20 (.080)	1.29 (.065)	.4622	1.0000	.0098 *
Conversations	1.19 (.054)	1.41 (.084)	1.76 (.076)	.0795 *	.0054 *	<.0001 *
Schools Attended	1.01 (.007)	1.34 (.177)	1.38 (.091)	.1867	1.0000	.0002 *
Schools Children Attend	1.00 (.002)	1.23 (.093)	1.30 (.101)	.0391 *	1.0000	.0107 *
Census Job Announcements	1.14 (.048)	1.51 (.122)	1.63 (.072)	.0152 *	1.0000	<.0001 *
Conference Exhibit Booths	1.05 (.025)	1.02 (.017)	1.03 (.012)	1.0000	1.0000	1.0000
Signs or Posters Inside Buildings	1.11 (.036)	1.35 (.132)	1.54 (.066)	.2162	.6211	<.0001 *
Speeches	1.13 (.041)	1.13 (.047)	1.39 (.062)	1.0000	.0037 *	.0015 *
Articles	1.14 (.036)	1.31 (.086)	1.52 (.077)	.1784	.2306	<.0001 *
Internet	1.04 (.018)	1.16 (.062)	1.29 (.056)	.2014	.4024	<.0001 *
Paycheck or Utility Bill Inserts	1.06 (.022)	1.14 (.054)	1.10 (.024)	.4345	1.0000	.5888
Participation on Complete Count Committee	1.01 (.004)	1.03 (.018)	1.03 (.013)	.5928	1.0000	.1702

Table C-20: Awareness of different sources of community-based communications, Asian other-language-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.02 (.009)	1.18 (.030)	1.18 (.024)	<.0001 *	1.0000	<.0001 *
Community/Government Organization	1.02 (.007)	1.12 (.029)	1.12 (.017)	.0014 *	1.0000	<.0001 *
Conversations	1.10 (.021)	1.42 (.043)	1.63 (.037)	<.0001 *	.0009 *	<.0001 *
Schools Attended	1.02(.009)	1.12 (.038)	1.16 (.025)	.0285 *	1.0000	<.0001 *
Schools Children Attend	1.00 (.002)	1.11 (.035)	1.20 (.036)	.0070 *	.2219	<.0001 *
Census Job Announcements	1.07 (.021)	1.34 (.047)	1.34 (.031)	<.0001 *	1.0000	<.0001 *
Conference Exhibit Booths	1.02 (.013)	1.03 (.009)	1.05 (.011)	1.0000	.7079	.2020
Signs or Posters Inside Buildings	1.04 (.013)	1.23 (.040)	1.36 (.044)	<.0001 *	.0675 *	<.0001 *
Speeches	1.03 (.011)	1.09 (.017)	1.18 (.022)	.0131 *	.0019 *	<.0001 *
Articles	1.11 (.025)	1.24 (.035)	1.38 (.038)	.0116 *	.0148 *	<.0001 *
Internet	1.02 (.010)	1.13 (.033)	1.19 (.031)	.0098 *	.4889	<.0001 *
Paycheck or Utility Bill Inserts	1.02 (.009)	1.06 (.012)	1.15 (.024)	.0838 *	.0007 *	<.0001 *
Participation on Complete Committee	1.01 (.007)	1.02 (.011)	1.01 (.004)	1.0000	1.0000	1.0000

Table C-21: Awareness of different sources of community-based communications, American Indian population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.04 (.012)	1.10 (.022)	1.20 (.059)	.0463 *	.3034	.0189 *
Community/Government Organization	1.14 (.037)	1.29 (.056)	1.38 (.062)	.0760 *	.7695	.0020 *
Conversations	1.18 (.042)	1.47 (.076)	1.73 (.084)	.0020 *	.0603 *	<.0001 *
Schools Attended	1.05 (.022)	1.11 (.032)	1.26 (.077)	.5052	.1993	.0306 *
Schools Children Attend	1.05 (.019)	1.12 (.028)	1.27 (.065)	.0997 *	.1036	.0031 *
Census Job Announcements	1.24 (.073)	1.60 (.080)	1.67 (.076)	.0034 *	1.0000	.0002 *
Conference Exhibit Booths	1.10 (.029)	1.09 (.032)	1.17 (.045)	1.0000	.5180	.7459
Signs or Posters Inside Buildings	1.17 (.047)	1.54 (.084)	1.65 (.069)	.0005 *	.8209	<.0001 *
Speeches	1.10 (.028)	1.15 (.033)	1.39 (.049)	.6606	.0003 *	<.0001 *
Articles	1.17 (.038)	1.36 (.061)	1.43 (.061)	.0250 *	1.0000	.0008 *
Internet	1.03 (.012)	1.06 (.018)	1.19 (.049)	.3895	.0534 *	.0060 *
Paycheck or Utility Bill Inserts	1.03 (.010)	1.07 (.026)	1.16 (.053)	.3869	.4035	.0472 *
Participation on Complete Count Committee	1.03 (.010)	1.06 (.028)	1.08 (.030)	1.0000	1.0000	.4383

Table C-22: Awareness of different sources of community-based communications, American Indian English-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.03 (.013)	1.10 (.027)	1.24 (.077)	.0684 *	.2526	.0211 *
Community/Government Organization	1.15 (.043)	1.29 (.071)	1.39 (.080)	.2668	1.0000	.0237 *
Conversations	1.19 (.049)	1.48 (.089)	1.82 (.108)	.0112 *	.0471 *	<.0001 *
Schools Attended	1.06 (.025)	1.10 (.034)	1.30 (.095)	1.0000	.1257	.0442 *
Schools Children Attend	1.05 (.020)	1.11 (.030)	1.32 (.088)	.1907	.0834 *	.0076 *
Census Job Announcements	1.24 (.068)	1.56 (.084)	1.69 (.098)	.0080 *	.9350	.0004 *
Conference Exhibit Booths	1.11 (.033)	1.04 (.017)	1.15 (.060)	.1667	.1816	1.0000
Signs or Posters Inside Buildings	1.16 (.047)	1.49 (.088)	1.67 (.081)	.0029 *	.4403	<.0001 *
Speeches	1.10 (.030)	1.14 (.042)	1.38 (.065)	1.0000	.0073 *	.0003 *
Articles	1.16 (.038)	1.34 (.053)	1.45 (.074)	.0181 *	.6602	.0016 *
Internet	1.03 (.014)	1.07 (.023)	1.22 (.066)	.4522	.0955 *	.0159 *
Paycheck or Utility Bill Inserts	1.03 (.011)	1.06 (.017)	1.19 (.068)	.6055	.1560	.0551 *
Participation on Complete Count Committee	1.03 (.011)	1.03 (.011)	1.09 (.040)	1.0000	.4851	.3952

Table C-23: Awareness of different sources of community-based communications, other-language-speaking American Indian population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.07 (.032)	1.09 (.029)	1.10 (.023)	1.0000	1.0000	1.0000
Community/Government Organization	1.05 (.026)	1.28 (.065)	1.36 (.042)	.0043 *	.8484	<.0001 *
Conversations	1.10 (.059)	1.44 (.102)	1.51 (.068)	.0115 *	1.0000	<.0001 *
Schools Attended	1.00 (.001)	1.16 (.067)	1.13 (.043)	.0604 *	1.0000	.0065 *
Schools Children Attend	1.06 (.024)	1.14 (.045)	1.16 (.031)	.3558	1.0000	.0225 *
Census Job Announcements	1.27 (.139)	1.70 (.141)	1.59 (.064)	.0972 *	1.0000	.1112
Conference Exhibit Booths	1.07 (.037)	1.25 (.079)	1.19 (.036)	.1328	1.0000	.0522 *
Signs or Posters Inside Buildings	1.21 (.072)	1.66 (.143)	1.62 (.092)	.0160 *	1.0000	.0016 *
Speeches	1.10 (.070)	1.18 (.045)	1.40 (.045)	1.0000	.0017 *	.0010 *
Articles	1.21 (.077)	1.42 (.155)	1.37 (.071)	.6912	1.0000	.3615
Internet	1.00 (0.00)	1.03 (.021)	1.09 (.020)	.5298	.0941 *	<.0001 *
Paycheck or Utility Bill Inserts	1.03 (.016)	1.12 (.061)	1.07 (.021)	.4795	1.0000	.2930
Participation on Complete Count Committee	1.05 (.036)	1.14 (.088)	1.04 (.013)	1.0000	.8728	1.0000

Table C-24: Awareness of different sources of community-based communications, Native Hawaiian population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.05 (.013)	1.10 (.023)	1.25 (.034)	.1407	.0006 *	<.0001 *
Community/Government Organization	1.10 (.020)	1.17 (.035)	1.34 (.036)	.1935	.0023 *	<.0001 *
Conversations	1.14 (.025)	1.34 (.048)	1.88 (.048)	.0007 *	<.0001 *	<.0001 *
Schools Attended	1.04 (.012)	1.08 (.023)	1.32 (.048)	.6090	<.0001 *	<.0001 *
Schools Children Attend	1.04 (.012)	1.13 (.031)	1.30 (.039)	.0258 *	.0023 *	<.0001 *
Census Job Announcements	1.09 (.018)	1.41 (.060)	1.57 (.046)	<.0001 *	.1300	<.0001 *
Conference Exhibit Booths	1.03 (.009)	1.06 (.025)	1.15 (.026)	.5077	.0406 *	<.0001 *
Signs or Posters Inside Buildings	1.08 (.018)	1.16 (.023)	1.51 (.044)	.0357 *	<.0001 *	<.0001 *
Speeches	1.04 (.012)	1.17 (.030)	1.45 (.041)	<.0001 *	<.0001 *	<.0001 *
Articles	1.11 (.021)	1.31 (.046)	1.58 (.044)	.0002 *	<.0001 *	<.0001 *
Internet	1.04 (.014)	1.06 (.021)	1.13 (.027)	1.0000	.1570	.0095 *
Paycheck or Utility Bill Inserts	1.05 (.016)	1.06 (.019)	1.20 (.030)	1.0000	.0006 *	<.0001 *
Participation on Complete Count Committee	1.03 (.009)	1.01 (.006)	1.10 (.023)	.7705	.0006 *	.0064 *

Table C-25: Awareness of different sources of community-based communications, Native Hawaiian English-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.05 (.014)	1.10 (.025)	1.25 (.035)	.1826	.0013 *	<.0001 *
Community/Government Organization	1.10 (.021)	1.16 (.034)	1.34 (.037)	.3282	.0013 *	<.0001 *
Conversations	1.14 (.026)	1.34 (.049)	1.89 (.050)	.0012 *	<.0001 *	<.0001 *
Schools Attended	1.04 (.012)	1.08 (.024)	1.32 (.050)	.6635	<.0001 *	<.0001 *
Schools Children Attend	1.04 (.011)	1.14 (.034)	1.29 (.040)	.0155 *	.0089 *	<.0001 *
Census Job Announcements	1.09 (.018)	1.44 (.063)	1.57 (.047)	<.0001 *	.2749	<.0001 *
Conference Exhibit Booths	1.02 (.009)	1.07 (.027)	1.14 (.026)	.4099	.1170	<.0001 *
Signs or Posters Inside Buildings	1.08 (.018)	1.16 (.024)	1.51 (.045)	.0154 *	<.0001 *	<.0001 *
Speeches	1.04 (.012)	1.18 (.032)	1.44 (.042)	<.0001 *	<.0001 *	<.0001 *
Articles	1.12 (.021)	1.33 (.049)	1.57 (.045)	<.0001 *	.0010 *	<.0001 *
Internet	1.04 (.014)	1.06 (.023)	1.12 (.026)	1.0000	.2874	.0202 *
Paycheck or Utility Bill Inserts	1.04 (.013)	1.07 (.020)	1.20 (.031)	.5272	.0010 *	<.0001 *
Participation on Complete Count Committee	1.02 (.008)	1.01 (.005)	1.10 (.023)	.8070	.0007 *	.0056 *

Table C-26: Awareness of different sources of community-based communications, Native Hawaiian other-language-speaking population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Religious Group	1.00 (0.00)	1.09 (.062)	1.30 (.149)	.4121	.6081	.1371
Community/Government Organization	1.06 (.056)	1.29 (.192)	1.38 (.145)	.7054	1.0000	.1182
Conversations	1.06 (.056)	1.36 (.204)	1.77 (.211)	.4390	.5087	.0034 *
Schools Attended	1.12 (.116)	1.10 (.094)	1.33 (.180)	1.0000	.7502	.9209
Schools Children Attend	1.22 (.181)	1.05 (.047)	1.41 (.169)	1.0000	.1247	1.0000
Census Job Announcements	1.20 (.172)	1.07 (.053)	1.42 (.149)	1.0000	.0837 *	1.0000
Conference Exhibit Booths	1.06 (.056)	1.00 (0.00)	1.29 (.139)	.9552	.1133	.3637
Signs or Posters Inside Buildings	1.32 (.189)	1.11 (.094)	1.55 (.219)	.9757	.1985	1.0000
Speeches	1.06 (.056)	1.06 (.048)	1.59 (.226)	1.0000	.0617 *	.0642 *
Articles	1.06 (.056)	1.06 (.048)	1.68 (.213)	1.0000	.0128 *	.0137 *
Internet	1.00 (0.00)	1.05 (.047)	1.34 (.251)	.7926	.7983	.5386
Paycheck or Utility Bill Inserts	1.47 (.339)	1.01 (.010)	1.05 (.031)	.5339	.4648	.6812
Participation on Complete Count Committee	1.20 (.172)	1.04 (.045)	1.18 (.120)	1.0000	.8565	1.0000

Appendix D

Wave 1 main questionnaire

INSTRUCTIONS TO INTERVIEWER

Because not all questions will apply to everyone, you will be asked to skip to certain questions.

- ▶ Follow all “SKIP” instructions AFTER marking a response. If no “SKIP” instruction is provided, you should continue to the NEXT question
- ▶ Either a pen or pencil may be used
- ▶ If you need to change an answer, please make sure that your old answer is either completely erased or clearly crossed out

INTERVIEWER: ENTER START TIME OF INTERVIEW: _____ : _____ AM / PM

1. I am going to read you a list of some things you may or may not have done in the last twelve months.	once a year	Several times a year	several times a month	once a week	never
1A. In last twelve months, how often have you gone on a vacation away from home? Would you say once a year, several times a year, several times a month, once a week, or never.	5	4	3	2	1
1B. (In the last 12 months how often have you) Attended a regular meeting of the PTA (parent- teacher organization) or other school group?	5	4	3	2	1
1C. (In the last 12 months how often have you) Attended services or meetings of a religious group?	5	4	3	2	1
1D. (In the last 12 months how often have you) Visited a doctor at the doctor's office?	5	4	3	2	1
1E. (In the last 12 months how often have you) Attended a regular meeting of a community or charity group?	5	4	3	2	1
1F. (In the last 12 months how often have you) Attended meetings or speeches of a political party or candidate?	5	4	3	2	1
1G. (In the last 12 months how often have you) Attended an event benefiting a community, charity, school, or religious, or political group?	5	4	3	2	1
1H. (In the last 12 months how often have you) Donated blood?	5	4	3	2	1

2. Did you vote in the last local election?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

3. Now I am going to read you a list of agencies. Have you ever heard of (READ EACH ITEM)?

		How familiar are you with (READ EACH ITEM) – would you say you are very familiar, somewhat familiar, not very familiar or not at all familiar?
3A. (Have you ever heard of) The Department of Agriculture?	Yes..... 1 → (ASK 3D) No 2 → (ASK 3B)	3D. Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98
3B. (Have you ever heard of) The Surgeon General's Office?	Yes..... 1 → (ASK 3E) No 2 → (ASK 3C)	3E. Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98
3C. (Have you ever heard of) The Census Bureau?	Yes..... 1 → (ASK 3F) No 2 → (ASK 4)	3F. Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98

4. Next I would like to ask you about three government programs. Have you ever heard of (READ EACH ITEM) ?	YES	NO	DON'T KNOW
4A. The school lunch program?	1	2	98
4B. Welfare reform?	1	2	98
4C. The Census?	1 (Skip to 6)	2 (Ask 5)	98 (Ask 5)

5. The Census is the count of all the people who live in the United States. Have you ever heard of that before?

- Yes 1
- No 2 → (Skip to Intro of 27)
- DON'T KNOW 98 → (Skip to Intro of 27)
- REFUSED 96 → (Skip to Intro of 27)

8. Have you heard or seen anything recently about Census 2000?

- Yes 1
- No 2 → (Skip to 15)
- DON'T KNOW 98 → (Skip to 15)
- REFUSED 96 → (Skip to 15)

6. Have you heard or seen anything recently about the school lunch program?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

9. Would you say you have heard a great deal, some, a little, or nothing about Census 2000?

- A great deal 1
- Some 2
- A little 3
- Nothing about it 4
- DON'T KNOW 98
- REFUSED 96

7. Have you heard or seen anything recently about welfare reform?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

10. Let me read you a list of possible places you might have learned about the Census.

	Did not hear or see anything this way.	Heard or saw a little bit this way	Heard or saw a lot this way	NOT APPLICABLE	DON'T KNOW
10A. The first one is commercials or public service announcements on television. Did you hear or see a lot about the census, a little about the census, or nothing about the census in TV commercials?	1	2	3	4	98
10B. How about meetings of a religious group or at place of worship? Did you hear or see a lot about the census, a little about the census, or nothing about the census in meetings of a religious group or at place of worship?	1	2	3	4	98
10C. How about meetings or activities of a community or government organization? Did you hear or see a lot about the census, a little about the census, or nothing about the census in meetings or activities of a community or government organization.	1	2	3	4	98
10D. How about from magazine ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in magazine ads.	1	2	3	4	98
10E. How about conversations with friends, neighbors, relatives, or coworkers? Did you hear or see a lot about the census, a little about the census, or nothing about the census from conversations with friends, neighbors, relatives, or coworkers?	1	2	3	4	98
10F. How about radio ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in radio ads?	1	2	3	4	98
10G. How about newspaper ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in newspaper ads?	1	2	3	4	98
10H. How about schools you attend? Did you hear or see a lot about the census, a little about the census, or nothing about the census in schools you attend?	1	2	3	4	98
10I. How about things your children have brought home from school? Did you hear or see a lot about the census, a little about the census, or nothing about the census in things your children have brought home from school?	1	2	3	4	98
10J. How about Census job announcements? Did you hear or see a lot about the census, a little about the census, or nothing about the census in Census job announcements?	1	2	3	4	98
10K. How about at conference exhibit booths? Did you hear or see a lot about the census, a little about the census, or nothing about the census at conference exhibit booths?	1	2	3	4	98
10L. How about signs or posters inside buildings? Did you hear or see a lot about the census, a little about the census, or nothing about the census on signs or posters inside buildings?	1	2	3	4	98
10M. How about outside billboards or posters? Did you hear or see a lot about the census, a little about the census, or nothing about the census on outside billboards or posters?	1	2	3	4	98

	Did not hear or see anything this way.	Heard or saw a little bit this way	Heard or saw a lot this way	NOT APPLICABLE	DON'T KNOW
10N. How about a speech made by a government official or community leader? Did you hear or see a lot about the census, a little about the census, or nothing about the census in a speech made by government official or community leader?	1	2	3	4	98
10O. How about articles you read in publications? Did you hear or see a lot about the census, a little about the census, or nothing about the census in articles you read in publications	1	2	3	4	98
10P. How about the Internet? Did you hear or see a lot about the census, a little about the census, or nothing about the census on the Internet?	1	2	3	4	98
10Q. How about on paycheck or utility bill? Did you hear or see a lot about the census, a little about the census, or nothing about the census on paycheck or utility bill?	1	2	3	4	98
10R. How about from participation on a Complete Count Committee? Did you hear or see a lot about the census, a little about the census, or nothing about the census from participation on a Complete Count Committee?	1	2	3	4	98
10S. How about anything else? Did you hear or see a lot about the census, a little about the census, or nothing about the census on anything else? SPECIFY: _____	1	2	3	4	98

11. Thinking about what you have heard or seen about Census 2000, what would you say it was trying to tell you? (DO NOT READ THE CATEGORIES - CODE ALL THAT APPLY)

- COMPLETE AND RETURN THE FORM 1
- WAIT FOR THE CENSUS TAKER TO COME AND PICK IT UP 2
- THE CENSUS IS USED TO DETERMINE WHERE PUBLIC PROGRAMS AND SERVICES (SUCH AS EDUCATION, HEALTH CARE, JOB TRAINING, ETC.) ARE NEEDED 3
- IF YOU DON'T PARTICIPATE IN THE CENSUS YOU/YOUR COMMUNITY COULD MISS OUT ON THINGS LIKE EDUCATION HEALTH CARE, JOB TRAINING, ETC..... 4
- YOUR ANSWERS TO THE CENSUS ARE KEPT CONFIDENTIAL/NOT SHARED WITH OTHER GROUPS OR AGENCIES IN THE GOVERNMENT 5
- THE CENSUS IS EASY TO DO/TAKES JUST A FEW MINUTES 6
- OTHER (SPECIFY) 7
- _____
- DON'T KNOW 98
- REFUSED 96

12. Do you remember any slogan or phrase being used about the census?

- Yes 1 → (ASK 12A)
- No 2 → (SKIP TO 13)
- DON'T KNOW 98 → (ASK 12A)
- REFUSED 96 → (ASK 12A)

12A. Can you tell me what the slogan or phrase was? **(DO NOT READ CATEGORIES)**

- THIS IS YOUR FUTURE 1
 - DON'T LEAVE IT BLANK 2
 - THIS IS YOUR FUTURE,
DON'T LEAVE IT BLANK 3
 - THIS IS OUR FUTURE 4
 - THIS IS OUR FUTURE,
DON'T LEAVE IT BLANK 5
 - GENERATIONS ARE
COUNTING ON THIS 6
 - GENERATIONS ARE
COUNTING ON THIS,
DON'T LEAVE IT BLANK 7
 - MAKE YOURSELF COUNT 8
 - THIS IS OUR FUTURE,
MAKE YOURSELF COUNT 9
 - OTHER (SPECIFY) 10
-
- DON'T KNOW 98
 - REFUSED 96

13. Now I will mention some ideas that may or may not have been part of what you have heard about the Census. For each one tell me how big a part it is of what you have heard.	Not part of what I have heard	A small part of what I have heard	A big part of what I have heard	A very big part of what I heard	DON'T KNOW
13A. The Census has a long tradition and you should be part of it.	1	2	3	4	98
13B. If you don't fill out the Census, the government will not know where you are.	1	2	3	4	98
13C. Too many people do not send back the Census.	1	2	3	4	98
13D. Answering the Census will help the government know what your community needs.	1	2	3	4	98
13E. Answering the Census is easy.	1	2	3	4	98
13F. The Census is your way of being heard.	1	2	3	4	98
13G. The Census is used to determine where services like schools and health care are needed.	1	2	3	4	98
13H. The Census is an opportunity to make things better for my family and future generations.	1	2	3	4	98

Please tell me if you strongly agree, agree, neither agree or disagree, disagree, or strongly disagree with the following statements:

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	DON'T KNOW
13I. What I have heard and seen about the Census has been believable.	5	4	3	2	1	98
13J. It has told me things I have not really thought about before.	5	4	3	2	1	98

14. Did you see or hear anything about the Census in a language other than English?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

15. Next, I'm going to read some opinions about the Census. As I read each one, tell me if you strongly agree, agree, neither agree or disagree, disagree, strongly disagree with each of the statements:

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	DON'T KNOW
15A. Filling out the Census will let the government know what my community needs.	5	4	3	2	1	98
15B. The Census counts citizens and non-citizens alike.	5	4	3	2	1	98
15C. It is important for as many people as possible to participate in the Census.	5	4	3	2	1	98
15D. My answers to the Census could be used against me.	5	4	3	2	1	98
15E. Answering and sending back the Census matters for my family and community.	5	4	3	2	1	98
15F. The Census Bureau promise of confidentiality can be trusted.	5	4	3	2	1	98
15G. I just don't see that it matters much if I personally fill out the Census or not.	5	4	3	2	1	98

16. So far as you know, does the law require you to answer the census questions?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

17. Do you believe that answering and sending back your census form could personally benefit you in any way, personally harm you, or neither benefit nor harm you?

- Personally benefit..... 4
- Personally harm3
- Neither benefit or harm.....2
- BOTH BENEFIT AND HARM (VOLUNTEERED)..... 1**
- DON'T KNOW98
- REFUSED96

18. How likely are you or someone in your household to answer and send back the Census when you receive it?

- Definitely will5
- Probably will.4
- Might or might not.3
- Probably will not2
- Definitely will not1
- DON'T KNOW98
- REFUSED96

Intro:

Now I have a few questions about how you spend your time in a typical seven day week.

27. How many hours do you spend at work outside the home in a typical seven day week?

- None0
- One to five1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

28. About how many total hours of "free time" (not spent working at home) do you usually have in typical 7-day week?

- None0
- One to five1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week.6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

29. For each day in a typical week, about how many hours do you usually spend watching television, including time spent doing something else at the same time. Please think about the whole day and give your best estimate of the number of hours per day. **(ASK ABOUT EACH DAY OF THE WEEK INDIVIDUALLY. ENTER WHOLE NUMBERS ONLY. IF NONE, CIRCLE 0)**

29A. Monday?	_____ hours	None.0
29B. Tuesday?	_____ hours	None.0
29C. Wednesday?	_____ hours	None.0
29D. Thursday?	_____ hours	None.0
29E. Friday?	_____ hours	None.0
29F. Saturday?	_____ hours	None.0
29G. Sunday?	_____ hours	None.0

30. During a typical 7-day week, how many hours do you usually spend listening to the radio, either at home, in your car, or elsewhere?

- None0
- One to five1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week.6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

31. About how many hours in a typical 7 day week do you usually spend reading magazines?

- None0
- One to five 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

32. About how many hours in a typical 7 day week do you spend reading the newspaper?

- None0
- One to five 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to sixty hours per week.....7
- More than 60 hours per week.....8

33. About how many hours in a typical 7 day week do you spend on the Internet?

- None0
- One to five 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to sixty hours per week.....7
- More than 60 hours per week.....8

DEMOGRAPHICS

I just have a few questions left about you and your household.

34. What is the highest grade or year of regular school you completed? **(READ LIST)**

- Less than grade school..... 1
- Less than high school graduate.....2
- High school graduate3
- Some college4
- College graduate.....5
- Postgraduate.....6
- REFUSED96

35. Do you currently attend or have you in the last six months attended an adult education class?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

36. Do you have children in school who are under 18 living at home with you?

- Yes1 → **(ASK 37)**
- No.....2 → **(SKIP TO 37E)**
- REFUSED9 → **(SKIP TO 37E)**

37. How many children living at home with you are **(READ EACH ITEM)?**

- 37A. Pre-kindergarten? ENTER NUMBER? ___
- 37B. Kindergarten-Grade 4? ENTER NUMBER? ___
- 37C. Grade 5-8? ENTER NUMBER? ___
- 37D. Grade 9-12? ENTER NUMBER? ___

37E. INTERVIEWER: WHICH WAVE IS THIS?

- WAVE 1 OR 2 1
- WAVE 3..... 2

39. Were you born in the United States?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

40. I am going to read you a list of income categories. Would you stop me when I reach the category that best describes the combined annual income of all members of this household, including wages or salary, pensions, interest or dividends, and all other sources?

- Under \$15,000 1
- \$15,000 to \$19,9992
- \$20,000 to \$24,9993
- \$25,000 to \$29,9994
- \$30,000 to \$34,9995
- \$35,000 to \$39,9996
- \$40,000 to \$44,9997
- \$45,000 to \$49,9998
- \$50,000 to \$74,9999
- \$75,000 to \$99,99910
- \$100,000 or over11
- DON'T KNOW98
- REFUSED96

CLOSING STATEMENT

This study has been approved by the Office of Management and Budget, and has assigned 0607-0864 as the survey's number. Without this approval, we would not have been able to conduct this survey. Our approval to conduct this survey expires on 08-31-2000. Results of this study will help the Census Bureau improve its plans for the Census 2000. Your answers will be kept confidential.

Thank you very much for your help.

INTERVIEWER: ENTER FINISH TIME OF INTERVIEW

_____ : _____ AM / PM

Appendix E

Wave 2 main questionnaire

MEDIA USE SURVEY

WAVE 2

QUESTIONNAIRE

Conducted by
National Opinion Research Center
at the
University of Chicago
for
The Department of Commerce

Interviewer: Fill in the below information before mailing

SU_ID#: (obtained from the Screener)	AQ ID: (obtained from the Screener)
FI ID:	FINAL DISPOSITION:
DATE QUESTIONNAIRE COMPLETED:	- -
	MONTH DAY YEAR



English Version

INSTRUCTIONS TO INTERVIEWER

Because not all questions will apply to everyone, you will be asked to skip to certain questions.

- ▶ Follow all “SKIP” instructions AFTER marking a response. If no “SKIP” instruction is provided, you should continue to the NEXT question
- ▶ Either a pen or pencil may be used
- ▶ If you need to change an answer, please make sure that your old answer is either completely erased or clearly crossed out

INTERVIEWER: ENTER START TIME OF INTERVIEW: _____ : _____ AM / PM

1. I am going to read you a list of some things you may or may not have done in the last twelve months.	once a year	several times a year	several times a month	once a week	never
1A. In last twelve months, how often have you gone on a vacation away from home? Would you say once a year, several times a year, several times a month, once a week, or never.	5	4	3	2	1
1B. (In the last 12 months how often have you) Attended a regular meeting of the PTA (parent- teacher organization) or other school group?	5	4	3	2	1
1C. (In the last 12 months how often have you) Attended services or meetings of a religious group?	5	4	3	2	1
1D. (In the last 12 months how often have you) Visited a doctor at the doctor's office?	5	4	3	2	1
1E. (In the last 12 months how often have you) Attended a regular meeting of a community or charity group?	5	4	3	2	1
1F. (In the last 12 months how often have you) Attended meetings or speeches of a political party or candidate?	5	4	3	2	1
1G. (In the last 12 months how often have you) Attended an event benefitting a community, charity, school, or religious, or political group?	5	4	3	2	1
1H. (In the last 12 months how often have you) Donated blood?	5	4	3	2	1

2. Did you vote in the last local election?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

3. Now I am going to read you a list of agencies. Have you ever heard of (READ EACH ITEM)?

		How familiar are you with (READ EACH ITEM) – would you say you are very familiar, somewhat familiar, not very familiar or not at all familiar?
3A. (Have you ever heard of) The Department of Agriculture?	Yes..... 1 → (ASK 3D) No 2 → (ASK 3B)	3D. Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98
3B. (Have you ever heard of) The Surgeon General's Office?	Yes..... 1 → (ASK 3E) No 2 → (ASK 3C)	3E. Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98
3C. (Have you ever heard of) The Census Bureau?	Yes..... 1 → (ASK 3F) No 2 → (ASK 4)	3F. Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98

4. Next I would like to ask you about three government programs. Have you ever heard of (READ EACH ITEM) ?	YES	NO	DON'T KNOW
4A. The school lunch program?	1	2	98
4B. Welfare reform?	1	2	98
4C. The Census?	1 (Skip to 6)	2 (Ask 5)	98 (Ask 5)

5. The Census is the count of all the people who live in the United States. Have you ever heard of that before?

- Yes 1
- No 2 → (Skip to Intro of 27)
- DON'T KNOW 98 → (Skip to Intro of 27)
- REFUSED 96 → (Skip to Intro of 27)

6. Have you heard or seen anything recently about the school lunch program?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

7. Have you heard or seen anything recently about welfare reform?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

8. Have you heard or seen anything recently about Census 2000?

- Yes 1
- No 2 → (Skip to 15)
- DON'T KNOW 98 → (Skip to 15)
- REFUSED 96 → (Skip to 15)

9. Would you say you have heard a great deal, some, a little, or nothing about Census 2000?

- A great deal 1
- Some 2
- A little 3
- Nothing about it 4
- DON'T KNOW 98
- REFUSED 96

10. Let me read you a list of possible places you might have learned about the Census.

	Did not hear or see anything this way.	Heard or saw a little bit this way	Heard or saw a lot this way	NOT APPLICABLE	DON'T KNOW
10A. The first one is commercials or public service announcements on television. Did you hear or see a lot about the census, a little about the census, or nothing about the census in TV commercials?	1	2	3	4	98
10B. How about meetings of a religious group or at place of worship? Did you hear or see a lot about the census, a little about the census, or nothing about the census in meetings of a religious group or at place of worship?	1	2	3	4	98
10C. How about meetings or activities of a community or government organization? Did you hear or see a lot about the census, a little about the census, or nothing about the census in meetings or activities of a community or government organization.	1	2	3	4	98
10D. How about from magazine ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in magazine ads.	1	2	3	4	98
10E. How about conversations with friends, neighbors, relatives, or coworkers? Did you hear or see a lot about the census, a little about the census, or nothing about the census from conversations with friends, neighbors, relatives, or coworkers?	1	2	3	4	98
10F. How about radio ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in radio ads?	1	2	3	4	98
10G. How about newspaper ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in newspaper ads?	1	2	3	4	98
10H. How about schools you attend? Did you hear or see a lot about the census, a little about the census, or nothing about the census in schools you attend?	1	2	3	4	98
10I. How about things your children have brought home from school? Did you hear or see a lot about the census, a little about the census, or nothing about the census in things your children have brought home from school?	1	2	3	4	98
10J. How about Census job announcements? Did you hear or see a lot about the census, a little about the census, or nothing about the census in Census job announcements?	1	2	3	4	98
10K. How about at conference exhibit booths? Did you hear or see a lot about the census, a little about the census, or nothing about the census at conference exhibit booths?	1	2	3	4	98
10L. How about signs or posters inside buildings? Did you hear or see a lot about the census, a little about the census, or nothing about the census on signs or posters inside buildings?	1	2	3	4	98

	Did not hear or see anything this way.	Heard or saw a little bit this way	Heard or saw a lot this way	NOT APPLICABLE	DON'T KNOW
10M How about outside billboards or posters? Did you hear or see a lot about the census, a little about the census, or nothing about the census on outside billboards or posters?	1	2	3	4	98
10N. How about a speech made by a government official or community leader? Did you hear or see a lot about the census, a little about the census, or nothing about the census in a speech made by government official or community leader?	1	2	3	4	98
10O. How about articles you read in publications? Did you hear or see a lot about the census, a little about the census, or nothing about the census in articles you read in publications	1	2	3	4	98
10P. How about the Internet? Did you hear or see a lot about the census, a little about the census, or nothing about the census on the Internet?	1	2	3	4	98
10Q. How about on paycheck or utility bill? Did you hear or see a lot about the census, a little about the census, or nothing about the census on paycheck or utility bill?	1	2	3	4	98
10R. How about from participation on a Complete Count Committee? Did you hear or see a lot about the census, a little about the census, or nothing about the census from participation on a Complete Count Committee?	1	2	3	4	98
10S. How about anything else? Did you hear or see a lot about the census, a little about the census, or nothing about the census on anything else? SPECIFY: _____	1	2	3	4	98

11. Thinking about what you have heard or seen about Census 2000, what would you say it was trying to tell you? (DO NOT READ THE CATEGORIES - CODE ALL THAT APPLY)

- COMPLETE AND RETURN THE FORM 1
- WAIT FOR THE CENSUS TAKER TO COME AND PICK IT UP 2
- THE CENSUS IS USED TO DETERMINE WHERE PUBLIC PROGRAMS AND SERVICES (SUCH AS EDUCATION, HEALTH CARE, JOB TRAINING, ETC.) ARE NEEDED 3
- IF YOU DON'T PARTICIPATE IN THE CENSUS YOU/YOUR COMMUNITY COULD MISS OUT ON THINGS LIKE EDUCATION HEALTH CARE, JOB TRAINING, ETC..... 4
- YOUR ANSWERS TO THE CENSUS ARE KEPT CONFIDENTIAL/NOT SHARED WITH OTHER GROUPS OR AGENCIES IN THE GOVERNMENT 5
- THE CENSUS IS EASY TO DO/TAKES JUST A FEW MINUTES 6
- OTHER (SPECIFY) 7
- _____
- DON'T KNOW 98
- REFUSED 96

12A. Can you tell me what the slogan or phrase was? **(DO NOT READ CATEGORIES)**

- THIS IS YOUR FUTURE 1
 - DON'T LEAVE IT BLANK 2
 - THIS IS YOUR FUTURE,
DON'T LEAVE IT BLANK 3
 - THIS IS OUR FUTURE 4
 - THIS IS OUR FUTURE,
DON'T LEAVE IT BLANK 5
 - GENERATIONS ARE
COUNTING ON THIS 6
 - GENERATIONS ARE
COUNTING ON THIS,
DON'T LEAVE IT BLANK 7
 - MAKE YOURSELF COUNT 8
 - THIS IS OUR FUTURE,
MAKE YOURSELF COUNT 9
 - OTHER (*SPECIFY*) 10
-
- DON'T KNOW 98
 - REFUSED 96

- 12.** Do you remember any slogan or phrase being used about the census?
- Yes 1 → **(ASK 12A)**
 - No 2 → **(SKIP TO 13)**
 - DON'T KNOW 98 → **(ASK 12A)**
 - REFUSED 96 → **(ASK 12A)**

13. Now I will mention some ideas that may or may not have been part of what you have heard about the Census. For each one tell me how big a part it is of what you have heard.	Not part of what I have heard	A small part of what I have heard	A big part of what I have heard	A very big part of what I heard	DON'T KNOW
13A. The Census has a long tradition and you should be part of it.	1	2	3	4	98
13B. If you don't fill out the Census, the government will not know where you are.	1	2	3	4	98
13C. Too many people do not send back the Census.	1	2	3	4	98
13D. Answering the Census will help the government know what your community needs.	1	2	3	4	98
13E. Answering the Census is easy.	1	2	3	4	98
13F. The Census is your way of being heard.	1	2	3	4	98
13G. The Census is used to determine where services like schools and health care are needed.	1	2	3	4	98
13H. The Census is an opportunity to make things better for my family and future generations.	1	2	3	4	98

Please tell me if you strongly agree, agree, neither agree or disagree, disagree, or strongly disagree with the following statements:

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	DON'T KNOW
13I. What I have heard and seen about the Census has been believable.	5	4	3	2	1	98
13J. It has told me things I have not really thought about before.	5	4	3	2	1	98

14. Did you see or hear anything about the Census in a language other than English?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

15. Next, I'm going to read some opinions about the Census. As I read each one, tell me if you strongly agree, agree, neither agree or disagree, disagree, strongly disagree with each of the statements:

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	DON'T KNOW
15A. Filling out the Census will let the government know what my community needs.	5	4	3	2	1	98
15B. The Census counts citizens and non-citizens alike.	5	4	3	2	1	98
15C. It is important for as many people as possible to participate in the Census.	5	4	3	2	1	98
15D. My answers to the Census could be used against me.	5	4	3	2	1	98
15E. Answering and sending back the Census matters for my family and community.	5	4	3	2	1	98
15F. The Census Bureau promise of confidentiality can be trusted.	5	4	3	2	1	98
15G. I just don't see that it matters much if I personally fill out the Census or not.	5	4	3	2	1	98

16. So far as you know, does the law require you to answer the census questions?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

17. Do you believe that answering and sending back your census form could personally benefit you in any way, personally harm you, or neither benefit nor harm you?

- Personally benefit..... 4
- Personally harm3
- Neither benefit or harm.....2
- BOTH BENEFIT AND HARM (VOLUNTEERED)..... 1**
- DON'T KNOW98
- REFUSED96

18. How likely are you or someone in your household to answer and send back the Census when you receive it?

- Definitely will5
- Probably will.4
- Might or might not.3
- Probably will not2
- Definitely will not 1
- DON'T KNOW98
- REFUSED96

Intro:

Now I have a few questions about how you spend your time in a typical seven day week.

27. How many hours do you spend at work outside the home in a typical seven day week?

- None0
- One to five 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

28. About how many total hours of "free time" (not spent working at home) do you usually have in typical 7-day week?

- None0
- One to five 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week.6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

29. For each day in a typical week, about how many hours do you usually spend watching television, including time spent doing something else at the same time. Please think about the whole day and give your best estimate of the number of hours per day. **(ASK ABOUT EACH DAY OF THE WEEK INDIVIDUALLY. ENTER WHOLE NUMBERS ONLY. IF NONE, CIRCLE 0)**

29A. Monday?	_____hours	None.0
29B. Tuesday?	_____hours	None.0
29C. Wednesday?	_____hours	None.0
29D. Thursday?	_____hours	None.0
29E. Friday?	_____hours	None.0
29F. Saturday?	_____hours	None.0
29G. Sunday?	_____hours	None.0

30. During a typical 7-day week, how many hours do you usually spend listening to the radio, either at home, in your car, or elsewhere?

- None0
- One to five 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week.6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

31. About how many hours in a typical 7 day week do you usually spend reading magazines?

- None.....0
- One to five.....1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

32. About how many hours in a typical 7 day week do you spend reading the newspaper?

- None.....0
- One to five.....1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to sixty hours per week.....7
- More than 60 hours per week.....8

33. About how many hours in a typical 7 day week do you spend on the Internet?

- None.....0
- One to five.....1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to sixty hours per week.....7
- More than 60 hours per week.....8

DEMOGRAPHICS

I just have a few questions left about you and your household. . .

34. What is the highest grade or year of regular school you completed? **(READ LIST)**

- Less than grade school..... 1
- Less than high school graduate.....2
- High school graduate3
- Some college4
- College graduate.....5
- Postgraduate.....6
- REFUSED96

35. Do you currently attend or have you in the last six months attended an adult education class?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

36. Do you have children in school who are under 18 living at home with you?

- Yes 1 → **(ASK 37)**
- No.....2 → **(SKIP TO 37E)**
- REFUSED9 → **(SKIP TO 37E)**

37. How many children living at home with you are **(READ EACH ITEM)?**

37A. Pre-Kindergarten? **ENTER NUMBER?** ____

37B. Kindergarten-Grade 4? **ENTER NUMBER?** ____

37C. Grade 5-8? **ENTER NUMBER?** ____

37D. Grade 9-12? **ENTER NUMBER?** ____

37E. INTERVIEWER: WHICH WAVE IS THIS?

- WAVE 1 OR 2 1
- WAVE 3..... 2

39. Were you born in the United States?

Yes 1
No.....2
DON'T KNOW98
REFUSED96

40. I am going to read you a list of income categories. Would you stop me when I reach the category that best describes the combined annual income of all members of this household, including wages or salary, pensions, interest or dividends, and all other sources?

Under \$15,000 1
\$15,000 to \$19,9992
\$20,000 to \$24,9993
\$25,000 to \$29,9994
\$30,000 to \$34,9995
\$35,000 to \$39,9996
\$40,000 to \$44,9997
\$45,000 to \$49,9998
\$50,000 to \$74,9999
\$75,000 to \$99,999 10
\$100,000 or over 11
DON'T KNOW98
REFUSED96

CLOSING STATEMENT

This study has been approved by the Office of Management and Budget and has assigned 0607-0864 as the survey's number. Without this approval, we would not have been able to conduct this survey. Our approval to conduct this survey expires on 08-31-2000. Results of this study will help the Census Bureau improve its plans for the Census 2000. Your answers will be kept confidential.

Thank you very much for your help!

INTERVIEWER: ENTER 'FINISH TIME' OF INTERVIEW

_____ : _____ **AM / PM**

Appendix F

Wave 3 main questionnaire

INSTRUCTIONS TO INTERVIEWER

Because not all questions will apply to everyone, you will be asked to skip to certain questions.

- ▶ Follow all “SKIP” instructions AFTER marking a response. If no “SKIP” instruction is provided, you should continue to the NEXT question
- ▶ Either a pen or pencil may be used
- ▶ If you need to change an answer, please make sure that your old answer is either completely erased or clearly crossed out

INTERVIEWER: ENTER START TIME OF INTERVIEW: _____ : _____ AM / PM

1.		once a year	Several times a year	several times a month	once a week	never
1A.	In last twelve months, how often have you gone on a vacation away from home? Would you say once a year, several times a year, several times a month, once a week, or never.	5	4	3	2	1
1B.	(In the last 12 months how often have you) Attended a regular meeting of the PTA (parent- teacher organization) or other school group?	5	4	3	2	1
1C.	(In the last 12 months how often have you) Attended services or meetings of a religious group?	5	4	3	2	1
1D.	(In the last 12 months how often have you) Visited a doctor at the doctor's office?	5	4	3	2	1
1E.	(In the last 12 months how often have you) Attended a regular meeting of a community or charity group?	5	4	3	2	1
1F.	(In the last 12 months how often have you) Attended meetings or speeches of a political party or candidate?	5	4	3	2	1
1G.	(In the last 12 months how often have you) Attended an event benefitting a community, charity, school, or religious, or political group?	5	4	3	2	1
1H.	(In the last 12 months how often have you) Donated blood?	5	4	3	2	1

2. Did you vote in the last local election?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

3. Now I am going to read you a list of agencies. Have you ever heard of (READ EACH ITEM)?

		How familiar are you with (READ EACH ITEM) – would you say you are very familiar, somewhat familiar, not very familiar or not at all familiar?
3A.	(Have you ever heard of) The Department of Agriculture?	Yes..... 1 → (ASK 3D) No 2 → (ASK 3B)
3B.	(Have you ever heard of) The Surgeon General's Office?	Yes..... 1 → (ASK 3E) No 2 → (ASK 3C)
3C.	(Have you ever heard of) The Census Bureau?	Yes..... 1 → (ASK 3F) No 2 → (ASK 4)
3D.	Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98	
3E.	Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98	
3F.	Very familiar..... 4 Somewhat familiar..... 3 Not very familiar..... 2 Not at all familiar..... 1 DON'T KNOW 98	

4. Next I would like to ask you about three government programs. Have you ever heard of (READ EACH ITEM) ?	YES	NO	DON'T KNOW
4A. The school lunch program?	1	2	98
4B. Welfare reform?	1	2	98
4C. The Census?	1 (SKIP TO Q6)	2 (ASK Q5)	98 (ASK Q5)

5. The Census is the count of all the people who live in the United States. Have you ever heard of that before?

- Yes 1
- No 2 → (SKIP TO Q19)
- DON'T KNOW 98 → (SKIP TO Q19)
- REFUSED 96 → (SKIP TO Q19)

6. Have you heard or seen anything recently about the school lunch program?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

7. Have you heard or seen anything recently about welfare reform?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

8. Have you heard or seen anything recently about Census 2000?

- Yes 1
- No 2 → (SKIP TO Q15)
- DON'T KNOW 98 → (SKIP TO Q15)
- REFUSED 96 → (SKIP TO Q15)

9. Would you say you have heard a great deal, some, a little, or nothing about Census 2000?

- A great deal 1
- Some 2
- A little 3
- Nothing about it 4
- DON'T KNOW 98
- REFUSED 96

10. Let me read you a list of possible places you might have learned about the Census.

	Did not hear or see anything this way.	Heard or saw a little bit this way	Heard or saw a lot this way	NOT APPLICABLE	DON'T KNOW
10A. The first one is commercials or public service announcements on television. Did you hear or see a lot about the census, a little about the census, or nothing about the census in TV commercials?	1	2	3	4	98
10B. How about meetings of a religious group or at place of worship? Did you hear or see a lot about the census, a little about the census, or nothing about the census in meetings of a religious group or at place of worship?	1	2	3	4	98
10C. How about meetings or activities of a community or government organization? Did you hear or see a lot about the census, a little about the census, or nothing about the census in meetings or activities of a community or government organization.	1	2	3	4	98
10D. How about from magazine ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in magazine ads.	1	2	3	4	98
10E. How about conversations with friends, neighbors, relatives, or coworkers? Did you hear or see a lot about the census, a little about the census, or nothing about the census from conversations with friends, neighbors, relatives, or coworkers?	1	2	3	4	98
10F. How about radio ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in radio ads?	1	2	3	4	98
10G. How about newspaper ads? Did you hear or see a lot about the census, a little about the census, or nothing about the census in newspaper ads?	1	2	3	4	98
10H. How about schools you attend? Did you hear or see a lot about the census, a little about the census, or nothing about the census in schools you attend?	1	2	3	4	98
10I. How about things your children have brought home from school? Did you hear or see a lot about the census, a little about the census, or nothing about the census in things your children have brought home from school?	1	2	3	4	98
10J. How about Census job announcements? Did you hear or see a lot about the census, a little about the census, or nothing about the census in Census job announcements?	1	2	3	4	98
10K. How about at conference exhibit booths? Did you hear or see a lot about the census, a little about the census, or nothing about the census at conference exhibit booths?	1	2	3	4	98
10L. How about signs or posters inside buildings? Did you hear or see a lot about the census, a little about the census, or nothing about the census on signs or posters inside buildings?	1	2	3	4	98

	Did not hear or see anything this way.	Heard or saw a little bit this way	Heard or saw a lot this way	NOT APPLICABLE	DON'T KNOW
10M How about outside billboards or posters? Did you hear or see a lot about the census, a little about the census, or nothing about the census on outside billboards or posters?	1	2	3	4	98
10N. How about a speech made by a government official or community leader? Did you hear or see a lot about the census, a little about the census, or nothing about the census in a speech made by government official or community leader?	1	2	3	4	98
10O. How about articles you read in publications? Did you hear or see a lot about the census, a little about the census, or nothing about the census in articles you read in publications	1	2	3	4	98
10P. How about the Internet? Did you hear or see a lot about the census, a little about the census, or nothing about the census on the Internet?	1	2	3	4	98
10Q. How about on paycheck or utility bill? Did you hear or see a lot about the census, a little about the census, or nothing about the census on paycheck or utility bill?	1	2	3	4	98
10R. How about from participation on a Complete Count Committee? Did you hear or see a lot about the census, a little about the census, or nothing about the census from participation on a Complete Count Committee?	1	2	3	4	98
10S. How about anything else? Did you hear or see a lot about the census, a little about the census, or nothing about the census on anything else? SPECIFY: _____	1	2	3	4	98

11. Thinking about what you have heard or seen about Census 2000, what would you say it was trying to tell you? (DO NOT READ THE CATEGORIES - CODE ALL THAT APPLY)

- COMPLETE AND RETURN THE FORM 1
- WAIT FOR THE CENSUS TAKER TO COME AND PICK IT UP 2
- THE CENSUS IS USED TO DETERMINE WHERE PUBLIC PROGRAMS AND SERVICES (SUCH AS EDUCATION, HEALTH CARE, JOB TRAINING, ETC.) ARE NEEDED 3
- IF YOU DON'T PARTICIPATE IN THE CENSUS YOU/YOUR COMMUNITY COULD MISS OUT ON THINGS LIKE EDUCATION HEALTH CARE, JOB TRAINING, ETC..... 4
- YOUR ANSWERS TO THE CENSUS ARE KEPT CONFIDENTIAL/NOT SHARED WITH OTHER GROUPS OR AGENCIES IN THE GOVERNMENT 5
- THE CENSUS IS EASY TO DO/TAKES JUST A FEW MINUTES 6
- OTHER (SPECIFY) 7
- _____
- DON'T KNOW 98
- REFUSED 96

12A. Can you tell me what the slogan or phrase was? **(DO NOT READ CATEGORIES)**

- THIS IS YOUR FUTURE 1
- DON'T LEAVE IT BLANK 2
- THIS IS YOUR FUTURE,
DON'T LEAVE IT BLANK 3
- THIS IS OUR FUTURE 4
- THIS IS OUR FUTURE,
DON'T LEAVE IT BLANK 5
- GENERATIONS ARE
COUNTING ON THIS 6
- GENERATIONS ARE
COUNTING ON THIS,
DON'T LEAVE IT BLANK 7
- MAKE YOURSELF COUNT 8
- THIS IS OUR FUTURE,
MAKE YOURSELF COUNT 9
- OTHER (*SPECIFY*) 10

-
- DON'T KNOW 98
 - REFUSED 96

- 12.** Do you remember any slogan or phrase being used about the census?
- Yes 1 → **(ASK 12A)**
 - No 2 → **(SKIP TO 13)**
 - DON'T KNOW 98 → **(ASK 12A)**
 - REFUSED 96 → **(ASK 12A)**

13. Now I will mention some ideas that may or may not have been part of what you have heard about the Census. For each one tell me how big a part it is of what you have heard.	Not part of what I have heard	A small part of what I have heard	A big part of what I have heard	A very big part of what I heard	DON'T KNOW
13A. The Census has a long tradition and you should be part of it.	1	2	3	4	98
13B. If you don't fill out the Census, the government will not know where you are.	1	2	3	4	98
13C. Too many people do not send back the Census.	1	2	3	4	98
13D. Answering the Census will help the government know what your community needs.	1	2	3	4	98
13E. Answering the Census is easy.	1	2	3	4	98
13F. The Census is your way of being heard.	1	2	3	4	98
13G. The Census is used to determine where services like schools and health care are needed.	1	2	3	4	98
13H. The Census is an opportunity to make things better for my family and future generations.	1	2	3	4	98

Please tell me if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	DON'T KNOW
13I. What I have heard and seen about the Census has been believable.	5	4	3	2	1	98
13J. It has told me things I have not really thought about before.	5	4	3	2	1	98

14. Did you see or hear anything about the Census in a language other than English?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

15. Next, I'm going to read some opinions about the Census. As I read each one, tell me if you strongly agree, agree, neither agree nor disagree, disagree, strongly disagree with each of the statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	DON'T KNOW
15A. Filling out the Census will let the government know what my community needs.	5	4	3	2	1	98
15B. The Census counts citizens and non-citizens alike.	5	4	3	2	1	98
15C. It is important for as many people as possible to participate in the Census.	5	4	3	2	1	98
15D. My answers to the Census could be used against me.	5	4	3	2	1	98
15E. Answering and sending back the Census matters for my family and community.	5	4	3	2	1	98
15F. The Census Bureau promise of confidentiality can be trusted.	5	4	3	2	1	98
15G. I just don't see that it matters much if I personally fill out the Census or not.	5	4	3	2	1	98

16. So far as you know, does the law require you to answer the census questions?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

17. Do you believe that answering and sending back your census form could personally benefit you in any way, personally harm you, or neither benefit nor harm you?

- Personally benefit..... 4
- Personally harm3
- Neither benefit nor harm.....2
- BOTH BENEFIT AND HARM (VOLUNTEERED)..... 1**
- DON'T KNOW98
- REFUSED96

WAVE 3

19. Did your household receive a census questionnaire delivered to you at your home in March of 2000?

- Yes 1
- No 2→(SKIP TO 27)
- DON'T KNOW 98
- REFUSED 96

20. Before the questionnaire arrived, were you expecting to get a questionnaire?

- Yes 1
- No 2
- DON'T KNOW 98
- REFUSED 96

21. After the envelope arrived, did anyone ever open it?

- Yes 1
- No 2→(SKIP TO 26A)
- DON'T KNOW 98→(SKIP TO 26A)
- REFUSED 96

22. Did anyone start to fill out the census form that was inside the envelope?

- Yes 1
- No 2→(READ BELOW)
- DON'T KNOW 98
- REFUSED 96

NOTE TO INTERVIEWER:

**IF Q22 IS NO ASK Q23 & Q24 THEN SKIP → TO Q26A.
IF Q22 IS YES, DK OR REF. CONTINUE AS INDICATED.**

23. Did you get a short questionnaire (folded single sheet) or a long questionnaire (about 32 pages long)?

- Short 1
- Long 2
- DON'T KNOW 98
- REFUSED 96

24. When you first saw the questionnaire, did it look like it would be hard or easy to complete?

- Hard 1
- Easy 2
- NEITHER 3
- NEVER SAW IT (VOLUNTEERED) 4**

- DON'T KNOW 98
- REFUSED 96

25. Did someone finish filling out the form?

- Yes 1
- No 2→(SKIP TO 26A)
- DON'T KNOW 98
- REFUSED 96

26. Did someone mail back the questionnaire?

- Yes 1→(SKIP TO 27)
- No 2→(SKIP TO 26A)
- DON'T KNOW 98→(SKIP TO 26A)
- REFUSED 96→(SKIP TO 27)

26A. Why not?

(DO NOT READ CATEGORIES)

- DOESN'T SPEAK ENGLISH 1
- COULD NOT READ THE FORM .. 2
- CONFIDENTIALITY CONCERNS .. 3
- FORM WAS TOO LONG 4
- FORM WAS TOO DIFFICULT 5
- NEVER GOT A FORM 6
- TOO BUSY 7
- WANTED MORE INFO ON CENSUS (WHY NEED IT?) 8

OTHER (SPECIFY) 9

INTRODUCTION

Now I have a few questions about how you spend your time in a typical seven day week.

27. How many hours do you spend at work outside the home in a typical seven day week?

- None.....0
- One to five..... 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

28. About how many total hours of “free time” (not spent working at home) do you usually have in typical 7-day week?

- None.....0
- One to five..... 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week.6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

29. For each day in a typical week, about how many hours do you usually spend watching television, including time spent doing something else at the same time. Please think about the whole day and give your best estimate of the number of hours per day. **(ASK ABOUT EACH DAY OF THE WEEK INDIVIDUALLY. ENTER WHOLE NUMBERS ONLY. IF NONE, CIRCLE 0)**

29A. Monday?	_____hours	None.0
29B. Tuesday?	_____hours	None.0
29C. Wednesday?	_____hours	None.0
29D. Thursday?	_____hours	None.0
29E. Friday?	_____hours	None.0
29F. Saturday?	_____hours	None.0
29G. Sunday?	_____hours	None.0

30. During a typical 7-day week, how many hours do you usually spend listening to the radio, either at home, in your car, or elsewhere?

- None.....0
- One to five..... 1
- Six to ten2
- Ten to nineteen3
- Twenty to twenty-nine4
- Thirty to thirty-nine5
- Forty hours per week.6
- Forty to Sixty hours per week.....7
- More than 60 hours per week.....8

DEMOGRAPHICS

I just have a few questions left about you and your household. . .

- 31.** About how many hours in a typical 7-day week do you usually spend reading magazines?

None 0
 One to five 1
 Six to ten 2
 Ten to nineteen 3
 Twenty to twenty-nine 4
 Thirty to thirty-nine 5
 Forty hours per week 6
 Forty to Sixty hours per week 7
 More than 60 hours per week 8

- 32.** About how many hours in a typical 7-day week do you spend reading the newspaper?

None 0
 One to five 1
 Six to ten 2
 Ten to nineteen 3
 Twenty to twenty-nine 4
 Thirty to thirty-nine 5
 Forty hours per week 6
 Forty to sixty hours per week 7
 More than 60 hours per week 8

- 33.** About how many hours in a typical 7-day week do you spend on the Internet?

None 0
 One to five 1
 Six to ten 2
 Ten to nineteen 3
 Twenty to twenty-nine 4
 Thirty to thirty-nine 5
 Forty hours per week 6
 Forty to sixty hours per week 7
 More than 60 hours per week 8

- 34.** What is the highest grade or year of regular school you completed? **(READ LIST)**

Less than grade school 1
 Less than high school graduate 2
 High school graduate 3
 Some college 4
 College graduate 5
 Postgraduate 6
 REFUSED 96

- 35.** Do you currently attend or have you in the last six months attended an adult education class?

Yes 1
 No 2
 DON'T KNOW 98
 REFUSED 96

- 36.** Do you have children in school who are under 18 living at home with you?

Yes 1 → **(ASK 37)**
 No 2 → **(SKIP TO 37E)**
 REFUSED 9 → **(SKIP TO 37E)**

- 37.** How many children living at home with you are **(READ EACH ITEM)?**

37A. Pre-Kindergarten? **ENTER NUMBER?** ____
37B. Kindergarten-Grade 4? **ENTER NUMBER?** ____
37C. Grade 5-8? **ENTER NUMBER?** ____
37D. Grade 9-12? **ENTER NUMBER?** ____

- 37E.** Were you living at this address on April 1 (Census Day)?

Yes 1
 No 2
 DON'T KNOW . . . 98
 REFUSED 96

39. Were you born in the United States?

- Yes 1
- No.....2
- DON'T KNOW98
- REFUSED96

40. I am going to read you a list of income categories. Would you stop me when I reach the category that best describes the combined annual income of all members of this household, including wages or salary, pensions, interest or dividends, and all other sources?

- Under \$15,000 1
- \$15,000 to \$19,9992
- \$20,000 to \$24,9993
- \$25,000 to \$29,9994
- \$30,000 to \$34,9995
- \$35,000 to \$39,9996
- \$40,000 to \$44,9997
- \$45,000 to \$49,9998
- \$50,000 to \$74,9999
- \$75,000 to \$99,99910
- \$100,000 or over 11
- DON'T KNOW98
- REFUSED96

CLOSING STATEMENT
This study has been approved by the Office of Management and Budget and has assigned 0607-0864 as the survey's number. Without this approval, we would not have been able to conduct this survey. Our approval to conduct this survey expires on 08-31-2000. Results of this study will help the Census Bureau improve its plans for the Census 2000. Your answers will be kept confidential.

Thank you very much for your help!

INTERVIEWER: ENTER 'FINISH TIME' OF INTERVIEW

_____ : _____ **AM / PM**

Appendix G

Definition of statistics presented in tables

This appendix describes the statistics presented in Section 4 and Appendix C.

Questionnaire items that require recoding are not recoded themselves, so as to leave the data unaltered. Instead, recoded variables are created and the convention is to take variable QX and name its recoded counterpart QXR, where X corresponds to a questionnaire item.

1. Tables 7 and 26: Mean general awareness of census communications.

A. Statistic: Mean of General Awareness (Q9R).

B. Definition of Q9R.

```
IF Q5=2 OR Q8=2 THEN Q9R=4;
  ELSE IF Q9 LE 0 THEN Q9R=.;
  ELSE Q9R=Q9;
IF Q9R NE . THEN Q9R=5-Q9R;
```

C. Q9R takes on values 1, 2, 3 and 4, with increasing numbers indicating increasing awareness.

2. Tables 9 and 27: Mean awareness of mass-media and community-based communications.

A. Statistics: Mean of Mass-media (MEDIAPD) and Mean of Community-based Communications (MEDIAOTH).

B. Definitions of MEDIAPD and MEDIAOTH.

```
IF Q5=2 OR Q8=2 THEN DO; Q10A_R=1; Q10B_R=1; Q10C_R=1;
  Q10D_R=1; Q10E_R=1; Q10F_R=1; Q10G_R=1; Q10H_R=1; Q10I_R=1; Q10J_R=1;
  Q10K_R=1; Q10L_R=1; Q10M_R=1; Q10N_R=1; Q10O_R=1; Q10P_R=1;
  Q10Q_R=1; Q10R_R=1; END;
```

```
IF Q10A LE 0 or q10A IN (4 5) THEN Q10A_R=. ; ELSE Q10A_R=Q10A;
  IF Q10B LE 0 or Q10B IN (4 5) THEN Q10B_R=. ; ELSE Q10B_R=Q10B;
  IF Q10C LE 0 or Q10C IN (4 5) THEN Q10C_R=. ; ELSE Q10C_R=Q10C;
  IF Q10D LE 0 or Q10D IN (4 5) THEN Q10D_R=. ; ELSE Q10D_R=Q10D;
  IF Q10E LE 0 or Q10E IN (4 5) THEN Q10E_R=. ; ELSE Q10E_R=Q10E;
  IF Q10F LE 0 or Q10F IN (4 5) THEN Q10F_R=. ; ELSE Q10F_R=Q10F;
  IF Q10G LE 0 or Q10G IN (4 5) THEN Q10G_R=. ; ELSE Q10G_R=Q10G;
  IF Q10H LE 0 or Q10H IN (4 5) THEN Q10H_R=. ; ELSE Q10H_R=Q10H;
  IF Q10I LE 0 or Q10I in (4 5) THEN Q10I_R=. ; ELSE Q10I_R=Q10I;
  IF Q10J LE 0 or Q10J IN (4 5) THEN Q10J_R=. ; ELSE Q10J_R=Q10J;
```

IF Q10K LE 0 or Q10K IN (4 5) THEN Q10K_R=. ; ELSE Q10K_R=Q10K;
 IF Q10L LE 0 or Q10L IN (4 5) THEN Q10L_R=. ; ELSE Q10L_R=Q10L;
 F Q10M LE 0 or Q10M IN (4 5) THEN Q10M_R=. ; ELSE Q10M_R=Q10M;
 F Q10N LE 0 or Q10N IN (4 5) THEN Q10N_R=. ; ELSE Q10N_R=Q10N;
 F Q10O LE 0 or Q10O IN (4 5) THEN Q10O_R=. ; ELSE Q10O_R=Q10O;
 F Q10P LE 0 or Q10P IN (4 5) THEN Q10P_R=. ; ELSE Q10P_R=Q10P;
 F Q10Q LE 0 or Q10Q IN (4 5) THEN Q10Q_R=. ; ELSE Q10Q_R=Q10Q;
 F Q10R LE 0 or Q10R IN (4 5) THEN Q10R_R=. ; ELSE Q10R_R=Q10R;

MEDIAPD = mean(of Q10A_R Q10D_R Q10F_R Q10G_R Q10M_R);
 MEDIAOTH = mean(of Q10N_R Q10B_R Q10E_R Q10J_R Q10L_R Q10O_R
 10P_R Q10Q_R Q10C_R Q10K_R Q10R_R Q10H_R Q10I_R);

C. MEDIAPD and MEDIAOTH values range from 1 to 3.

3. Table 10. Mean awareness of different sources of mass-media communications: total population.

A. Statistics: Means of Paid-Advertising sources: mean of TV AWARENESS (Q10A_R), mean of MAGAZINES AWARENESS (Q10D_R), mean of RADIO AWARENESS (Q10F_R), mean of NEWSPAPER AWARENESS (Q10G_R), and mean of BILLBOARD AWARENESS (Q10M_R).

B. Definitions of TV AWARENESS (Q10A_R), MAGAZINES AWARENESS (Q10D_R), RADIO AWARENESS (Q10F_R), NEWSPAPER AWARENESS (Q10G_R), and BILLBOARD AWARENESS (Q10M_R) are provided in the Table 9 description.

C. Values of Q10A_R, Q10D_R, Q10F_R, Q10G_R and Q10M_R range from 1 to 3.

4. Tables 11-17. Mean awareness of different sources of mass-media communications. These tables pertain to the Hispanic, non-Hispanic African American, non-Hispanic White, Other, Asian, American Indian, and Native American subgroups. Their descriptions are identical to Table 10's description. Tables C-1—C-13 pertain to the various language-speaking groups. Their descriptions are also identical to Table 10's description.

5. Table 18. Mean awareness of different sources of community-based communications: total population.

A. Statistics: Means of Partnership Communication sources: mean of RELIGIOUS GROUP AWARENESS (Q10B_R), mean of COMMUNITY/GOVERNMENT ORGANIZATION AWARENESS (Q10C_R), mean of INFORMAL CONVERSATION AWARENESS (Q10E_R), mean of SCHOOLS ATTENDED AWARENESS (Q10H_R), mean of SCHOOLS CHILDREN ATTEND (Q10I_R), mean of CENSUS JOB ANNOUNCEMENT AWARENESS (Q10J_R), mean of CONFERENCE EXHIBIT BOOTH AWARENESS (Q10K_R), mean of SIGNS/POSTERS INSIDE BUILDING AWARENESS (Q10L_R), mean of SPEECH AWARENESS (Q10N_R), mean of

ARTICLE AWARENESS (Q10O_R), mean of INTERNET AWARENESS (Q10P_R), mean of PAYCHECK/UTILITY BILL INSERT AWARENESS (Q10Q_R), and mean of PARTICIPATE ON COMPLETE COUNT COMMITTEE AWARENESS (Q10R_R).

B. Definitions of RELIGIOUS GROUP AWARENESS (Q10B_R), COMMUNITY/GOVERNMENT ORGANIZATION AWARENESS (Q10C_R), INFORMAL CONVERSATION AWARENESS (Q10E_R), SCHOOLS ATTENDED AWARENESS (Q10H_R), SCHOOLS CHILDREN ATTEND (Q10I_R), CENSUS JOB ANNOUNCEMENT AWARENESS (Q10J_R), CONFERENCE EXHIBIT BOOTH AWARENESS (Q10K_R), SIGNS/POSTERS INSIDE BUILDING AWARENESS (Q10L_R), SPEECH AWARENESS (Q10N_R), ARTICLE AWARENESS (Q10O_R), INTERNET AWARENESS (Q10P_R), PAYCHECK/UTILITY BILL INSERT AWARENESS (Q10Q_R), and PARTICIPATE ON COMPLETE COUNT COMMITTEE AWARENESS (Q10R_R) are provided in the Table 9 description.

C. Values of Q10B_R, Q10C_R, Q10E_R, Q10H_R, Q10I_R, Q10J_R, Q10K_R, Q10L_R, Q10N_R, Q10O_R, Q10P_R, Q10Q_R, and Q10R_R range from 1 to 3.

6. Tables 19-25. Mean awareness of different sources of community-based communications. These tables pertain to the Hispanic, non-Hispanic African American, non-Hispanic White, Other, Asian, American Indian, and Native American subgroups. Their descriptions are identical to Table 18's description. Tables C-14—C-26 pertain to the various language-speaking groups. Their descriptions are also identical to Table 18's description.

7. Table 28: Percent recent census awareness in Wave 2 by Age:

A. Statistic: Percent recent census awareness (Q8R) by Age.

B. Definition of Q8R.

if Q8=1 then Q8R=1; /* YES */

else if Q8 in (-1 -2 -3 2) or Q5 in (-1 -2 -3 2) then Q8R=2; /* NO */

C. Q8R takes on values 1 and 2.

8. Tables 29-37 are defined in a similar manner as Table 28. The analyses, however, are by gender (Table 29), highest grade completed (Table 30), household income (Table 31), Internet Usage (Table 36), and civic participation (Table 37).

A. Statistics: Percent recent census awareness (Q8R) by Gender (GENDER), Highest Grade Completed (EDUC), Household Income (INCOME), Internet Usage (INTERNET), and Civic Participation Level (CIVIC_K).

B. Definitions of GENDER, EDUC, INCOME, INTERNET, and CIVIC_K.

```
/* GENDER */
if S15_R<0 and S4>0 then GENDER=S4;
else GENDER=S15_R;
if GENDER < 0 then GENDER=.;

/* EDUCATION LEVEL */
if Q34R=1 or Q34R=2 then EDUC='No HS ';
else if Q34R=3 or Q34R=4 then EDUC='HS grad';
else if Q34R=5 or Q34R=6 then EDUC='College';

/* HOUSEHOLD INCOME */
if Q40R=1 then INCOME=1;
else if Q40R=2 or Q40R=3 then INCOME=2;
else if Q40R>3.5 and Q40R<7.5 then INCOME=3;
else if Q40R>7.5 and Q40R<11.5 then INCOME=4;

/* INTERNET USAGE */
if Q33=0 then INTERNET=1;
else if Q33>0.5 and Q33<8.5 then INTERNET=2;

/* CIVIC PARTICIPATION LEVEL */
if Q1_2=1 then Q1_2R=0;
else if Q1_2=5 then Q1_2R=1;
else if Q1_2=4 then Q1_2R=2;
else if Q1_2=3 then Q1_2R=3;
else if Q1_2=2 then Q1_2R=4;
else Q1_2R=.;

CIVPART2=Q1_2R/4;
Q1_2R=Q1_2R+1;

if Q1_3=1 then Q1_3R=0;
else if Q1_3=5 then Q1_3R=1;
else if Q1_3=4 then Q1_3R=2;
else if Q1_3=3 then Q1_3R=3;
else if Q1_3=2 then Q1_3R=4;
else Q1_3R=.;

CIVPART3=Q1_3R/4;
Q1_3R=Q1_3R+1;
```

if Q1_5=1 then Q1_5R=0;
else if Q1_5=5 then Q1_5R=1;
else if Q1_5=4 then Q1_5R=2;
else if Q1_5=3 then Q1_5R=3;
else if Q1_5=2 then Q1_5R=4;
else Q1_5R=.;
CIVPART5=Q1_5R/4;
Q1_5R=Q1_5R+1;

if Q1_6=1 then Q1_6R=0;
else if Q1_6=5 then Q1_6R=1;
else if Q1_6=4 then Q1_6R=2;
else if Q1_6=3 then Q1_6R=3;
else if Q1_6=2 then Q1_6R=4;
else Q1_6R=.;

CIVPART6=Q1_6R/4;
Q1_6R=Q1_6R+1;

if Q1_7=1 then Q1_7R=0;
else if Q1_7=5 then Q1_7R=1;
else if Q1_7=4 then Q1_7R=2;
else if Q1_7=3 then Q1_7R=3;
else if Q1_7=2 then Q1_7R=4;
else Q1_7R=.;

CIVPART7=Q1_7R/4;
Q1_7R=Q1_7R+1;

if Q1_8=1 then Q1_8R=0;
else if Q1_8=5 then Q1_8R=1;
else if Q1_8=4 then Q1_8R=2;
else if Q1_8=3 then Q1_8R=3;
else if Q1_8=2 then Q1_8R=4;
else Q1_8R=.;

CIVPART8=Q1_8R/4;
Q1_8R=Q1_8R+1;

if Q2=2 then Q2R=0;
else if Q2=1 then Q2R=1;
else Q2R=.;

I_CIVPRT=sum(CIVPART2,CIVPART3,CIVPART5,CIVPART6,CIVPART7,
CIVPART8,Q2R);
Q2R=Q2R+1;

if I_CIVPRT >= 0 and I_CIVPRT lt 1 then CIVIC_K=1;
else if I_CIVPRT >=1 and I_CIVPRT lt 3 then CIVIC_K=2;
else if I_CIVPRT >=3 and I_CIVPRT lt 7 then CIVIC_K=3;

C. GENDER takes on values 1 (MALE) and 2 (FEMALE); EDUC categories are “NO HS”, “HS Grad”, and “College”; INCOME values are 1 (<15000), 2 (15000-24999), 3 (25000-44999) and 4 (>44999); INTERNET values are 1 (NO INTERNET) and 2 (SOME INTERNET); CIVIC_K values are 1 (LOW CIVIC PARTICIPATION LEVEL), 2 (MEDIUM CIVIC PARTICIPATION LEVEL), and 3 (HIGH CIVIC PARTICIPATION LEVEL).

9. Tables 38 and 42: Mean intended participation.

A. Statistic: Mean of Intended Participation (IP).

B. Definition of IP.

IF Q18 LE 0 THEN IP=.;
ELSE IP=Q18;

C. IP takes on values 1, 2, 3, 4, and 5, with increasing values indicating increasing awareness for waves 1 and 2 only.

10. Tables 39 and 43: Correlation between general awareness of census communications and intended participation.

A. Statistics: correlation between General Awareness (Q9R) and Intended Participation (IP).

B. Definition of Correlation: Used SUDAAN to run a simple linear regression $IP=Q9R$. The sample correlation coefficient was set to the +/- of the square root of the R-Squared value, with the sign (+/-) being determined by the sign of the regression coefficient.

C. Range of sample correlation coefficient is [-1, 1].

11. Tables 40 and 44: Correlation between awareness of mass-media and intended participation.

A. Statistics: correlation between Mass-media (MEDIAPD) and Intended Participation (IP).

B. Definition of Correlation: Used SUDAAN to run a simple linear regression $IP=MEDIAPD$. The sample correlation coefficient was set to the +/- of the square root of the R-Squared value, with the sign (+/-) being determined by the sign of the regression coefficient.

C. Range of sample correlation coefficient is [-1, 1].

12. Tables 41 and 45: Correlation between awareness of community-based communications and intended participation.

- A. Statistics: correlation between community-based communications (MEDIAOTH) and Intended Participation (IP).
- B. Definition of Correlation: Used SUDAAN to run a simple linear regression $IP = MEDIAOTH$. The sample correlation coefficient was set to the +/- of the square root of the R-Squared value, with the sign (+/-) being determined by the sign of the regression coefficient.
- C. Range of sample correlation coefficient is [-1, 1].

13. Tables 46 and 47: Mean census beliefs.

- A. Statistics: mean of the Census Beliefs (Q15FACT) variable.
- B. Definition of Q15FACT.

In SAS, put all three wave of data together and ran a weighted factor analysis, using the Q15_R, Q15_2R, Q15_3R, Q15_4R, Q15_5R, Q15_6R, Q15_7R and Q17R variables as the common factors.

- C. Range of Q15FACT is from [-1 1].

14. Table 48. Percentages believing community needs will be discerned by recent awareness of Census in Wave2.

- A. Statistic: Percentages in Wave 2 Believing Community Needs will be Discerned (Q15A_R) by Recent Awareness (RECAWAR).
- B. Definition of Q15A_R and RECAWAR.

```
IF Q15_LT 0 THEN Q15_R=.; ELSE Q15_R=Q15_;  
IF Q15_2 LT 0 THEN Q15_2R=.; ELSE Q15_2R=Q15_2;  
IF Q15_3 LT 0 THEN Q15_3R=.; ELSE Q15_3R=Q15_3;  
IF Q15_4 LT 0 THEN Q15_4R=.; ELSE Q15_4R=Q15_4;  
IF Q15_5 LT 0 THEN Q15_5R=.; ELSE Q15_5R=Q15_5;  
IF Q15_6 LT 0 THEN Q15_6R=.; ELSE Q15_6R=Q15_6;  
IF Q15_7 LT 0 THEN Q15_7R=.; ELSE Q15_7R=Q15_7;
```

```
Q15_4R=6-Q15_4R;  
Q15_7R=6-Q15_7R;
```

```
if Q15_R >= 4 then Q15A_R=1; else if Q15_R > 0 then Q15A_R=0;  
if Q15_2R >= 4 then Q15B_R=1; else if Q15_2R > 0 then Q15B_R=0;
```

if Q15_3R>=4 then Q15C_R=1; else if Q15_3R>0 then Q15C_R=0;
if Q15_4R>=4 then Q15D_R=0; else if Q15_4R>0 then Q15D_R=1;
if Q15_5R>=4 then Q15E_R=1; else if Q15_5R>0 then Q15E_R=0;
if Q15_6R>=4 then Q15F_R=1; else if Q15_6R>0 then Q15F_R=0;
if Q15_7R>=4 then Q15G_R=0; else if Q15_7R>0 then Q15G_R=1;

if Q5=2 then RECAWAR=2;
else if Q8 gt 0 RECAWAR=Q8;
else RECAWAR=.;

C. Q15A_R takes on values 0 and 1. RECAWAR takes on values 1 and 2.

15. Tables 49-55 are similar to Table 48. The variables of analyses, however, change from Q15A_R to Q15B_R (BELIEVE NON-CITIZENS WILL BE TREATED EQUALLY), Q15C_R (BELIEVE PARTICIPATION IS IMPRTANT), Q15D_R (BELIEVE CENSUS COULD BE USED AGAINST THEM), Q15E_R (BELIEVE IT IS IMPORTANT TO FAMILY/COMMUNITY), Q15F_R (BELIEVE CENSUS WILL KEEP CONFIDENTIALITY), Q15G_R (BELIEVE RESPONDING DOES NOT MATTER), and HARM (BELIEVE PARTICIPATION WILL HARM).

A. Statistics: Percentages in Wave 2 of Q15B_R, Q15C_R, Q15D_R, Q15E_R, Q15F_R, Q15G_R, and HARM by Recent Awareness.

B. For definitions of Q15B_R, Q15C_R, Q15D_R, Q15E_R, Q15F_R, and Q15G_R, see item 14B. The definition for HARM is provided below.

if Q17=4 THEN Q17R=3;
else if Q17=3 then Q17R=1;
else if Q17 in (2 1 -2) then Q17R=2;
if Q17R=1 then HARM=1;
else if Q17R in (2 3) then HARM=0;

C. Values of Q15B_R, Q15C_R, Q15D_R, Q15E_R, Q15F_R, Q15G_R, and HARM are 0 and 1.

16. Table 64: Proportion ever heard of the Department of Agriculture.

A. Statistic: Proportion who have heard of Department of Agriculture (Q3_R).

B. Definition of Q3_R.

if Q3_ not in (1 2) then Q3_R=.; else Q3_R=Q3_;
if Q3_R=2 then Q3_R=0;

C. Q3_R takes on values 0 and 1.

17. Tables 65-67 are similar to Table 56. The variables of analyses, however, are Q3_2R (EVER HEARD OF SURGEON GENERAL'S OFFICE), Q4A_R (EVER HEARD OF THE SCHOOL LUNCH PROGRAM), and Q4B_R (EVER HEARD OF WELFARE REFORM). The definitions of Q3_2R, Q4A_R, and Q4B_R are provided below.

```
if Q3_2 not in (1 2) then Q3_2R=.; else Q3_2R=Q3_2;
if Q3_2R=2 then Q3_2R=0;
if Q4A not in (1 2) then Q4A_R=.; else Q4A_R=Q4A;
if Q4B not in (1 2) then Q4B_R=.; else Q4B_R=Q4B;
if Q4A_R=2 then Q4A_R=0;
if Q4B_R=2 then Q4B_R=0;
```

18. Table 99: Comparison of percent who heard recently about Census.

A. Statistic: Percent who heard recently of census (Q8R)

B. Definition of Q8R.

```
if Q8=1 then Q8R=1; /* YES */
else if Q8 in (-1 -2 -3 2) or Q5 in (-1 -2 -3 2) then
Q8R=2; /* NO */
```

C. Q8R is a dichotomous variable with values 1 and 2.

19. Table 100: Comparison of mean number of sources heard, seven-point scale.

A. Statistic: Mean of Index of number of Media Sources Cited (Q10SUM).

B. Definition of Q10SUM.

```
if Q10A in (2 3) then Q10SUMA=1;
else if Q10A in (1 4 . -1 -2 -3) then Q10SUMA=0;
```

```
if Q10C in (2 3) then Q10SUMC=1;
else if Q10C in (1 4 . -1 -2 -3) then Q10SUMC=0;
```

```
if Q10D in (2 3) then Q10SUMD=1;
else if Q10D in (1 4 . -1 -2 -3) then Q10SUMD=0;
```

```
if Q10E in (2 3) then Q10SUME=1;
else if Q10E in (1 4 . -1 -2 -3) then Q10SUME=0;
```

```
if Q10F in (2 3) then Q10SUMF=1;
else if Q10F in (1 4 . -1 -2 -3) then Q10SUMF=0;
```

```
if Q10G in (2 3) then Q10SUMG=1;
else if Q10G in (1 4 . -1 -2 -3) then Q10SUMG=0;
```

if Q10L in (2 3) or Q10M in (2 3) then Q10SUMX=1;
 else if Q10L in (1 4 . -1 -2 -3) or Q10M in (1 4 . -1 -2 -3) then Q10SUMX=0;

Q10SUM=sum(Q10SUMA,Q10SUMC,Q10SUMD,Q10SUME,Q10SUMF,Q10SUMG,
 Q10SUMX);

C. Possible values for Q10SUM are 0, 1, 2, 3, 4, 5, 6, and 7.

20. Table 101: Comparison of total population percent with favorable attitudes/beliefs about census.

A. Statistics: percent who believe can trust promise of confidentiality (Q15F_R), percent who believe important to participate (Q15C_R), and percent who believe the census will not be used against (Q15D_R)

B. For definitions of Q15F_R, Q15C_R, and Q15D_R, see item 14B.

C. Q15F_R, Q15C_R, and Q15D_R possible values are 0 and 1.

21. Table 102: Comparison of percent of population using various mass-media.

A. Statistics: percent who watch television one hour a day or more (Q29FLAG), percent who listen to radio one hour a day or more (Q30FLAG), percent who read magazines once a month or more (Q31FLAG), and percent who read newspapers one day a week or more (Q32FLAG).

A. Definitions of Q29FLAG, Q30FLAG, Q31FLAG, and Q32FLAG.

if Q29 lt 0 then Q29R=.; else Q29R=Q29; if Q30 lt 0 then Q30R=.; else Q30R=Q30; if
 Q31 lt 0 then Q31R=.; else Q31R=Q31; if Q32 lt 0 then Q32R=.; else Q32R=Q32;

if Q29R lt 7 AND Q29R NE . then Q29FLAG=0;
 else if Q29R ge 7 then Q29FLAG=1;
 else Q29FLAG=.;

if Q30R in (0 1) then Q30FLAG=0;
 else if Q30R gt 0 then Q30FLAG=1;

if Q31R=0 then Q31FLAG=0;
 else if Q31R gt 0 then Q31FLAG=1;

if Q32R=0 then Q32FLAG=0;
 else if Q32Rgt 0 then Q32FLAG=1;

B. Q29FLAG, Q30FLAG, Q31FLAG and Q32FLAG are dichotomous variables with possible values 0 and 1.

22. Table 104: Comparison of percent of population hearing of Census by source of communications.
- A. Statistics: percent who heard through television (Q10SUMA), percent who heard through community/government organization meeting (Q10SUMC), percent who heard through magazines (Q10SUMD), percent who heard through informal conversations (Q10SUME), percent who heard through radio (Q10SUMF), percent who heard through newspapers (Q10SUMG), percent who heard through posters or billboards (Q10SUMX).
 - B. Definitions for Q10SUMA, Q10SUMC, Q10SUMD, Q10SUME, Q10SUMF, Q10SUMG, Q10SUMX are provided in the description of Table 36.
 - C. Variables Q10SUMA, Q10SUMC, Q10SUMD, Q10SUME, Q10SUMF, Q10SUMG, and Q10SUMX are dichotomous and take on values of 0 and 1.
23. Figure J1: Distribution of total population regarding hearing about the census on television by wave (conditional).
- A. Statistic: Percent Television Awareness by Wave (10A_R).
 - B. Definition for Q10A_R are provided in section 2B.
 - C. Q10A_R takes on values 1,2 and 3, with increasing values signifying increasing awareness.
24. Figure J2: Distribution of total population regarding hearing about the census in magazine ads by wave (conditional).
- A. Statistic: Percent Magazine Awareness by Wave (Q10D_R).
 - B. Definition for Q10D_R are provided in section 2B.
 - C. Q10D_R takes on values 1,2 and 3, with increasing values signifying increasing awareness.
25. Figure J3: Distribution of total population regarding hearing about the census in radio ads by wave (conditional).
- A. Statistic: Percent Radio Awareness by Wave (Q10F_R).
 - B. Definition for Q10F_R are provided in section 2B.
 - C. Q10F_R takes on values 1,2 and 3, with increasing values signifying increasing awareness.

26. Figure J4: Distribution of total population regarding hearing about the census in newspaper ads by wave (conditional).

A. Statistic: Percent Newspaper Awareness by Wave (Q10G_R).

B. Definition for Q10G_R are provided in section 2B.

C. Q10G_R takes on values 1,2 and 3, with increasing values signifying increasing awareness.

27. Figure J5: Distribution of total population regarding hearing about the census religious group awareness by wave (conditional).

A. Statistic: Percent Religious Group Awareness by Wave (RELGAWAR).

B. Definition of RELGAWAR.

```
IF Q10B LE 0 or Q10B IN (4 5) THEN RELGAWAR=. ;  
ELSE RELGAWAR=Q10B;  
IF Q5=2 OR Q8=2 THEN RELGAWAR=1;  
if Q1_3 NOT in (2 3 4) then RELGAWAR=.;
```

C. RELGAWAR takes on values 1,2 and 3, with increasing values signifying increasing awareness.

28. Figure J6: Distribution of total population regarding hearing about the census in meetings or government organization by wave (conditional).

A. Statistic: Percent Community/Government Organization Meeting Awareness by Wave (MEETAWAR).

B. Definition of MEETAWAR.

```
IF Q10C LE 0 or Q10C IN (4 5) THEN MEETAWAR=. ; ELSE  
MEETAWAR=Q10C;  
IF Q5=2 OR Q8=2 THEN MEETAWAR=1;  
if Q1_2 not in (2 3 4) and Q1_5 not in (2 3 4) then MEETAWAR=.;
```

C. MEETAWAR takes on values 1,2 and 3, with increasing values signifying increasing awareness.

29. Figure J7: Distribution of total population regarding hearing about the census in schools you attended by wave (conditional).

A. Statistic: Percent School Attended Awareness by Wave (SCHLAWAR).

B. Definition of SCHLAWAR.

```
IF Q10H LE 0 or q10H IN (4 5) THEN SCHLAWAR=. ; ELSE  
SCHLAWAR=Q10H;  
IF Q5=2 OR Q8=2 THEN SCHLAWAR=1;  
if Q35=2 then SCHLAWAR=.;
```

C. SCHLAWAR takes on values 1,2 and 3, with increasing values signifying increasing awareness.

30. Figure J8: Distribution of total population regarding hearing about the census in things your children have brought home from school by wave (conditional).

A. Statistic: Percent School Children Attend Awareness by Wave (SCHCHILD).

B. Definition of SCHCHILD.

```
IF Q10I LE 0 or Q10I IN (4 5) THEN SCHCHILD=. ; ELSE SCHCHILD=Q10I;  
IF Q5=2 OR Q8=2 THEN SCHCHILD=1;  
if Q36=2 then SCHCHILD=.;
```

C. SCHCHILD takes on values 1,2 and 3, with increasing values signifying increasing awareness.

31. Figure J9: Distribution of total population regarding hearing about the census in a speech made by government official or community leader by wave (conditional).

A. Statistic: Percent Speech Awareness by Wave (SPEECHAW).

B. Definition of SPEECHAW.

```
IF Q10N LE 0 or Q10N IN (4 5) THEN SPEECHAW=. ; ELSE  
SPEECHAW=Q10N;  
IF Q5=2 OR Q8=2 THEN SPEECHAW=1;  
if Q1_6 not in (2 3 4) then SPEECHAW=.;
```

C. SPEECHAW takes on values 1,2 and 3, with increasing values signifying increasing awareness.

32. Figure J10: Distribution of total population regarding hearing about the census on the Internet by wave (conditional).

A. Statistic: Percent Internet Awareness by Wave (INTRNTAW).

B. Definition of INTRNTAW.

```
IF Q10P LE 0 or Q10P IN (4 5) THEN INTRNTAW=. ; ELSE
INTRNTAW=Q10P;
IF Q5=2 OR Q8=2 THEN INTRNTAW=1;
if Q33=0 then INTRNTAW=.;
```

C. INTRNTAW takes on values 1,2 and 3, with increasing values signifying increasing awareness.

Appendix H

Formulas used to estimate the variances

We estimated all variances and related statistics (standard errors and design effects) using the software package SUDAAN. All formulas appear in the SUDAAN documentation (see Shah *et al.*, 1995). We used the design option DESIGN = WR for all calculations. For estimated percentages, frequencies, and the like, we employed PROC CROSSTAB, while for estimated means, we used PROC DESCRIPT.

Let $\hat{\Delta} = \hat{P}_i - \hat{P}_j$ denote an estimated trend between Wave i and Wave j . To estimate the standard error of the estimated trend, we calculated the square root of the sum of the estimated variances of \hat{P}_i and \hat{P}_j .

Appendix I

Screening interviews

At the beginning of both the CATI and the in-person interviews, we administered a brief screening questionnaire designed to determine eligibility for the main interview and the demographic characteristics of the person who would respond to the main interview. For example, the screener for Wave 1 appears at the end of this appendix.

The first part of the screening questionnaire determined whether or not mail was delivered to the house, the post office, or somewhere elsewhere, and then whether or not the person responding to the screening questions was the person who usually handled the mail. If this was the person, the screening questionnaire skipped to questions about this person's race/ethnicity. If it was a proxy, not the mail handler, the screener asked for demographic information about the mail handler, including race/ethnicity. The CATI questionnaire was pre-programmed to send the interviewer to the correct set of questions. For the in-person interviewing, the interviewer was instructed to refer to the label on the cover of the screener, which had a code for sample type (core, Asian, American Indian, and Native Hawaiian).

Within the core sample, it was generally not necessary to screen and subsample households by race/ethnicity, and at the onset we took everyone who was eligible to be interviewed regardless of race/ethnicity. In Wave 1, it became necessary to implement subsampling procedures late in the data-collection period because we were getting too many Whites and not enough African Americans and Hispanics. We managed this screening and subsampling via a system of replicates. In Waves 2 and 3, subsampling was not necessary.

For each of the other sample types (Asian, American Indian, and Native Hawaiian), NORC needed to complete a specified number of cases with persons of the specified race. The screening questions were asked at the beginning of the interview so that if the race and the sample type did not match, the interview was terminated at the end of the screening questions.

At the close of the screening interview, we proceeded to administer the main questionnaire for any case who screened in.

Media Use Survey - Hard Copy Record of Calls

Use the following Dispositions when writing information into your Record of Calls.

DISPOSITION CODES

<p>PENDING SCREENER CODES</p> <p>00 - NO ACTION 21 - NO ONE HOME 22 - TEMP LANGUAGE BARRIER 23 - TEMP REFUSAL 24 - TEMP GATEKEEPER REFUSAL 25 - APPOINTMENT / SCREENER 26 - BROKEN APPOINTMENT / SCREENER 27 - BREAKOFF / SCREENER 28 - SCREENER COMP/ELIGIBLE R 29 - OTHER</p>	<p>PENDING QUEX CODES</p> <p>30 - R NOT AVAILABLE/HAVE PHONE NUMBER 31 - R NOT AVAILABLE / DON'T HAVE PHONE NUMBER 33 - TEMP REFUSAL 34 - TEMP GATEKEEPER REFUSAL 35 - TEMP LANG BARRIER 36 - APPOINTMENT / QUEX 37 - BROKEN APPT / QUEX 38 - BREAKOFF / QUEX 39 - OTHER</p>	<p>COMPLETE SCREENER & QUEX CODES</p> <p>(screener & quex should match; determined by quex outcome)</p> <p>60 - COMPLETED IN-PERSON 61 - COMPLETED BY PHONE 62 - CONVERTED COMP IN PERSON 63 - CONVERTED COMP BY PHONE</p>
<p>OUT OF SCOPE SCREENER CODES</p> <p>80 - NOT ELIGIBLE / SCREENER COMP 81 - PROXY SAYS NOT ELIGIBLE / SCREENER COMP 82 - NOT AN HU 83 - VACANT HU 84 - OTHER OOS</p>		<p>FINAL: NOT INTERVIEWED (NIR) (only with Field Manager Approval)</p> <p>90 - FINAL REFUSAL 91 - FINAL OTHER 92 - FINAL LANG BARRIER (SPECIFY LANGUAGE) 93 - FINAL QUEX BREAKOFF 94 - FINAL HOSTILE REFUSAL</p>

RECORD OF CALLS

Try	Date	Day	Time	Comments	Disp Code
1.					
2.					

NIR: USE THIS PAGE ONLY IF YOU ARE UNABLE TO COMPLETE THIS CASE

1. PLEASE DESCRIBE WHY YOU WERE UNABLE TO COMPLETE THIS CASE? PLEASE BE AS DETAILED AS POSSIBLE. (IF A REFUSAL, WHAT WAS THE REASON FOR THE REFUSAL?)

2. WHICH OF THE FOLLOWING WERE ATTEMPTED ON THIS CASE? (CIRCLE ALL THAT APPLY)

- PHONE LOCATING 1
- IN PERSON LOCATING..... 2
- NOTE OR LETTER LEFT AT DOOR..... 3
- NOTE OR LETTER MAILED TO R (ATTACH COPY IF POSSIBLE)..... 4
- SPECIALIZED LETTER MAILED FROM OFFICE..... 5
- SPECIALIZED LETTER FROM CLIENT..... 6
- MAILGRAM OR TELEGRAM 7
- CASE TRANSFER TO LOCAL OR NEW INTERVIEWER..... 8
- FIELD PHONE CONVERSION ATTEMPT 9
- OFFICE PHONE CONVERSION ATTEMPT 10
- CLIENT PHONE CONVERSION ATTEMPT 11

3. HOW MANY SEPARATE ATTEMPTS (PHONE CONTACTS, PERSONAL VISITS) WERE MADE FOR THIS CASE? |_|_|

4. HOW MANY OF THESE WERE IN-PERSON VISITS? |_|_|

5. COUNTING EVERYTHING -- ALL CONTACTS, PHONE CALLS, IN-PERSON VISITS, MAILING THE CASE -- ABOUT HOW LONG HAS IT TAKEN TO WORK THIS CASE?

|_|_| HOURS & |_|_| MINUTES

INTRODUCTION TO SCREENER:

“Hello, my name is _____, I’m from the National Opinion Research Center, a social science research center at the University of Chicago. I am working on a media use survey, funded by Department of Commerce. I would like to ask you a few questions about how your household receives mail.”

- S1.** Is your mail delivered to your house?
 Yes 1 → (SKIP TO S2)
 No 2 → (ASK S1A)

- S1A.** Where is it delivered?
 At the post office..... 1
 Elsewhere..... 2

- S2.** Are you the person who usually handles the mail?
 Yes 1 → (SKIP TO S11)
 No 2 → (ASK S3)

- S3.** Is the person who usually handles the mail available?
 Yes 1 → (SKIP TO S3A)
 No 2 → (Read Intro to S4)

- S3A.** May I talk to this person?
 Yes 1 → (SKIP TO S11)
 No 2 → (Read Intro to S4)

INTRO:

I'd like to ask you some questions about the person who usually handles the mail.

- S4.** Is (he/she) male or female?
 Male 1
 Female..... 2
- S5.** Which of the following describes (his/her) age?
 18-24 1
 25-34..... 2
 35-44..... 3
 45-54..... 4
 55-64..... 5
 65 OR OLDER..... 6
 REFUSED..... 96

S7C. INTERVIEWER: FOR THE CORE SAMPLE, IS S7 CODED 1, 2, 6 OR 96?

- S6.** Is (he/she) of Hispanic origin or descent?
 Yes..... 1
 No 2
 REFUSED..... 96

- S7.** Which of the following categories best describes (his/her) race – is (he/she) (READ LIST)?
 White..... 1
 Black or African American 2
 Asian 3
 Native Hawaiian or other Pacific Islander 4
 American Indian or Alaska Native..... 5
 OTHER (SPECIFY) 6

 REFUSED..... 96



INTERVIEWER: CHECK SAMPLE TYPE FOR THIS SCREENER

- S7A.** INTERVIEWER: FOR THE NATIVE AMERICAN SAMPLE, IS S7 CODED 5?
 Yes 1 →(SKIP TO S8)
 No 2
 (READ STATEMENT BELOW)

That's all the questions I have. Thank you for your time.

- S7B.** INTERVIEWER: FOR THE ASIAN SAMPLE, IS S7 CODED 3?
 Yes..... 1 →(SKIP TO S8)
 No 2
 (READ STATEMENT BELOW)

That's all the questions I have. Thank you for your time.

- Yes..... 1 →(SKIP TO S8)
 No 2

(READ STATEMENT BELOW)

**That's all the questions I have.
Thank you for your time.**

S8. What language is usually spoken in this household?

- ENGLISH 1
- SPANISH 2
- CANTONESE 3
- MANDARIN 4
- KOREAN 5
- JAPANESE 6
- VIETNAMESE 7
- HMONG OR MIEN 8
- FILIPINO OR TAGALOG 9
- THAI 10
- LAOTIAN 11
- CAMBODIAN 12
- POLISH 13
- ARABIC 14
- CREOLE/FRENCH 15
- OTHER (*SPECIFY*) 16
- REFUSED 96

S9. When will (he/she) be available?

INTERVIEWER: TRY TO GET AN EXACT TIME

Time: _____

S10. May I have the first name of that person so I can ask for them directly when I get back in touch?

Thank you so much for your time.

S11. I would like to begin by asking you some questions about yourself. Which of the following describes your age?

S13B. INTERVIEWER: FOR THE ASIAN SAMPLE, IS S13 CODED 3?

- Yes 1 → (SKIP TO S14)
- No 2

- 18-24 1
- 25-34 2
- 35-44 3
- 45-54 4
- 55-64 5
- 65 OR OLDER 6
- REFUSED 96

S12. Are you of Hispanic origin or descent?

- Yes 1
- No 2
- REFUSED 96

S13. Which of the following categories best describes your race – are you (**READ LIST**)?

- White 1
- Black or African American 2
- Asian 3
- Native Hawaiian or other Pacific Islander 4
- American Indian or Alaska Native 5
- OTHER (*SPECIFY*) 6
- REFUSED 96

INTERVIEWER: CHECK SAMPLE TYPE FOR THIS SCREENER



S13A. INTERVIEWER: FOR THE NATIVE AMERICAN SAMPLE IS S13 CODED 5?

- Yes 1 → (SKIP TO S14)
 - No 2
- (READ STATEMENT BELOW)

**That's all the questions I have.
Thank you for your time.**

(READ STATEMENT BELOW)

**That's all the questions I have.
Thank you for your time.**

S13C. INTERVIEWER: FOR THE CORE SAMPLE, IS S13 CODED 1, 2, 6 OR 96?

Yes..... 1 →(SKIP TO S14)

No 2

(READ STATEMENT BELOW)

**That's all the questions I have.
Thank you for your time.**

READ:

Now I would like to ask you some questions about different aspects of government. Your household has been chosen as one of a small number of households to take part in this survey, and your participation is strictly voluntary. This interview will take less than 20 minutes. You may elect to discontinue the interview at any point. Any identifiable information you furnish will be protected from disclosure under the Privacy Act of 1974. Do you have any questions?

INTERVIEWER:

S14. What language is usually spoken in this household?

- ENGLISH 1
- SPANISH 2
- CANTONESE 3
- MANDARIN 4
- KOREAN 5
- JAPANESE 6
- VIETNAMESE 7
- HMONG OR MIEN 8
- FILIPINO OR TAGALOG 9
- THAI 10
- LAOTIAN 11
- CAMBODIAN 12
- POLISH 13
- ARABIC 14
- CREOLE/FRENCH 15
- OTHER (*SPECIFY*) 16
- _____
- REFUSED 96

ADMINISTER QUESTIONNAIRE



S15. Are you male or female?

INTERVIEWER - ASK IF APPROPRIATE

MALE 1

FEMALE 2

Appendix J

Conditional awareness of census communications

In Figures 24 to 41, we presented the distributions of responses to Question 10 regarding places people may have heard about the census. Here is an index to a key subset of these figures.

Figure	Source of Communications
24	Television
25	Magazines
26	Radio
27	Newspapers
29	Religious Group
30	Community/Government Organization Meeting
32	Schools Attended
33	Schools Children Attend
35	Speeches
39	Internet

The survey questionnaires contained questions about any use of the sources of communications listed. For example, Question 35 asks if you have recently attended an adult education class. It did not contain such questions about other sources of census communications raised in Question 10. For example, the questionnaire does not ask whether you have ever seen an outside billboard.

Using the survey questions, we can segment the population by whether or not people report use of the source of communications at all. The following figures give the conditional distributions of the sources, given that people report some use of the source.

Figure J-1 gives the conditional distribution of awareness due to television, which may be compared to Figure 24, the corresponding unconditional distribution. The conditional and unconditional distributions appear quite similar. One should expect this finding, because nearly everyone watches some television. The conditional and unconditional distributions are also somewhat similar for awareness due to magazines, radio, newspapers, and religious groups.

The conditional distribution (Figure J-8) for schools children attend is somewhat similar to the corresponding unconditional distribution (Figure 33). However, in the conditional distribution, especially Waves 2 and 3, "heard a little" is somewhat higher and "heard a lot" is somewhat lower. If census communications through schools was completely effective, one would expect the conditional distribution to be higher for both the "heard a little" and "heard a lot" categories.

There is a relatively bigger change in the distributions for meetings, schools you attended, speeches, and the Internet. The percents "heard a little" and "heard a lot" are relatively higher in the conditional distributions than in the unconditional distributions. On the other hand, the impact of the corresponding census awareness is diluted by the fact that attending adult education classes and speeches is relatively less prevalent than other activities of daily life that may cause people to be exposed to census communications. Clearly, as Internet penetration increases over the coming decade, it will become a more powerful source of census communications.

Figure J-1: Conditional distribution of total population regarding hearing about the census on television

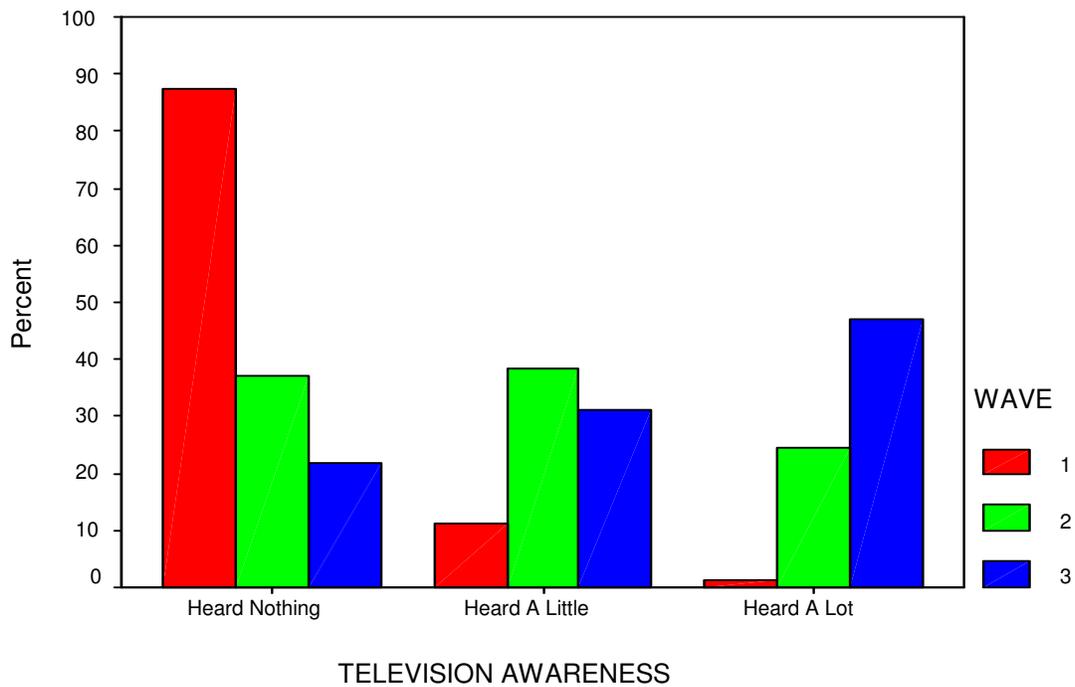


Figure J-2: Conditional distribution of total population regarding hearing about the census in magazine ads

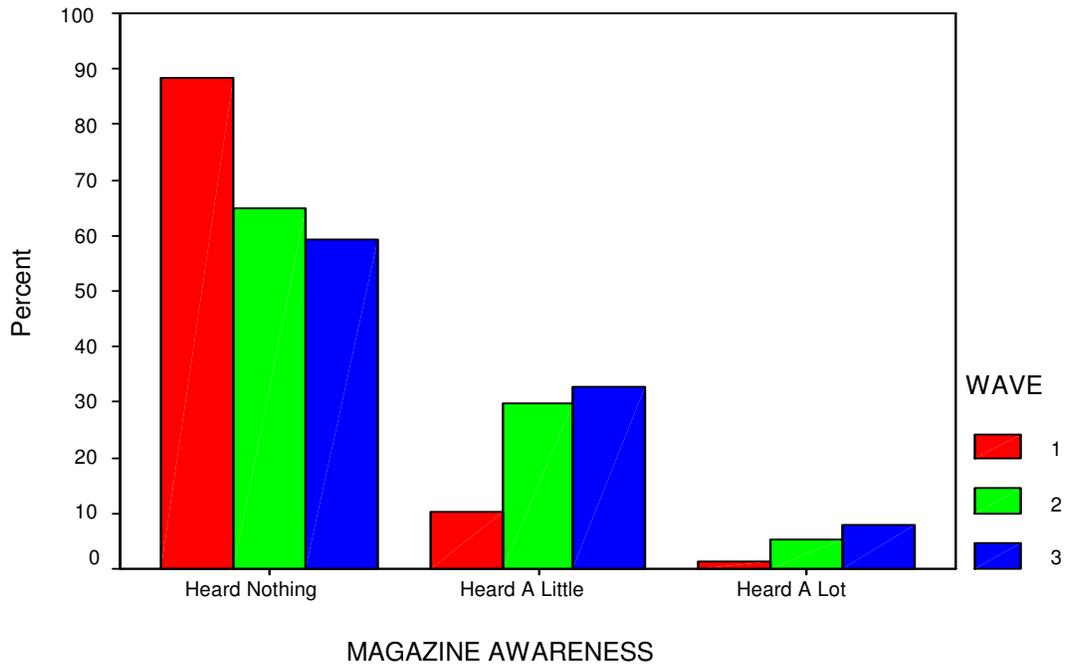


Figure J-3: Conditional distribution of total population regarding hearing about the census in radio ads

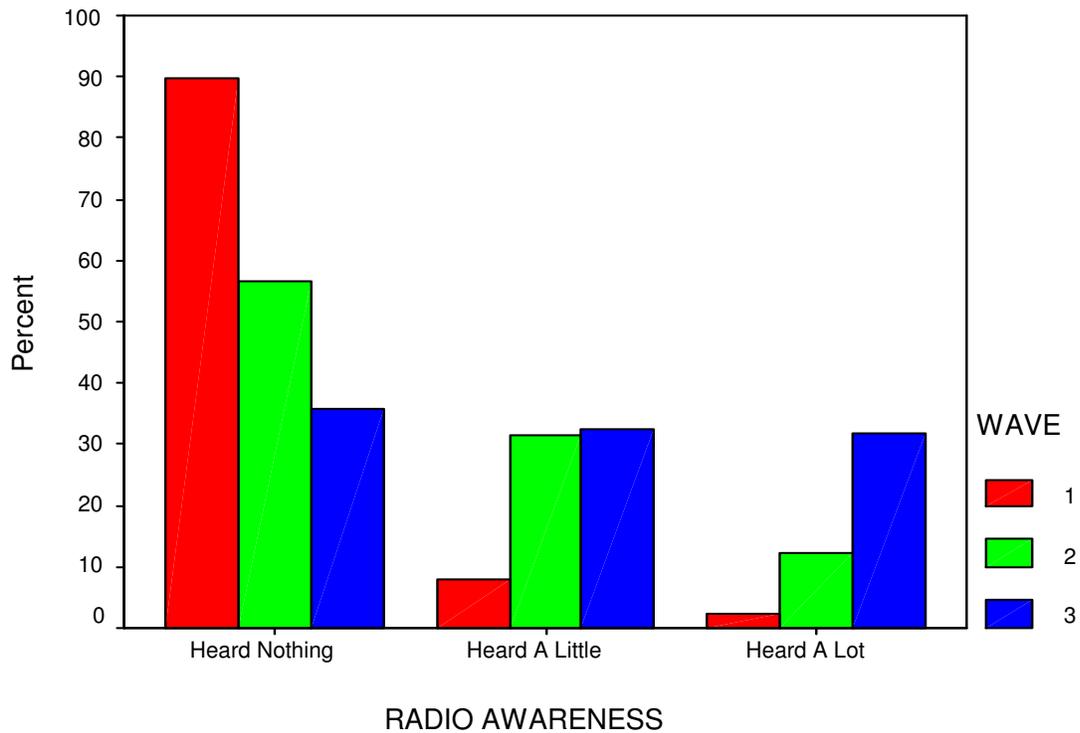


Figure J-4: Conditional distribution of total population regarding hearing about the census in newspaper ads

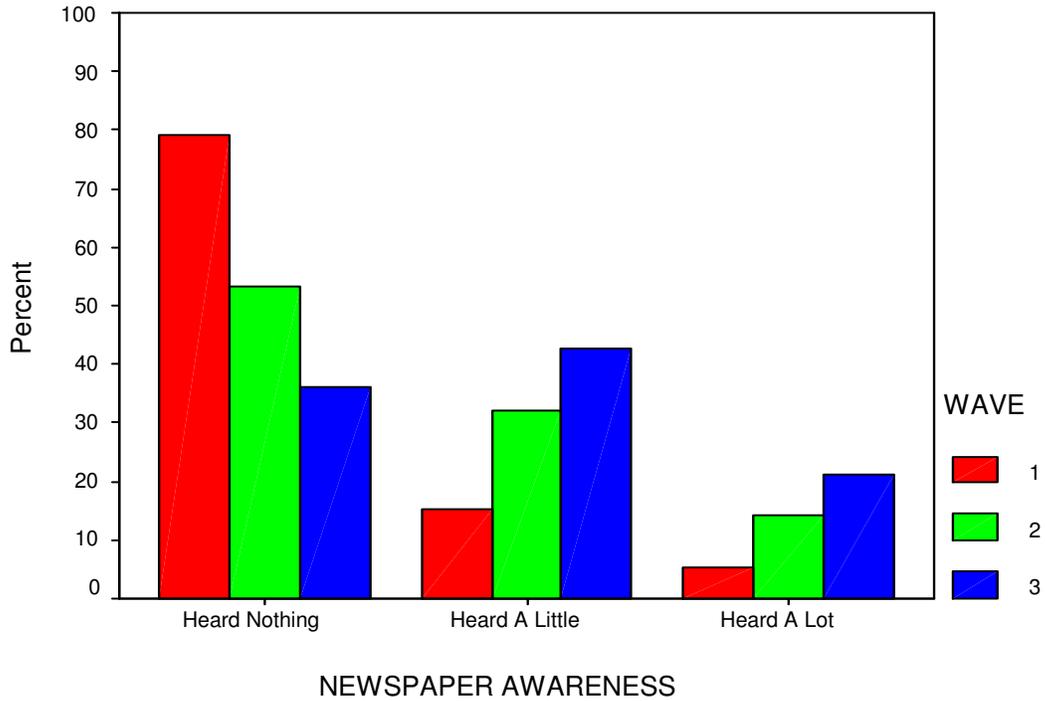


Figure J-5: Conditional distribution of total population regarding hearing about the census in meetings of a religious group or at a place of worship

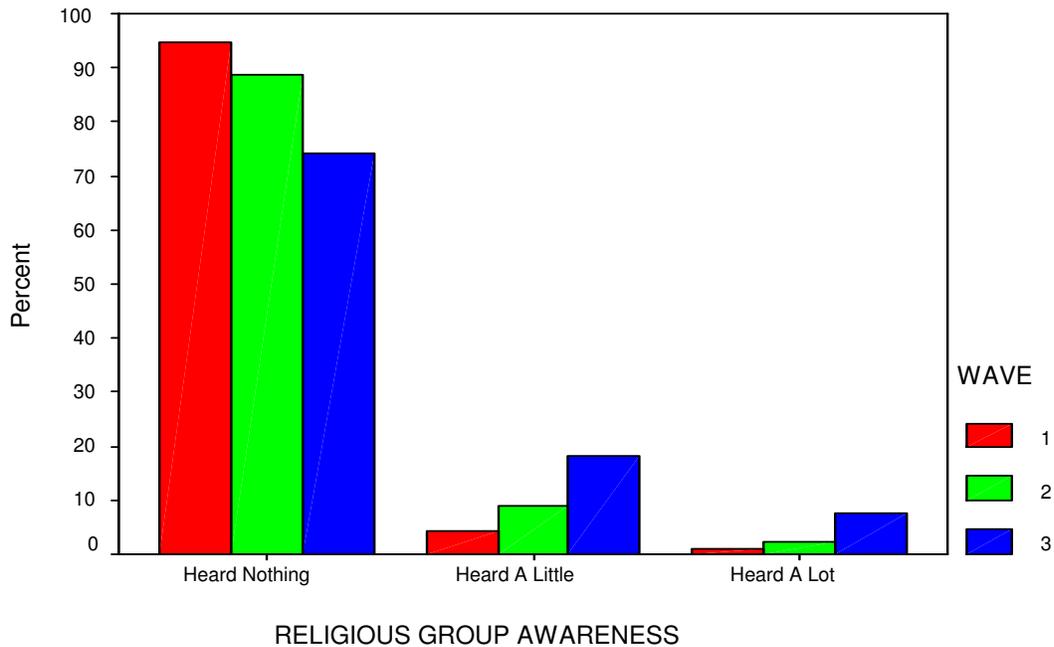
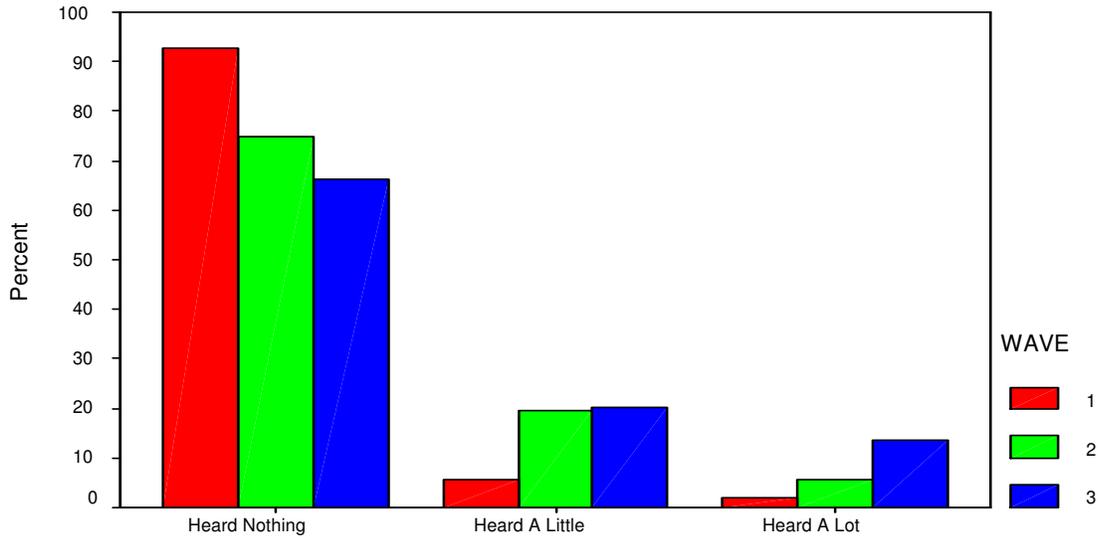
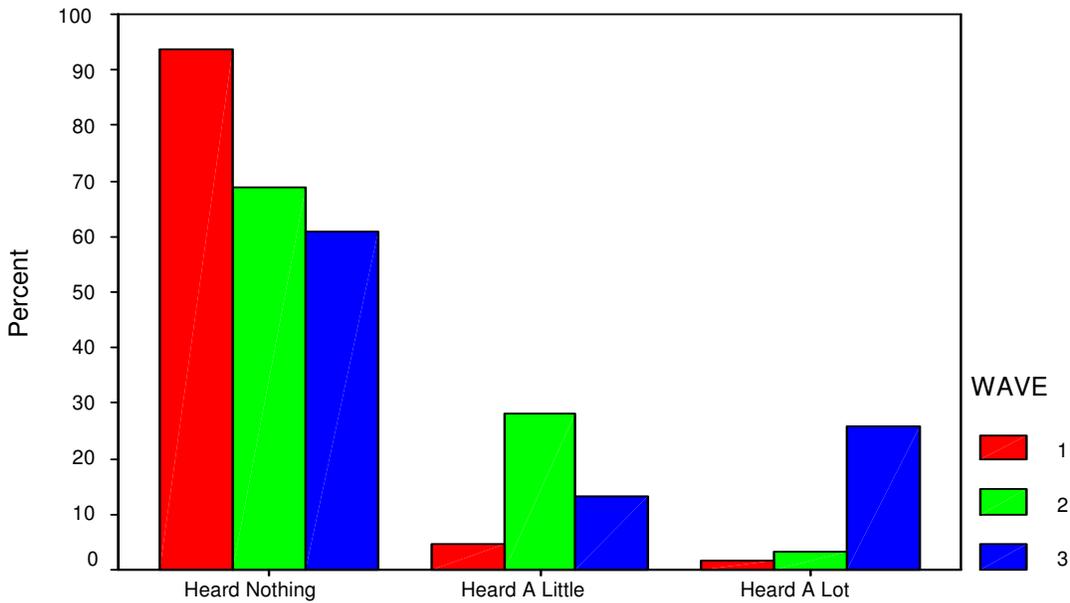


Figure J-6: Conditional distribution of total population regarding hearing about the census in meetings or activities of a community or government organization



COMMUNITY/GOVERNMENT ORGANIZATION MEETING AWARENESS

Figure J-7: Conditional distribution of total population regarding hearing about the census in schools you attend



SCHOOL ATTENDED AWARENESS

Figure J-8: Conditional distribution of total population regarding hearing about the census in things your children have brought home from school

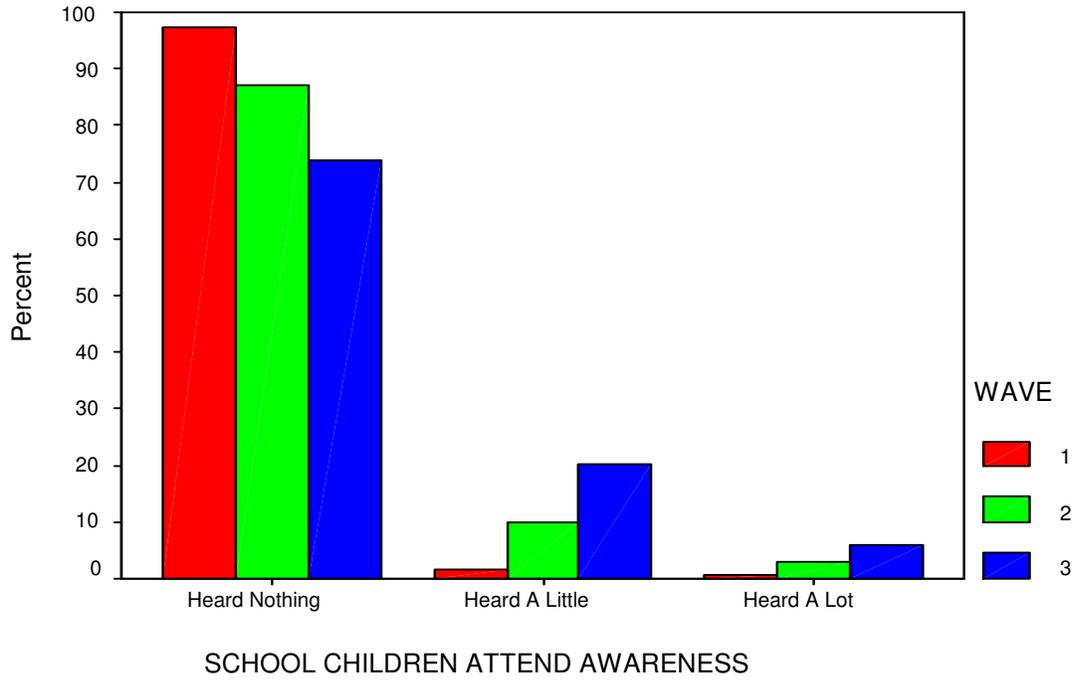


Figure J-9: Conditional distribution of total population regarding hearing about the census in a speech made by a government official or community leader

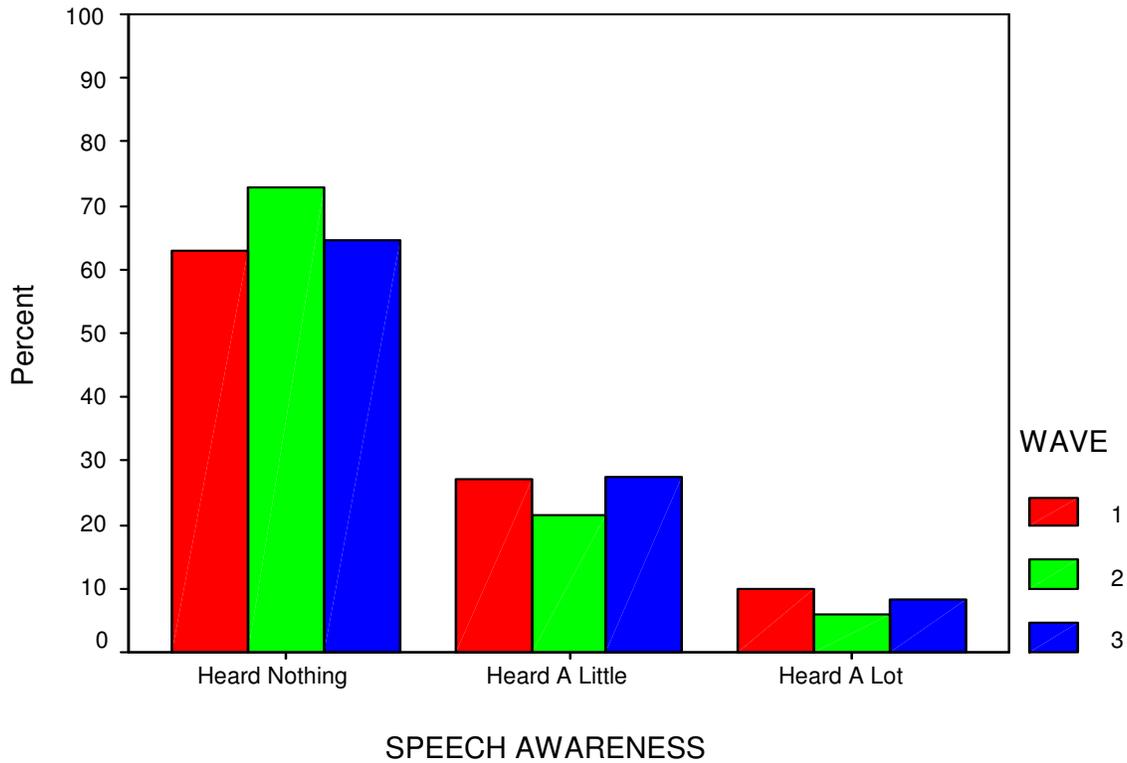
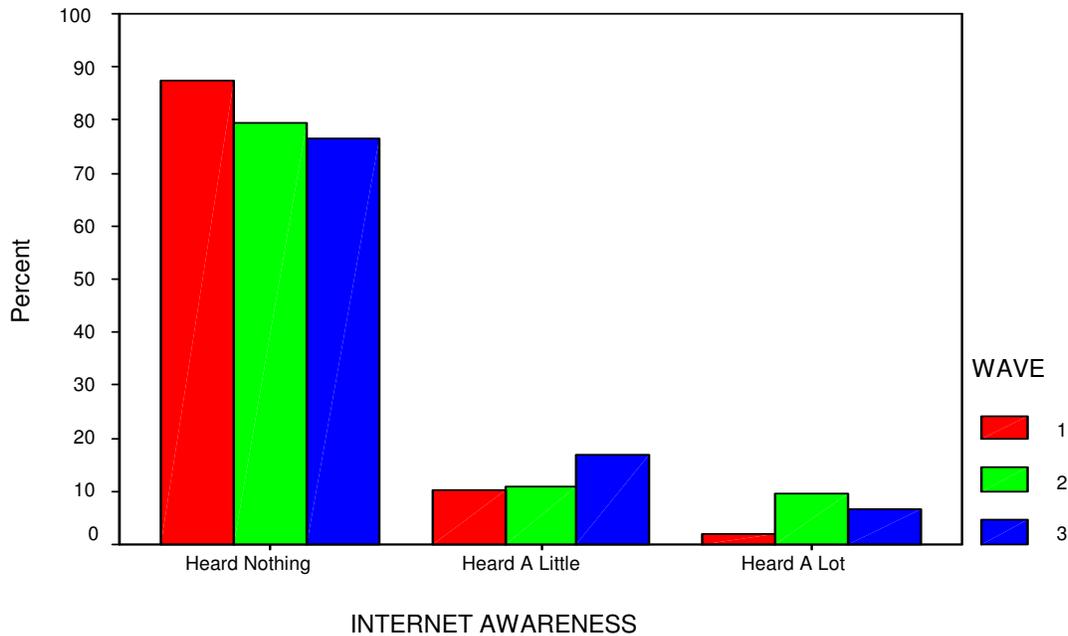


Figure J-10: Conditional distribution of total population regarding hearing about the census on the Internet



Tables J-1 through J-8 present conditional (within user segments) mean awareness of census communications and trends in conditional mean awareness for the total population and for the six targeted race/ethnicity populations. As a reminder, Tables 10-25 in the main body of this report display unconditional (whole population) means and trends in means.

Table J-1: Conditional mean awareness of different sources of census communications, given user segment: total population

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (0.021)	1.88 (0.091)	2.25 (0.044)	<.0001 *	.0007 *	<.0001 *
Magazines	1.13 (0.026)	1.41 (0.043)	1.49 (0.042)	<.0001 *	.5494	<.0001 *
Radio	1.13 (0.022)	1.56 (0.064)	1.96 (0.045)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.26 (0.030)	1.61 (0.066)	1.85 (0.041)	<.0001 *	.0060 *	<.0001 *
Religious Group	1.06 (0.020)	1.14 (0.027)	1.33 (0.040)	.0787 *	.0002 *	<.0001 *
Community/Government Organization Meeting	1.09 (0.022)	1.31 (0.068)	1.47 (0.068)	.0075 *	.2632	<.0001 *
Schools You Attend	1.08 (0.039)	1.34 (0.104)	1.65 (0.128)	.0523 *	.1853	<.0001 *
Schools Your Children Attend	1.03 (0.015)	1.16 (0.036)	1.32 (0.049)	.0032 *	.0223 *	<.0001 *
Speeches	1.47 (0.157)	1.33 (0.119)	1.44 (0.106)	1.0000	1.0000	1.0000
Internet	1.15 (0.044)	1.30 (0.109)	1.30 (0.048)	.5533	1.0000	.0573 *

Table J-2: Conditional mean awareness of different sources of census communications, given user segment: Hispanic

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.36 (0.044)	2.04 (0.064)	2.29 (0.077)	<.0001 *	.0367 *	<.0001 *
Magazines	1.24 (0.052)	1.41 (0.064)	1.54 (0.066)	.0990 *	.4648	.0009 *
Radio	1.33 (0.042)	1.74 (0.064)	2.21 (0.077)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.40 (0.062)	1.52 (0.075)	1.96 (0.077)	.5726	.0002 *	<.0001 *
Religious Group	1.09 (0.030)	1.25 (0.046)	1.40 (0.063)	.0071 *	.1570	<.0001 *
Community/Government Organization Meeting	1.14 (0.047)	1.17 (0.064)	1.52 (0.094)	1.0000	.0058 *	.0009 *
Schools You Attend	1.12 (0.064)	1.19 (0.070)	1.84 (0.115)	1.0000	<.0001 *	<.0001 *
Schools Your Children Attend	1.09 (0.036)	1.27 (0.060)	1.47 (0.069)	.0265 *	.0831 *	<.0001 *
Speeches	1.55 (0.242)	1.80 (0.384)	1.35 (0.213)	1.0000	.8979	1.0000
Internet	1.12 (0.044)	1.30 (0.129)	1.43 (0.105)	.5747	1.0000	.0239 *

Table J-3: Conditional mean awareness of different sources of census communications, given user segment: non-Hispanic African American

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.23 (0.028)	2.06 (0.047)	2.34 (0.055)	<.0001 *	.0003 *	<.0001 *
Magazines	1.19 (0.058)	1.57 (0.053)	1.71 (0.067)	<.0001 *	.3216	<.0001 *
Radio	1.17 (0.035)	1.83 (0.061)	2.22 (0.053)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.23 (0.040)	1.70 (0.071)	1.92 (0.062)	<.0001 *	.0597 *	<.0001 *
Religious Group	1.13 (0.036)	1.36 (0.061)	1.51 (0.072)	.0039 *	.3812	<.0001 *
Community/Government Organization Meeting	1.24 (0.065)	1.46 (0.056)	1.73 (0.127)	.0298 *	.1454	.0016 *
Schools You Attend	1.20 (0.120)	1.51 (0.136)	2.00 (0.195)	.2492	.1186	.0014 *
Schools Your Children Attend	1.09 (0.066)	1.21 (0.064)	1.48 (0.055)	.5329	.0047 *	<.0001 *
Speeches	1.25 (0.105)	1.44 (0.156)	1.97 (0.229)	.9489	.1761	.0141 *
Internet	1.24 (0.102)	1.46 (0.083)	1.41 (0.085)	.2900	1.0000	.5717

Table J-4: Conditional mean awareness of different sources of census communications, given user segment: non-Hispanic White

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.09 (0.024)	1.81 (0.125)	2.21 (0.063)	<.0001 *	.0106 *	<.0001 *
Magazines	1.11 (0.037)	1.38 (0.054)	1.42 (0.059)	.0001 *	1.0000	<.0001 *
Radio	1.09 (0.031)	1.46 (0.088)	1.85 (0.060)	.0002 *	.0009 *	<.0001 *
Newspaper	1.26 (0.047)	1.60 (0.089)	1.81 (0.054)	.0019 *	.1280	<.0001 *
Religious Group	1.04 (0.027)	1.07 (0.033)	1.26 (0.064)	1.0000	.0203 *	.0033 *
Community/Government Organization Meeting	1.03 (0.010)	1.30 (0.100)	1.39 (0.095)	.0215 *	1.0000	.0006 *
Schools You Attend	1.05 (0.044)	1.33 (0.139)	1.51 (0.178)	.1645	1.0000	.0402 *
Schools Your Children Attend	1.01 (0.004)	1.08 (0.052)	1.23 (0.080)	.4396	.3430	.0141 *
Speeches	1.56 (0.277)	1.19 (0.123)	1.31 (0.120)	.6585	1.0000	1.0000
Internet	1.14 (0.058)	1.28 (0.144)	1.26 (0.059)	1.0000	1.0000	.4678

Table J-5: Conditional mean awareness of different sources of census communications, given user segment: all other

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.11 (0.066)	1.81 (0.189)	2.35 (0.117)	.0014 *	.0449 *	<.0001 *
Magazines	1.08 (0.065)	1.22 (0.083)	1.67 (0.148)	.5810	.0227 *	.0008 *
Radio	1.06 (0.026)	1.34 (0.112)	2.03 (0.111)	.0431 *	<.0001 *	<.0001 *
Newspaper	1.16 (0.090)	1.62 (0.128)	1.98 (0.109)	.0112 *	.0954 *	<.0001 *
Religious Group	1.07 (0.065)	1.11 (0.047)	1.41 (0.130)	1.0000	.0843 *	.0592 *
Community/Government Organization Meeting	1.15 (0.115)	1.18 (0.126)	1.30 (0.198)	1.0000	1.0000	1.0000
Schools You Attend	1.00 (0.000)	2.05 (0.360)	1.75 (0.209)	.0110 *	1.0000	.0010 *
Schools Your Children Attend	1.00 (0.000)	1.26 (0.140)	1.14 (0.062)	.1845	1.0000	.0657 *
Speeches	1.84 (0.139)	1.46 (0.305)	1.27 (0.235)	.7725	1.0000	.1187
Internet	1.10 (0.080)	1.43 (0.303)	1.38 (0.110)	.8669	1.0000	.1119

Table J-6: Conditional mean awareness of different sources of census communications, given user segment: Asian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.14 (0.023)	1.78 (0.049)	2.16 (0.043)	<.0001 *	<.0001 *	<.0001 *
Magazines	1.14 (0.035)	1.41 (0.053)	1.47 (0.035)	<.0001 *	1.0000	<.0001 *
Radio	1.11 (0.022)	1.51 (0.047)	1.76 (0.040)	<.0001 *	.0002 *	<.0001 *
Newspaper	1.24 (0.039)	1.66 (0.052)	1.90 (0.039)	<.0001 *	.0005 *	<.0001 *
Religious Group	1.05 (0.022)	1.26 (0.042)	1.34 (0.040)	<.0001 *	.5062	<.0001 *
Community/Government Organization Meeting	1.07 (0.031)	1.21 (0.059)	1.28 (0.046)	.1223	1.0000	.0005 *
Schools You Attend	1.01 (0.011)	1.51 (0.163)	1.37 (0.076)	.0069 *	1.0000	<.0001 *
Schools Your Children Attend	1.00 (0.002)	1.20 (0.065)	1.38 (0.056)	.0081 *	.1160	<.0001 *
Speeches	1.46 (0.171)	1.64 (0.210)	1.47 (0.181)	1.0000	1.0000	1.0000
Internet	1.07 (0.022)	1.35 (0.069)	1.41 (0.049)	.0004 *	1.0000	<.0001 *

Table J-7: Conditional mean awareness of different sources of census communications, given user segment: American Indian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.23 (0.049)	1.71 (0.083)	2.04 (0.078)	<.0001 *	.0139 *	<.0001 *
Magazines	1.20 (0.061)	1.47 (0.079)	1.59 (0.085)	.0210 *	.9022	.0006 *
Radio	1.25 (0.062)	1.57 (0.087)	1.82 (0.068)	.0078 *	.0650 *	<.0001 *
Newspaper	1.29 (0.058)	1.63 (0.084)	1.91 (0.077)	.0029 *	.0434 *	<.0001 *
Religious Group	1.05 (0.017)	1.10 (0.023)	1.27 (0.067)	.1632	.0713 *	.0052 *
Community/Government Organization Meeting	1.22 (0.055)	1.48 (0.096)	1.71 (0.079)	.0629 *	.1916	<.0001 *
Schools You Attend	1.11 (0.073)	1.19 (0.078)	1.54 (0.162)	1.0000	.1541	.0424 *
Schools Your Children Attend	1.09 (0.035)	1.16 (0.044)	1.35 (0.080)	.6593	.0935 *	.0069 *
Speeches	1.46 (0.195)	1.31 (0.168)	1.93 (0.167)	1.0000	.0249 *	.1917
Internet	1.11 (0.053)	1.26 (0.091)	1.64 (0.123)	.4440	.0397 *	.0002 *

Table J-8: Conditional mean awareness of different sources of census communications, given user segment: Native Hawaiian

Source	Wave 1	Wave 2	Wave 3	Significance of Trends (p-Values)		
				Wave 1-2	Wave 2-3	Wave 1-3
Television	1.15 (0.027)	1.59 (0.063)	2.21 (0.054)	<.0001 *	<.0001 *	<.0001 *
Magazines	1.12 (0.028)	1.24 (0.056)	1.45 (0.049)	.1554	.0209 *	<.0001 *
Radio	1.08 (0.018)	1.40 (0.053)	1.88 (0.056)	<.0001 *	<.0001 *	<.0001 *
Newspaper	1.14 (0.024)	1.62 (0.073)	2.01 (0.060)	<.0001 *	.0001 *	<.0001 *
Religious Group	1.06 (0.020)	1.13 (0.036)	1.35 (0.048)	.3621	.0005 *	<.0001 *
Community/Government Organization Meeting	1.17 (0.040)	1.27 (0.060)	1.54 (0.062)	.5951	.0060 *	<.0001 *
Schools You Attend	1.09 (0.034)	1.13 (0.055)	1.61 (0.120)	1.000	.0009 *	<.0001 *
Schools Your Children Attend	1.06 (0.023)	1.21 (0.054)	1.45 (0.058)	.0444 *	.0067 *	<.0001 *
Speeches	1.13 (0.062)	1.25 (0.120)	1.80 (0.157)	1.000	.0174 *	.0002 *
Internet	1.05 (0.026)	1.14 (0.054)	1.25 (0.056)	.3756	.4962	.0039 *