Analyses for Partnerships Based on the Census Barriers, Attitudes, and Motivator Survey

Mary H. Mulry and Timothy P. Olson [1]
Statistical Research Division, U.S. Census Bureau, Washington, DC 20233
Field Division, U.S. Census Bureau, Washington, DC 20233

Abstract
The U.S. Census Bureau conducted the Census Barriers, Attitudes, and Motivators Survey (CBAMS) with the goal of obtaining an in-depth understanding of the public's opinions about the 2010 Census. Our analyses address issues relevant to local grassroots partnerships and complement other analyses that inform the overall communications program. We use multivariate analyses to inform the word-of-mouth campaigns through partnerships about barriers and motivators in the hard-to-count population segments. The paper focuses on messages and media vehicles that will be the most effective among populations that are typically targeted under partnerships. We design specific approaches to use with each of the groups in the hard-to-count segments.

Keywords: 2010 Census, Integrated Communications Program, social marketing, word-of-mouth campaign, CBAMS

1. Introduction

For the 2010 Census, the U.S. Census Bureau is embarking upon a comprehensive communications campaign to encourage the public to fill out and mail back census questionnaires. The 2010 Census Integrated Communication Program (ICP) has stated three goals: (1) increase the mail response rate, (2) improve the overall accuracy and reduce the differential undercount, and (3) increase cooperation with census enumerators during the followup of those who do not respond by mail. As a call-to-action social marketing campaign, the ICP includes paid advertising and promotions that target the entire population. In addition, specialized strategies, including targeted advertising, local grassroots partnership efforts, and in-language and in-cultural materials are going to be placed more heavily in population groups that are hard to count. To aid in the preparation of communications, the ICP conducted the Census Barriers Attitudes and Motivators Survey (CBAMS). CBAMS sought to provide an in-depth understanding of the public's opinions about the 2010 Census as well as preferences for media and other sources of information

Our focus in this paper is on the messages and trusted voices that will be the most effective among hard-to-count groups of the population that are typically targeted under partnerships. Census staff begins cultivating partnerships with community organizations, churches, and others in 2009, about a year before Census Day, April 1, 2010. Our analyses inform the word-of-mouth campaigns through partnerships about barriers and

---

[1] This report is released to inform interested parties and encourage discussion of work in progress. The views expressed on statistical, methodological, and operational issues are those of the authors and not necessarily those of the U.S. Census Bureau. .

motivators in the hard-to-count groups of the population. We discuss specific approaches to use with each of the groups in the hard-to-count segments. We also examine whether groups report they are unlikely to respond by mail during the census data collection period. For analyses regarding media and more background on CBAMS, see papers by MACRO (2009) and Bates et al (2009).

2. Framework

The 2010 Census Partnership Program engages national, regional and local organizations to serve as advocates for the 2010 Census and thereby help gain an accurate count. The program works to gain the support of these organizations to build awareness of the 2010 Census and communicate the importance of participating.

The U.S. Census Bureau's partnerships staff develops a plan for communications for tracts and areas that are considered hard to count. The staff identifies these tracts and areas using the 2000 Planning Database (PDB), which is a tract-level database containing a range of housing, demographic, and socioeconomic variables correlated with mail response (Bruce and Robinson 2006). Plans include using more recent data from the American Community Survey (ACS) although these estimates will be for groups of tracts. ACS estimates for tracts will not be available until after the 2010 Census. The PDB contains Hard-to-Count scores that are highly correlated with mail return rates and are constructed from twelve variables:
- % vacant units,
- % non-single family attached/detached units;
- % renter occupied units;
- % units with >1.5 persons per room ;
- % non-spousal units;
- % units without phone;
- % people below poverty level;
- % units receiving public assistance;
- % people unemployed;
- % linguistically isolated households, and
- % moved within last year.

The Hard-to-Count scores range from 0 to 144. The partnerships staff considers a tract with Hard-to-Count score over 40 to be hard to count.

As part of the ICP, the Census Bureau conducted the Census Barriers Attitudes and Motivators Survey (CBAMS) with the goal of obtaining an in-depth understanding of the public's opinions about the 2010 Census. CBAMS was a multi-mode survey that oversampled hard-to-count populations. The survey asked questions about Census awareness, intent to participate in the 2010 Census, potential barriers to participation, attitudes, and motivators toward responding to the 2010 Census as well as media preferences. A cluster analysis using the CBAMS data yielded five distinct attitudinal segments or messaging "mindsets". The information collected for each mindset provides insights, strategies, information sources, tactics and messages necessary to move its members toward Census participation.

The research team examined a variety of the survey data items for each of the mindsets, including socioeconomic indicators, demographics, level of community ties, attitudes

toward the census, knowledge of census uses, and reactions to potential campaign messages. Taken together this information provides a comprehensive strategy for how best to communicate with each segment. A description of the mindsets, their percentage of the population (which does not sum to 100 percent because of rounding), and the strategy for developing messages for each follows. This information is drawn from papers by MACRO (2009) and Bates et. al. (2009):

The Leading Edge (26% of the population) is both informed as well as positive about the Census. The Leading Edge demonstrates high awareness and a high degree of knowledge and understanding of the census. Its members are very positively predisposed toward it and say that they will inform family and friends about the census. This mindset views the census as a benefit to the community rather than to themselves personally and they are confident that they will see the census results in their community. They trust the census and are not overly concerned with confidentiality and privacy.

The Leading Edge is committed to responding to the census so the messaging for them mainly needs to let them know when it is.

The Head Nodders (41% of the population) include those who are positive toward the Census, but not well informed about its uses. They consider census participation to be a responsibility and they are proud to be counted. They trust the census and are not overly concerned with confidentiality and privacy. The Head Nodders demonstrate high awareness of the Census and believe they are knowledgeable about the Census but in reality they lack a good understanding of the purpose and intent of the Census. They are the group most likely to answer "true" to false statements about the Census; therefore they might be vulnerable to negative publicity even though they maintain the highest positive predisposition towards the census and view the census as having positive community and individual benefits.

The messaging for the Head Nodders needs to reinforce their positive views by raising awareness of the census.

The Insulated (6% of the population) are those who have heard of the census but consider themselves unfamiliar with its purpose and intent – they admittedly say they "don't know" when asked specifically about its purpose and intent. They have long tenures in their neighborhoods; yet question the impact of the census since they do not feel they've seen results in their own neighborhood. They are more interested in individual benefits of the census rather than broader-based community benefits, most likely due to their disadvantaged and more isolated circumstances.

The messaging for the Insulated should focus on raising awareness about the census and educating about its purpose.

The Unacquainted (7% of the population) are a group who have never heard of the census. Even after a brief description of the census, the Unacquainteds report a low likelihood of participation. The Unacquainteds are less likely to vote in elections, their level of civic engagement is low, and they do not tend to be community oriented.

The messaging for the Unacquainted needs to focus on the same messages as for the Insulated. Each group is unaware of the census or unaware but familiar with the census so both groups need to learn more about the census and its purpose.

The Cynical Fifth (19% of the population) are characterized by more negative attitudes toward the Census and suspicion about its purpose and uses, despite high knowledge about uses of Census data. A high percentage of the Cynical Fifth claim unfamiliarity with the Census, but in reality they demonstrate a high level of knowledge about its intent and purpose. They are mostly negative toward the census with most believing that they will never see results in their neighborhood. They maintain high skepticism and do not trust the census, yet recognize that the census is better if everybody is counted. They are concerned that the information collected is an invasion of privacy and that what they provide will be misused (or maybe not well used). Their attitudes appear to be ideological in nature, such as being anti-government and anti-institution.

Since the Cynical Fifth is more negative about the census than the other mindsets and suspicious of its purpose, motivating this group presents a challenge. Appealing to their sense of duty and emphasizing the need for an accurate count may be an effective approach.

The Leading Edge, the Head-Nodders, and the Cynical Fifth have a greater familiarity with the census, but vary on their attitudes and understanding of the census. The other two groups, the Insulated and Unacquainted, are very poorly informed about the Census in terms of awareness and purpose.

Our analyses explore which among these mindsets are more relevant to local grassroots partnerships and complement other analyses that inform the overall communications program. We focus on answering three questions that the partnership program has to answer when deciding on a strategy for reaching a group or an area:
- What characteristics aid in identifying the most prevalent mindsets within hard-to-count groups?
- Who are the trusted voices for the prevalent mindsets within hard-to-count groups and areas?
- Is there a variation in the percentage of the mindsets within groups who are not inclined to mail back a census form?

The answers to these questions assist partnerships in designing a strategy for reaching the group. Knowing which mindsets are present in the group of interest aids in identifying the messages that will be most effective in persuading the members of the group to participate in the census. We identify key characteristics that aid in identifying the members of the group with the different mindsets. By knowing the sources of information that the different mindsets in a group depend on for information, the partnership program can better focus on sources to pursue for partnerships. Examining the percentage of mindsets within groups that are not inclined to mail back a census form potentially provides an advance indicator of resource requirements during Nonresponse Followup. The communications that partnership program during Nonresponse Followup are aimed at encouraging cooperation with interviewers. Although self-reports of intent to respond do not necessarily correspond to action, examining intent does provide some information about attitudes toward mailing back a census form.

3. Methodology

Statistical models provide a useful tool for identifying characteristics that are associated with the mindsets within a population. If a characteristic is significant in a statistical model for a response variable, then there is an association between the characteristic and the response variable. We use generalized logit models for a multiple response variable to aid in identifying key characteristics that the partnership specialists may use in identifying the mindsets that are most likely to be present when they focus on an area or a group. We focus on fitting the models with characteristics that a partnership specialist usually would be able to identify for a group or area. Since the survey has a complex design, the SAS procedure SURVEYLOGISTIC (SAS 2009) was used to fit the models. For the sources of information and the inclination to mail back a form, we use weighted tabulations of the survey responses.

In our case, the five levels for the response variable are the five mindsets, which have no essential ordering. Suppose the index j for the mindsets equals 1 for Unacquainted, 2 for Head Nodders, 3 for Leading Edge, 4 for Cynical Fifth, and 5 for Insulated. Also suppose there are two independent categorical variables, the first with levels indexed by h and the second with levels indexed by i. The model to be fit has Insulated as the reference group, denoted by setting r equal to 5, and has the form

$$\log\left(\frac{\pi_{hij}}{\pi_{hir}}\right) = \alpha_j + x'_{hi}\beta_j$$

where π_{hij} is the probability that a person with the characteristics denoted by the level h of the first independent variable and level i of the second independent variable has mindset j. There are separate sets of intercept parameters α_j and regression parameters β_j for each logit, and the matrix x_{hi} is the set of explanatory variables for the hi-th population. Thus, four logits are modeled for each hi combination (population): the logit comparing Unacquainted to Insulated, the logit comparing Head Nodders to Insulated, the logit comparing Leading Edge to Insulated, and the logit comparing Cynical Fifth to Insulated.

Once the generalized logit model is fit, the probabilities of a population having a particular mindset may be derived. For a vector of explanatory variables x, let π_j denote the probability of obtaining the mindset j:

$$\pi_j = \begin{cases} \pi_r e^{\alpha_j + x\beta_j}, 1 \le j \le 4 \\ \dfrac{1}{1 + \sum\limits_{k=1}^{4} e^{\alpha_k + x\beta_k}}, j = 5 \end{cases}$$

We fit generalized logit models separately for Hispanics, Blacks, Asians, and American Indians. The variables we consider for the models were collected in CBAMS and are ones that the partnership program would be able to discern about a group or area. A list of the variable follows:

- Whether there were children under 18 living at home
- Marital status
- Highest grade of school completed
- Language spoken most often in the household

- Whether born in the U. S.
- Tenure
- Total household income
- Age
- Sex
- Urban or non-urban
- On or off reservation (for American Indians only)

The modeling process first attempts to fit a model with a selected variable. If that variable is significant, models are attempted with an additional variable. When an additional variable is found to be significant, a third variable is considered. In addition, interactions between variables found to be significant are considered. The criteria for selecting the model for a race/Hispanic ethnicity group include the AIC criterion, which is a relative measure of goodness-of-fit, and the residuals calculated by the difference between the weighted observed and predicted probabilities.

We examine sources of information by key characteristics and by mindsets within each race/Hispanic ethnicity group. The survey respondents were asked, "Do you depend on _source_ for information?" The order of the sources was randomized to prevent a particular ordering from causing an effect on the results. Sources suitable for partnerships are:
- Local or community leaders
- Friends or family
- Religious leaders, churches, religious or faith-based groups
- Government officials
- TV or radio talk shows
- AARP
- Ethnic or race-based organizations (e.g. NAACP, Tribal Pow-wows)
- Entertainers, celebrities, or other personalities
- Local town hall meetings
- Neighborhood businesses or gathering places
- Military or veterans organizations (e.g. VFW, American Legion)
- Unions or union leaders.

The survey also asked respondents about television, newspapers, radio, and Internet or websites. These sources of information are the focus of the media campaign rather than the partnerships so are excluded from this paper. MACRO (2009) discusses the sources.

To estimate the percentage of a mindset within a group that are not likely to mail back a census form, we use the responses to a question that asked how likely the respondent was to mail back a form. The respondent could answer definitely will not, probably will not, might or might not, probably will, or definitely will. For our study, we define "not likely to mail back a census form" to be the respondents who answered they definitely will not or probably will not to mail back a census.

4. Results for race/Hispanic ethnicity groups

By fitting the generalized logit models within the race/Hispanic ethnicity groups, we identify key characteristics that describe the variation in mindsets within each group. The combination of key characteristics is different for each group.

Next we use the key characteristics in an examination of which sources of information each race/Hispanic ethnicity group depends on for information. For each key characteristic within each race/Hispanic ethnicity group, we calculate the weighted percentages that depend on each source of information for each mindset. We also calculate the weighted percentages within each mindset that are not likely to mail back a census questionnaire. The standard errors of the weighted percentages are computed using the Taylor series method with SAS PROC SURVEYFREQ (SAS 2009). Cells with 10 or less observations are collapsed with another category for these calculations. We do not perform either set of calculations for a cross tabulation of the key characteristics because too many cells would have had to be collapsed.

The following sections contain a discussion of illustrative results. The discussion contains some weighted percentages for those who report depending on a source or who are unlikely to mail back a census questionnaire along with their standard errors in parentheses. A complete set of tables containing the weighted percentages and their standard errors for the sources of information and those who are unlikely to mail back a census questionnaire may be found in Mulry and Olson (2009). In addition, the discussion contains some estimated percentages of the mindsets within subgroups based on the models that identified the key characteristics associated with the mindsets within the race/Hispanic ethnicity groups. All the estimated percentages of mindsets within these subgroups and their standard errors based on the models also may be found in Mulry and Olson (2009).

Across the board, the highest percentage of respondents said that they depend on their friends and family for information. Usually the percentage is 75 percent or higher. Therefore, the discussion focuses on the other sources and excludes friends and family.

4.1 Hispanics
The two key characteristics that the generalized logit model identify as associated with the mindsets in the Hispanic population are
- born in US or foreign born
- household income category (< $25,000, $25,000 to < $50,000, >= $50,000)

A particularly interesting result is found within the foreign-born Hispanics with a household income <$25,000, who are 28.7 percent of the Hispanic population. Figure 1 shows how the distribution of the mindsets for this group is different from the distribution for all Hispanics. Within the foreign-born Hispanics with a household income <$25,000, the estimated percentage that has the Unacquainted mindset is 40.8 percent. From another perspective, this group constitutes 62 percent of all the Hispanic Unacquainted. Returning to the mindsets within the foreign-born Hispanics with a household income < $25,000, the estimated percentage of those who have the Head Nodder mindset is 42.9 percent. The estimated percentages of the other mindsets within this group are 1.8 percent for Leading Edge, 3.8 percent for Cynical Fifth, and 10.7 percent for Insulated. Consequently, the strategy for communications for this hard-to-count group should include messages targeted to the Unacquainted and the Head Nodder more so than for the Leading Edge.

When we examine the partnership sources among the Hispanic Unacquainted who are foreign born and among those who with a household income <$25,000, we find the three sources with the most potential for reaching them are the same although none of the percentages are very high. These sources are TV or radio talk shows, religious leaders,

and entertainers, celebrities or personalities, in that order. Among those with household income <$25,0000, 57 percent (10.3) report they depend on TV or radio talk shows for information. The percentages that report depending on religious leaders and entertainers, celebrities or other personalities for information are 46 percent (7.3 percent) and 33 percent (10.7 percent), respectively. Similarly, 50 percent (13.7 percent) of the foreign-born report depending on TV or radio talk shows for information while 36 percent (13.6 percent) depend on religious leaders and 24 percent (12.8 percent) depend on entertainers, celebrities or other personalities. The other sources of information do not appear as worthwhile for either group because percentage of those with a household income <$25,000 reported depending on them is 17 percent or less. The largest percentage of the foreign-born who reported depending on any of the other sources is 14 percent.

The partnership strategies for the Hispanic Unacquainted for the foreign-born or those with a household income < $25,000 need to raise awareness of the 2010 Census and provide education about it. Some vehicles the partnership program may find useful in reaching these two groups are: (1) Spanish-language communications, (2) generating local "earned media" coverage (such as interviews on local talk shows), (3) outreach to religious leaders, and (4) engaging local celebrities, entertainers, and other personalities.

We also examined the weighted percentages of mindsets within key Hispanic categories that are unlikely to mail back a census form. Overall, 20 percent (10.5 percent) of the Unacquainted report that they are unlikely to mail back a census form. Within the Unacquainted, 24 percent (13.6 percent) of the foreign-born and 29 percent (14.4 percent) of those with household income < $25,000 are unlikely to mail back a census form. The Cynical Fifth also has 20 percent (12.7 percent) who are unlikely to mail back a census form. The weighted percentage of the other mindsets that are unlikely to mail back a census form is much smaller than the percentage observed for the Unacquainted and the Cynical Fifth.

4.2 NonHispanic Blacks

For NonHispanic blacks, the key characteristics associated with mindsets resulting from the generalized logit model are
- urban indicator (not urban, urban)
- education (< high school, high school graduate, some college, college graduate).

The nonHispanic blacks living in non-urban areas are an important group for the ICP goal of reducing the differential undercount and improving overall accuracy. Fifty-five percent of the non-urban nonHispanic blacks have less than a high school education. Figure 2 shows how the distribution of the mindsets within non-urban nonHispanic blacks is different from the distribution for all nonHispanic blacks. Of interest is that 49 percent of the non-urban nonHispanic blacks who did not graduate from high school have the Insulated mindset. This group is 20 percent of all nonHispanic blacks with the Insulated mindset.

Fortunately, when we focus on the nonHispanic Black Insulated who live in non-urban areas or who did not graduate from high school, we find that three partnership sources have very high potential for reaching both groups. These partnership sources are TV and radio talk shows, religious leaders, and military and veterans organizations. In non-urban areas, 82 percent (14.4 percent) report depending on TV and radio talk shows for information while 79 percent (20.4 percent) depend on religious leaders and 79 percent

(15.7 percent) depend on military and veterans organizations. Among those who did not graduate from high school, 88 percent (7.8 percent) depend on TV and radio talk shows, 73 percent (13.2 percent) depend on religious leaders, and 71 percent (13.0 percent) military and veterans organizations. The percentage who report depending on AARP is also very high at 85 percent (10.3 percent), but the percentage for those in non-urban areas is not as high at 63 percent (21.6 percent). For local and community leaders, ethnic or race-based organizations, local town hall meetings, and neighborhood businesses or gathering places, the range for both groups is 58 to 60 percent (22.8 to 23.7 percent for the non-urban areas; 15.6 to 17.4 percent for those who did not graduate from high school). The percentages for government officials, unions or union leaders, and entertainers, celebrities, and personalities range from 2 to 9 percent (1.7 to 7.3 percent) in non-urban areas and from 21 to 42 percent (12. 1 to 16.4 percent) for those who did not graduate from high school.

The partnership strategies for the nonHispanic black Insulated for non-urban areas or those who did not graduate from high school need to raise awareness of the 2010 Census and provide education about it. Some vehicles the partnership program may find useful in reaching both groups are: (1) generating local "earned media" coverage, (2) outreach to religious leaders, (3) engaging local chapters of the Veterans of Foreign Wars, American Legion, and Disabled American Veterans, and (4) engaging AARP.

When we turn our attention to response to the census for nonHispanic blacks, 33 percent (21.2 percent) of the Unacquainted and 22 percent (7.3 percent) of the Cynical Fifth are unlikely to respond by mail. The weighted percentages for the other mindsets are much lower.

4.3 Asians
The generalized logit modeling results indicate that key characteristics associated with mindsets among Asians are:
- language the household speaks more: English or an Asian language
- household income category (< $25,000, $25,000 to < $50,000, >= $50,000).

There is an interesting result for the Asians whose households speak an Asian language more and have household income < $25,000. This group is 13.3 percent of all Asians. The distribution of mindsets among this group is very different from the distribution of the mindsets among all Asians, as shown in Figure 3. In particular, 69.8 percent of Asians whose households speak an Asian language more and have household income < $25,000 have the Unacquainted mindset. Surprisingly, the Unacquainted in this group are 60 percent of the Unacquainted among all Asians.

For the Asian Unacquainted whose household speaks an Asian language more or has income < $25,000, the partnership sources dramatically fall into two categories: high potential for reaching them or essentially negligible potential. The sources with high potential are the same for both groups. These sources are religious leaders, TV and radio talk shows, and entertainers, celebrities, and other personalities. Among those whose household speaks an Asian language more, 71 percent (7.0 percent) report depending on religious leaders for information while 68 percent (5.8 percent) depend on TV or radio talk shows and 62 percent (6.1 percent) depend on entertainers, celebrities, and personalities. Similarly, the percentage of those with a household income <$25,000 who report depending on religious leaders is 86 percent (5.8 percent). The percentage among this group for TV and radio talk shows is 85 percent (5.2 percent) and 83 percent (6.3

percent) for entertainers, celebrities, and other personalities. In contrast, the percentage who report depending the other sources ranges from 0 to 4 percent (0.4 to 2.1 percent) among those who speak an Asian language more and among those whose household income < $25,000.

The partnership strategies for the Asian Unacquainted who speak an Asian language more or have a household income < $25,000 need to raise awareness of the 2010 Census and provide education about it. Some vehicles the partnership program may find useful in reaching this group are: (1) Asian-language communications, (2) generating local "earned media" coverage, (3) outreach to religious leaders, and (4) engaging local celebrities, entertainers, and other personalities.

The weighted percentages that say they are unlikely to mail back a census form are quite high for several Asian subgroups. Among the Unacquainted, there are three groups: (1) those whose household speaks an Asian language more, (2) those with a household income < $25,000, and (3) those with a household income >$50,000. The weighted percentages of these groups who say they are unlikely to mail back their census forms are 83 percent (5.6 percent), 87 percent (6.8 percent) and 73 percent (8.6 percent), respectively. There are two groups among the Head Nodders, those with a household income >$25,000 at 68 percent (26.1 percent) and those who whose household speaks English more at 45 percent (33.1 percent). The other Asian group who has a high percentage saying they are unlikely to mail back a census form is the Insulated with a household income $25,000 to $49,999 at 56 percent (23.8).

4.4 American Indians

The data collected for the American Indians does not lend itself to fitting models. However, there is some evidence that indicates a key characteristic associated with mindsets among American Indians is:

- location (residing off or on a reservation).

The evidence is that the location variable is somewhat significant in a generalized logit model. Therefore, we examine the weighted percentages of the mindsets for American Indians by whether they live on or off reservations.

Of interest are the percentages of the American Indians with the Cynical Fifth mindset, which are 51.6 percent for those off the reservations and 17.6 for those on the reservations. In addition, the percentages for the Insulated mindset are 22.3 percent for those living on the reservations and 8.6 percent for those living off the reservation. On reservations, the percentage with the Head Nodder mindset is 38.4 percent while the percentage is 15.4 percent off reservations.

For the all the American Indians on reservations, TV and radio talk shows have the highest weighted percentage depending on them for information at 63 percent (14.4 percent). When we examine the Insulated on reservations, we find that TV and radio talk shows appear to have high potential for reaching them since 79 percent (9.0 percent) report depending on this source of information. The next highest source for the Insulated is military of veterans organizations at 44 percent (23.2) while percentages for the other sources range from 0 to 29 percent (0.2 to 17.8 percent). However, reaching the Unacquainted on reservations may be challenging since the highest percentages are 48 percent (19.2 percent) for religious leaders and 44 percent (18.5 percent) for local or

community leaders. The range in the percentages for the Unacquainted for the other sources is 0 to 26 percent (0.0 to 26.3 percent).

The partnership strategies for the American Indians who live on reservations have to address a range of mindsets. Some vehicles the partnership program may find useful in reaching this group are: (1) generating local "earned media" coverage, (2) outreach to religious leaders, and (3) outreach to tribal leaders.

The weighted percentage of American Indian Unacquainted on reservations that report they are unlikely to mail back a questionnaire is 24 percent (13.7 percent). Off reservations, the Cynical Fifth has the highest weighted percentage indicating that they are unlikely to respond by mail at 26 percent (22.7 percent). The weighted percentages of the other mindsets that are unlikely to mail back a census form are much lower.

4.5 NonHispanic Whites

For NonHispanic whites, the key characteristics associated with the mindsets identified by the generalized logit model are
- tenure (renter, owner)
- household income (< $25,000, >= $25,000)
- education (< high school, high school graduate, some college, college graduate).

Renters of all race and Hispanic ethnicity groups tend to have a low mail response rate, and therefore, nonHispanic white renters, who are about 25 percent of all nonHispanic whites, are important for the ICP goal of increasing the mail response rate. Among nonHispanic white renters, the Unacquainted mindset is more than 10 percent of those who have not attended college, with the percentages ranging from 17.6 percent for renters with a household income < $25,000 who did not graduate from high school to 10.2 percent for renters with a household income >= $25,000 who did graduate from high school. The Unacquainted renters who have not attended college are 8.5 percent of the renters but 42.8 percent of all the nonHispanic white Unacquainted.

Focusing on the nonHispanic white Unacquainted who rent or who have a household income <$25,000, none of the sources of information stand out in regards to potential for reaching them, and some have very low potential. For the renters, the percentage who reports depending on TV and radio talk shows for information is the highest at 44 percent (12.4 percent). The percentages for three sources are very low at 8 percent (5.1 percent) for unions or union leaders, 3 percent (3.2 percent) for ethnic or race-based organizations, and 0 percent (0.0 percent) for entertainers, celebrities, and personalities. The range for the percentage for seven other sources is 31 to 42 percent (13.1 to 14.2 percent). For those who have a household income <$25,000, the percentages who report depending on local or community leaders and government officials are the highest at 44 percent (14.4. percent) and 43 percent (16.4 percent), respectively. For local town hall meetings, TV or radio talk shows, and religious leaders, the percentages are 35 percent (14.0 percent), 31 percent (12.8 percent), and 30 percent (12.0 percent), respectively. The category of neighborhood businesses or gathering places is a trusted source of information for 22 percent (13.2 percent) while AARP is a source for 21 percent (11.0 percent). The percentages for the remaining are 13 percent (8.7 percent) for military or veterans organizations, 8 percent (7.3 percent) for unions or union leaders, and 0 percent (0.0 percent) for ethnic or race-based organizations and entertainers, celebrities, and personalities.

The partnership strategies for the nonHispanic white Unacquainted who rent or who have a household income <$25,000 need to raise awareness of the 2010 Census and provide education about it. Some vehicles the partnership program may find useful in reaching these groups are: (1) generating local "earned media" coverage, (2) outreach to government officials, (3) outreach to local or community leaders, (4) outreach to religious leaders, and (5) encouraging local town hall meetings.

The weighted percentage of the nonHispanic white Unacquainted who say they were unlikely to respond by mail is 33 percent (9.5 percent) and ranges from 20 to 47 percent (12.6 to 19.9 percent) across the key characteristics. Also, 17 percent (3.4 percent) of the Cynical Fifth indicated they were unlikely to respond by mail with the weighted percentage across the key characteristics ranging from 11 percent to 30 percent (3.6 to 15.2 percent). The weighted percentage of the other mindsets that are unlikely to mail back a census form is much lower.

5. Partnership sources

There are some themes that emerge when assessing who views the different potential partnerships as trusted voices. The Head Nodders tend to indicate they depend on most of the sources for information, which probably is consistent with the concern that they might be vulnerable to negative publicity about the census. We have not shown the weighted percentages of the mindsets within those who depend on each source of information. However, the Head Nodders are such a high percentage of the population that they also are usually the largest group that depends on a partnership source, regardless of the race/ethnicity group or key characteristic that is being examined. Therefore, the partnership sources need to deliver communications directed at Head Nodders as well as messages for other mindsets that find them to be trusted sources.

Almost all the groups and subgroups defined by the key characteristics depend on friends and family for information. Usually friends and family were viewed as a trusted source by the highest percentage of any group. The weighted percentages for those reporting that they depend on their family and friends for information were usually over 75 percent. CBAMS randomized the order in which the interviewers asked the questions regarding the sources of information so there was no bias in the responses due to order the sources were presented to the respondents.

Not far behind friends and family as a trusted source of information are the TV and radio talk shows. The talk shows appear to have reasonably high potential for reaching almost all the groups and subgroups defined by the key characteristics. For most cells studied, the weighted percentage reporting they depend on the TV and radio talk shows for information ranged from 45 to 70 percent although a few are lower and a few are higher.

Outreach to Black churches should have a different approach and theme than outreach to churches that serve the other populations we have considered. Black religious leaders are viewed as trusted sources by a large percentage of all the mindsets. Therefore, they need to present multiple types of messages that resonate with the different mindsets. However, this is not necessarily the case for religious leaders in the other populations. The messages regarding the census delivered by the Asian religious leaders need to be suitable for the Unacquainted and Cynical Fifth as well as the Head Nodders. The American Indian religious leaders are viewed by those on reservations as trusted voices

by the Insulated as well as the Head Nodders. The Hispanic religious leaders will likely be most effective delivering messages about the census aimed at the Leading Edge and Unacquainted as well as the Head Nodders.

Another source that requires special consideration across groups and subgroups defined by key characteristics is the category of entertainers, celebrities, and other personalities. The results for the category varied greatly, and for some subgroups, the weighted percentage who reported they depended on the category for information were very low. Some subgroups among Hispanics, nonHispanic blacks, and Asians reported depending on entertainers, celebrities, and other personalities for information at a moderate level. The weighted percentage for those reporting that they depend on them for information usually ranged between 15 and 30 percent. However, American Indians on reservations tended to have very low percentages reporting that they depend on the category, with the exception being the Head Nodders. NonHispanic whites had low weighted percentages reporting that they depend on the category for information overall and within subgroups defined by the key characteristics. The weighted percentage that reported depending on the category for information usually was below 20 percent.

Also, the CBAMS results show that the Unacquainted had the highest percentage of each race/ethnicity group reporting that they are unlikely to mail back a census form. The weighted percentage for those reporting that they are unlikely to mail back a form usually was greater than 20 percent. Other subgroups had relatively high percentages that said they were unlikely to respond by mail. These results provide an advance indicator of attitudes regarding mailing back a census form.

6. Summary

The analyses of the CBAMS data provide the partnership program with information about the communications to deliver and the trusted voices that are most effective in delivering them. In addition, there is information on the need for communications during Nonresponse Followup.

The analysis identified key characteristics associated with the mindset segments within race/Hispanic ethnicity groups. For each group, we fit a separate generalized logistic regression model to identify its key characteristics associated with the mindsets. Knowing the distribution of the mindsets within each group will aid the partnership program by identifying the mindsets that are most prominent within the groups they are trying to reach. The program will be able to focus on the messages to convey since the most effective messages vary by mindset.

In addition, the analysis included an investigation of the sources of information that the race/ethnicity groups and subgroups depend on for information. We restricted our analysis to the sources that lend themselves to developing partnerships. The preferences for sources of information vary a great deal across groups and subgroups although there were a couple of common themes. However, every source examined was preferred by some subgroups. With this knowledge, the partnership program can seek out the most effective sources of information to reach groups.

CBAMS also asked respondents how likely they were to mail back a census form. The analysis of the responses found that there were some subgroups with a substantial percentage saying they are unlikely to mail back a census form. Although intent does not

always translate into action, the partnership program has an advance indicator that some subgroups probably will need special attention during Nonresponse Followup.

With our analyses, refinements of messaging and strategies specific to each population group hopefully will aid in improving response to the census and thereby improve its quality.

Acknowledgements

The authors thank Nancy Bates for many helpful conversations and suggestions. The authors also thank Lynn Weidman and Diane Willimack for their comments on earlier drafts of the paper.

References

Bates, N., et al (2009) "Messaging to America: Results from the Census Barriers, Attitudes and Motivator Survey (CBAMS)." C2PO 2010 Census Integrated Communications Research Memoranda Series. No. 10. May 12, 2009. U.S. Census Bureau. Washington, DC.

Bates, N. and Mulry, M. H. (2008) "Segmenting the Population for the 2010 Census Communications Program." C2PO 2010 Census Integrated Communications Research Memoranda Series. No. 1. October 24, 2008. U.S. Census Bureau. Washington, DC.

Bruce, A. and Robinson, J.G. (2006). "Tract-Level Planning Database with Census 2000 Data." U.S. Department of Commerce, U.S. Census Bureau: Washington, D.C.

MACRO (2009) "Census Barriers, Attitudes, and Motivators Survey Analytic Report." May 9, 2009. U.S. Census Bureau. Washington, DC.

Mulry, M. H. and Olson, T. P. (2009) "Lessons for Partnerships from the Census Barriers, Attitudes and Motivator Survey." U.S. Department of Commerce, U.S. Census Bureau: Washington, D.C.

SAS Institute, Inc. (2009) *SAS 9.2 Documentation.* SAS Institute, Inc. Cary, NC.

Figure 1. The distribution of mindsets among foreign-born Hispanics with a household income < $25,000 and among all Hispanics.

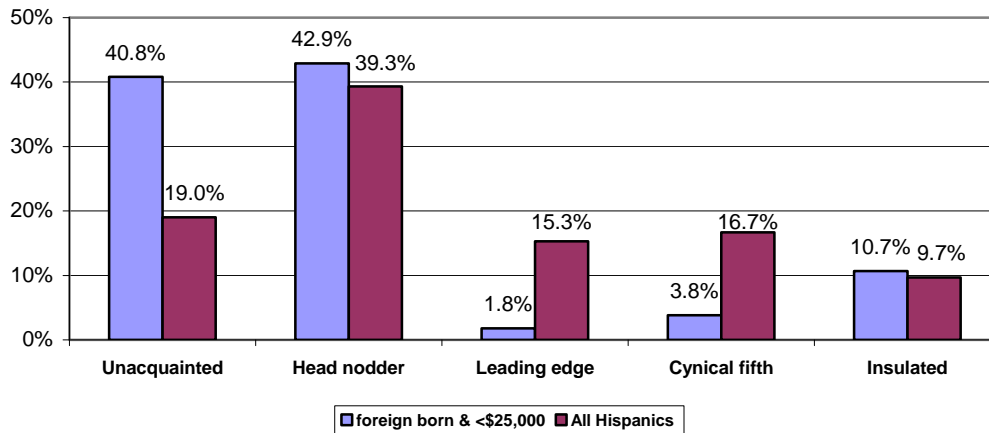|	Unacquainted	Head nodder	Leading edge	Cynical fifth	Insulated
foreign born & <$25,000	40.8%	42.9%	1.8%	3.8%	10.7%
All Hispanics	19.0%	39.3%	15.3%	16.7%	9.7%

Figure 2. The distribution of mindsets among nonHispanic blacks living in non-urban areas that did not graduate from high school and among all nonHispanic blacks.
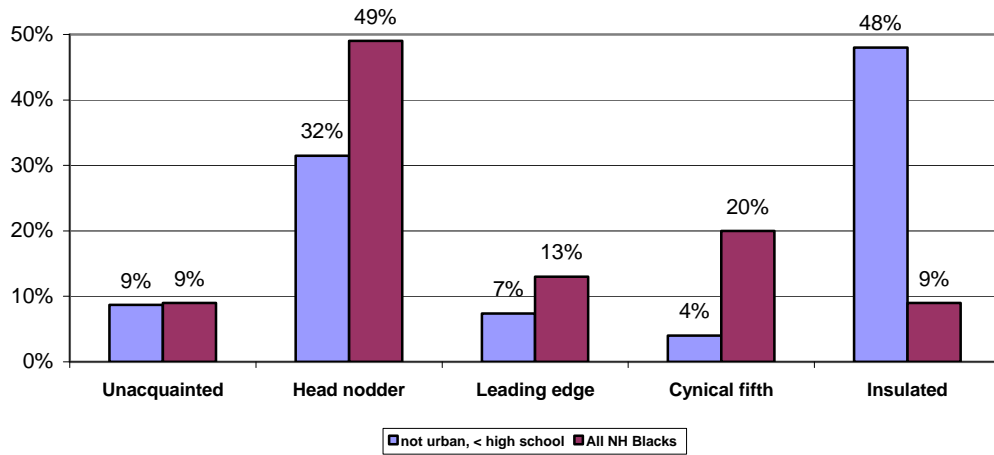

Figure 3. The distribution of mindsets among Asians who speak an Asian language more and have a household income < $25,000 and among all Asians.