



This memorandum is intended for internal Census Bureau use and for external stakeholders who are interested in the Census Bureau's continuing marketing research efforts. If you have any questions regarding the use or dissemination of this information, please contact Tasha Boone, Assistant to the Associate Director for Communications, at (301) 763-3977.

December 20, 2011

Associate Director for Communications
2010 Census Integrated Communications Research Memoranda Series

MEMORANDUM FOR Distribution List

From: Tasha Boone *[signed]*
 Assistant to the Associate Director for Communications

Subject: Census Barriers, Attitudes, and Motivators Survey II

Contact Person: Monica Wroblewski - Communications Directorate, (301) 763-8813

Attached is the final report for the second iteration of the Census Barriers, Attitudes, and Motivators Survey (CBAMS II), a 2010 Census Integrated Communications research document. The Communications Directorate conducted CBAMS II through contract with ICF Macro International to determine, by replicating the 2008 CBAMS, the degree to which census mindsets (distinct attitudinal segments) have changed since implementation of the 2010 Census Integrated Communications Program (ICP) and to develop new mindsets (if warranted). CBAMS II provides a before-and-after measure that adds to our knowledge about how attitudes toward the census shift over time. The results will inform communications research leading up to the 2020 Census.

October 31, 2011

Census Barriers, Attitudes, and Motivators Survey II
Final Report

Frederica R. Conrey
Randal ZuWallack
Robynne Locke

ICF Macro

This page intentionally left blank.

Table of Contents

Executive Summary	v
1. Introduction	2
1.1. Scope.....	2
1.2. Intended Audience.....	2
2. Background	2
3. Methodology	3
3.1. Questions to be Answered.....	3
3.2. Methods.....	5
4. Limitations	29
4.1. Precision in Classifying New Respondents.....	29
5. Results.....	30
5.1. Question 1: What is the best method for creating mindsets?.....	30
5.2. Question 2: How are mindsets now different from mindsets before the 2010 Census?	32
5.3. Question 3: What are the Census Mindsets?	36
5.4. Question 4: Who is in each mindset?	44
5.5. Question 5: How can we reach the mindsets?	55
5.6. Question 6: What are attitudes toward the use of administrative records?.....	59
5.7. Question 7: How can we classify new respondents into the segments?.....	68
5.8. Analysis of Alternative Question Format for Benefit and Harm	71
6. Key Lessons Learned, Conclusions, and Recommendations.....	73
7. Acknowledgements	74
8. References	74
Appendix A: Variables Used in CBAMS II Segmentation Variable Reduction	77
Appendix B: Profiles of Four Mindset Solutions Produced Using Different Approaches	81
Appendix C: Pre-notification Letter—Telephone	88
Appendix D: Notification Letter—In-person.....	89
Appendix E: Telephone Script.....	90
Appendix F: In-person Survey Script.....	148
Appendix G: Cognitive Interviewing Script	170
Appendix H: Sorry I Missed You Card	193
Appendix I: Stratum 5, 6, 7 Markets.....	194
Appendix J: Calculating Mindset Probabilities.....	200

List of Tables and Figures

Table 1: Characteristics of Cognitive Interview Participants	5
Table 2: Locations Sampled for Strata One through Four	9
Figure 1: GPS Sampling	10
Table 3: Telephone Data Collection Schedule	11
Table 4: Completed Interviews by Survey Stratum	15
Table 5: Response Rates	15
Table 6: Non-response Adjustment Factors for Landline	17
Table 7: Non-response Adjustment Factors for Cell Phone	19
Figure 2: Population Coverage by Cell, Landline, and Address Sampling Frames	19
Table 8: Calculations for Combining Landline/Address with Cell Phone	21
Table 9: Weighting Questions on the Survey	22
Table 10: Variables Used in Segmentation Analysis to Compare CBAMS I and CBAMS II	26
Table 11: Example of Recentering the Knowledge Questions.....	27
Table 12: Groups of Variables for Final Segmentation.....	28
Table 13: Prevalence of Mindsets for Four, Five, and Six Mindset Solutions Using Different Methods	30
Table 14: Error Rates in Classification for Four, Five, and Six Mindset Solutions Using Different Methods	30
Table 15: Percent of Individuals Classified into Similar Mindset.....	31
Table 16: Prevalence of Mindsets for Four, Five, and Six Mindset Solutions Using CBAMS I and CBAMS II Data	33
Table 17: Overall Error Rates in Classification for Four, Five, and Six Mindset Solutions Using CBAMS I and CBAMS II Data	33
Table 18: Profiles of Four Mindset Solutions Produced Using CBAMS I and CBAMS II Data.....	35
Table 19: CBAMS II Segment Profiles	38
Figure 3. Mindset Probabilities—Individuals with Low Assignment Probability	41
Table 20: Summary Statistics for Assignment Probabilities for Each Mindset	42
Table 21: Mindset Probability Summary Statistics—Individuals with Lowest Assignment Probability in Each Mindset	43
Table 22: Demographic Profiles of Mindsets.....	45
Table 23: Census Tract Clusters Associated with Mindsets.....	46
Table 24: Mindsets for Some Hard-to-Contact Groups.....	47
Table 25: Mindsets by Geographic Hard-to-Contact Scores.....	47
Table 26: Media Profiles of Mindsets.....	56
Table 27: Average Confidentiality Trust and Privacy Concern Indices	57
Table 28: Average Confidentiality Trust and Privacy Concern Indices by Mode Preference.....	58
Figure 4: How do you feel about the Census getting your information from other government records?	62
Figure 5: How do you feel about the Census sending an interviewer to your home to ask you for the information rather than using other government records?.....	63
Figure 6: How willing would you be to allow the Census Bureau to use your Social Security Number to obtain your sex, age, date of birth, and race from other government agencies?	64
Figure 7: Approval of Administrative Records Sources	65
Figure 8: Would you prefer that the Census gets your household’s information from other government records or would you prefer that the Census send an interviewer to your home to ask you for it?	66
Table 29: Administrative Records Profiles of Mindsets.....	67
Table 30: Classification Model Results Using LCA Model Variables	68
Table 31: Reduced Model Variable Selection – Round 1.....	69
Table 32: Reduced Model Variable Selection – Round 2.....	70
Table 33: Mindset Classification Matrix	71
Table 34: Comparison of Benefit and Harm Questions	73
Table 35. Variables Used in CBAMS II Segmentation Variable Reduction.....	77
Table 36. Profiles of Four Mindset Solutions Produced Using Different Approaches	81
Table 37: Profiles of Five Mindset Solutions Produced Using Different Approaches.....	83
Table 38: Profiles of Six Mindset Solutions Produced Using Different Approaches.....	85

EXECUTIVE SUMMARY

The primary purpose of the second iteration of the Census Barriers, Attitudes, and Motivators Survey (CBAMS II) is to determine, by replicating the 2008 CBAMS (CBAMS I), the degree to which census mindsets (distinct attitudinal segments) have changed since the implementation of the 2010 Census Integrated Communications Campaign (ICP) and to develop new mindsets if necessary.

Analysis of CBAMS I data provided insight into how the target audiences felt about the census, and why they may or may not participate in the 2010 Census. CBAMS I revealed five distinct mindsets among the population that varied in their knowledge of, and attitudes toward, the census: *Leading Edge, Head Noddors, Insulated, Unacquainted, and Cynical Fifth* (ICF Macro, 2008).

Attitudinal segments will continue to play an important part of the Census Bureau's communications strategy for the intercensal years leading up to the 2020 Census. To support this, we developed the following research goals for CBAMS II:

- Determine whether or not the CBAMS I mindsets have changed;
- Assess whether or not we can categorize mindsets differently moving forward, and if yes, find the best method for identifying census mindsets;
- Understand the profiles of the new mindsets; and
- Measure attitudes related to the possible use of administrative records to supplement, or replace, the census and relate those attitudes to final CBAMS II mindsets.

Similar to CBAMS I, CBAMS II is a nationally representative multi mode survey that utilized landline and cell phone interviewing along with in-person interviews in areas considered particularly hard-to-count: American Indian Reservations, areas with high Hispanic population density, areas with high Asian population density, and rural areas with high poverty. We revised the content of the CBAMS II questionnaire to support our current research goals while allowing enough overlap to allow for comparisons between the two surveys.

Question 1: What is the best method for creating mindsets?

Analysts evaluated two segmentation methods for CBAMS I, K-Means and Q-Factor, with Q-Factor ultimately producing the most meaningful mindset classification. In addition to evaluating K-Means and Q-Factor for CBAMS II, we also investigated a third method called Latent Class Analysis (LCA). For each method, we used the same set of attitudinal characteristics and looked at the resulting solutions for four, five, and six segments. With four segments, the same general characteristics emerged in the segments, but the profiles for the LCA groups were notably more distinct (i.e., they had higher between segment variability) from each other than were profiles of K-Means or Q-Factor groups. On average, the range across all the profile measures was higher for the LCA solutions than in either the K-Means or Q-Factor solutions. As we increased the number of segments, the methods deviated from each other in grouping. The segments were much more distinguishable using the LCA analysis. Therefore, we determined that LCA was the best methodology for producing the CBAMS II mindsets.

Question 2: How are mindsets now different from mindsets before the 2010 Census?

We compared mindset solutions from CBAMS I and CBAMS II to determine whether there were qualitative differences in perspective. As we did not identically replicate the CBAMS I questionnaire, we were unable to identically replicate the CBAMS I mindsets. Therefore, we recreated the CBAMS I mindsets using questions included in both surveys with LCA, the chosen method for CBAMS II.

For CBAMS I, this method produced the following mindsets: *Leading Edge Equivalent*, *Head Nodder Equivalent*, *Insulated Equivalent*, and a *Cynical Fifth Equivalent*. The *Unacquainted* remained the same. Our results showed that the percentage of respondents completely unaware of the census (*Unacquainted*) decreased from 7 to 3%. The high affinity, high knowledge *Leading Edge Equivalent* grew by 75%. Additionally, the *Cynical Fifth Equivalent* decreased in size and is now less knowledgeable about the census suggesting that previous, more knowledgeable *Cynical Fifth* members migrated to the *Leading Edge Equivalent*. While there are likely many contributing factors to the change in size and composition of the CBAMS I to CBAMS II mindsets, we can, in part, infer that some of this change can be attributed to 2010 Census communications.

Question 3: What are the census mindsets?

After identifying LCA as the best segmentation method in Question 1 and observing significant change in mindsets between CBAMS I and CBAMS II in Question 2, we had to define the final CBAMS II mindsets. We evaluated several different mindset solutions and ultimately identified a seven segment mindset solution as the most beneficial, having distinct attitudinal profiles with groups still adequately sized for targeting purposes. The final seven CBAMS II segments are:

1. Government-Minded (19%)

This group has positive attitudes toward the census and its purposes. They are knowledgeable about what the census is used for and what it is not used for. This group is set apart by the high priority they place on political representation. They also care about government administrative functions in support of fire and police stations, roads and highways, and public transportation. They see the government's attempts to collect information as important to its functions.

2. Compliant and Caring (15%)

This group has positive attitudes toward the census and its purpose. They are knowledgeable about what the census is used for and what it is not used for. Members of this group tend to care about social programs like those in schools and for elder care, and they believe that the census could benefit those programs as well as them personally. This group also tends to complete paperwork dutifully, so their high self-reported response to the census could stem from their positive general feelings toward the census, and their overall compliance with requests to complete and return forms.

3. Dutiful (14%)

Characterized by a sense of duty to complete the census, this group feels it is their responsibility to be counted. They have a very positive view of the census and feel it is important. They know what the census is for, although they also think it serves some functions that it actually does not like determining property taxes. They have strong trust in the Federal Government and believe in the importance of political representation.

4. Local-Minded (12%)

Local-Minded persons tend to be ambivalent toward government, reporting that they tend to trust local governments more than the Federal Government. They tend to think that refusing to complete the census is a good way to show the government that they are dissatisfied. At the same time, they tend to think that the government keeps their information safe, and that it has their best interests in mind. Perhaps because they are disenchanted, this group does not prioritize representation in government, but they do tend to care about schools, healthcare, and other soft issues.

5. *Uninformed (16%)*

This population group cannot reliably report what the census is actually used for. Only about half of them know that the census helps to determine government representation, and they are similarly poor at reporting the census' other uses. This group has low affinity for the government and does not feel the census is important. This group tends to think that they will never see the results of the census, and that it should only ask about the number of household residents. They do tend to put a high priority on healthcare or on care for the elderly.

6. *Cynical (10%)*

The *Cynical* group has the lowest affinity for the census. They are aware of the census, know what it is used for, and are highly suspicious of it and of the government. Across all measures, they have the lowest opinion of the government and express the most concern about the security of their personal information. Like those in the *Government-Minded* group, however, they place a premium on political representation and on government functions like fire and police protection.

7. *Suspicious (14%)*

This group has the lowest intent to respond to the census and the lowest self-reported census awareness. Because they are not aware of the census, they do not think the census is important and have low affinity toward it. They think that the census could harm them in some way and are concerned that their information could be misused. They also tend to be less likely than other groups to complete paperwork on time. The challenge with this group will be making them aware of the census as well as convincing them to care enough to complete it when it arrives.

Question 4: Who is in each mindset?

We profiled the seven mindsets based on socioeconomic and demographic characteristics. The high-affinity *Government-Minded* and the much lower-affinity *Cynical* groups are very similar in terms of their income, age, and ethnic make-ups. *Government-Minded* group members tend to be more educated, and *Cynical* members tend to be male (67%). A similar resemblance emerged between the *Local-Minded* and *Suspicious* mindsets. Both groups are characterized by relatively high proportions of minorities, low education, and a higher percentage of renters. Contrasts between these two groups are that those in the *Suspicious* group tend to be much younger (28% under 25) than those in the *Local Minded* one (12% under 25), and *Local-Minded* group members tend to be female. *Dutiful* group members are fairly diverse and have a demographic profile that closely resembles the U.S. population. The *Compliant and Caring* mindset also tends to demographically resemble the U.S. population, but it tends to be made of more females and those with higher education level. The *Uninformed* mindset is primarily characterized by relatively low education and income.

Question 5: How can we reach the mindsets?

While this is a key research question to the CBAMS program, the content for this questionnaire section was limited to Internet behaviors for CBAMS II. This decision was made to accommodate other topics on the questionnaire. The abbreviated media section was justified since CBAMS II data will not be needed to immediately support a communications campaign.

However, for the internet, a majority of every group reported accessing the internet using a computer at least occasionally. Internet penetration in the *Government-Minded* mindset was nearly 100%. It was much lower in most of the lower-affinity groups, but the *Cynical* group was an exception. Internet usage among the *Cynical* mindset was similar to the *Dutiful* and *Compliant and Caring* mindsets except *Cynical* people

are much less likely to use the Internet for social networking or to post personal information on the Internet. This may be due to higher levels of privacy concerns in the *Cynical* mindset. We constructed two indices from questions about trust in government, confidentiality, and data security. These indices were confidentiality, trust, and privacy concern. Those who use the Internet for social networking, posting personal information, and/or reading news or blogs tended to score higher on privacy concern and lower on confidentiality and trust.

Question 6: What are attitudes toward the use of administrative records?

Approximately 68% of the population is positive or neutral about the use of administrative records; however, when for a preference between obtaining their information from administrative records or sending an interviewer, only 42% preferred the use of administrative records. Most people (65%) would be unwilling to allow the Census Bureau to use Social Security Number (SSN) to obtain their sex, age, date of birth, and race from other government agencies. About half of the population would approve of the Census Bureau gathering sex, age, date of birth, and race information for their household from their most recent tax return. People provide higher approval of government records (such as tax records, employment, and social security) rather than private records such as medical records or credit history.

Respondents received one of three administrative records frames: a control frame, a cost frame, and a burden frame; the cost and burden frames emphasized a reduction in cost and burden respectively. Both the burden and cost frames resulted in a more positive response to the use of administrative records than the control frame. As the Census Bureau continues to consider the use of administrative records, further studies should be conducted; however, preliminary results from CBAMS II suggest framing the use of administrative records as a way to save money will resonate with the population more than reducing burden or simply explaining the process.

Question 7: How can we classify new respondents into the segments?

To support communications research going forward, we investigated models to classify respondents to future surveys into mindsets. To parallel the probability-based LCA segmentation model, we used multinomial logistic regression to estimate the probabilities of membership in each of the mindset classes. These probabilities can then be used with a nearest-neighbor discriminant analysis to group individuals into a single mindset class. The full segmentation was based on 60 questionnaire items, many of which were used to develop composite measures such as factor scores. To test the best classification model, we created a development, or training, dataset (80% of original data) and a classification or validation dataset (20% of the original data). When using the full set of variables, 95% of the mindset classes were the same as the original segmentation model. However, it is impractical to assume that all of the model questions can be appended to other surveys. Therefore, we identified a set of 15 variables that provided 75% classification accuracy. Additional research outside of this contract will further refine the classification tool.

In conclusion, conducting CBAMS II allowed us to define a new method for developing mindsets – LCA; demonstrated that mindsets have changed between the pre and post decennial measures; determined that a seven segment mindset solution will best serve our current and anticipated future purposes; provided insight into the use of administrative records; and laid the foundation for a classification tool that we can use to assign future survey respondents into CBAMS II mindsets. The results will also allow us to continue developing a plan for communications and audience research that will lay the foundation for the 2020 Census communications program.

This page intentionally left blank.

1. **INTRODUCTION**

1.1. **Scope**

The primary purpose of the second iteration of the Census Barriers, Attitudes, and Motivators Survey (CBAMS II) is to determine, by replicating the 2008 CBAMS, the degree to which census mindsets (distinct attitudinal segments) have changed since implementation of the 2010 Census Integrated Communications Program (ICP) and to develop new mindsets (if warranted). CBAMS II provides a before-and-after measure that will add to our knowledge about how attitudes toward the census do, or do not, shift over time. The results will inform communications research leading up to the 2020 Census.

The analytic goals for CBAMS II include:

- Determining whether or not the mindsets from CBAMS I (used to develop the paid advertising campaign and to target groups based upon their unique barriers, attitudes, and motivators) have changed.
- Assessing whether or not we can categorize mindsets differently moving forward, and if yes, finding the best method for identifying census mindsets by evaluating the reliability of mindset creation algorithms from CBAMS I and CBAMS II.
- Developing a deeper understanding of the mindset profiles, especially addressing the following questions:
 - Is there a qualitative distinction between people who are unaware of the census and those who lack extensive knowledge of the census?
 - What are the characteristics and belief profiles of people who have negative attitudes toward the census?
 - What sub-segments exist within the large, positive segments from CBAMS I?
- Measuring attitudes related to the possible use of administrative records to supplement or replace the census—and relating those attitudes to final mindsets.

1.2. **Intended Audience**

The report has two major goals, each of which might be of interest to different audiences. First, this report discusses the ways in which the census audience can be segmented—that is, the technical implementation of segmentation algorithms and the classification of new individuals into mindsets. These findings may be of interest to communications and market research professionals with a background in statistics.

Second, this report discusses the attitudes and other characteristic of sub-groups of census respondents. While the findings are written primarily to inform future decennial communications, the results may be of interest to anyone responsible for working with census respondents.

2. **BACKGROUND**

The Census Bureau, in collaboration with a primary contractor and 14 subcontractors, created hundreds of advertisements in 28 different languages as part of the Census Bureau's ICP activities for the 2010 Census. This effort combined advertising, partnerships, public relations, Census in Schools, Road Tour, and digital media with the Census Bureau's internal operations.

The Census 2010 Publicity Office (C2PO) conducted a series of qualitative, quantitative, attitudinal, and behavioral research initiatives to serve as a foundation for the 2010 Census ICP. Research results informed and validated marketing decisions throughout the entire campaign. C2PO researched all elements of the campaign across audiences to ensure that the messaging would resound with the targeted communities.

CBAMS I was a cornerstone research effort for developing messages that would resonate with the targeted populations and motivate their participation in the census. The survey included over 4,000 in-depth interviews, about 3,000 conducted over the phone and another 1,000 in-person, to ensure coverage in areas that were linguistically, culturally, or geographically hard-to-count (HTC) as well as areas without phone service (one of the HTC factors) (ICF Macro, 2008). The CBAMS I sample was probabilistic so that it would be representative of the nation, with oversamples in HTC populations.

Data collection for CBAMS I occurred in July and August 2008 (ICF Macro, 2008). This survey measured previous census participation, attitudes toward the census, knowledge about the purpose of the census, potential motivators and barriers to census participation, reactions to potential messages, and media consumption related to census; it also collected demographic information from respondents.

Analysis of CBAMS I data enhanced the cluster segmentation by providing much-needed, up-to-date insight into how the target audiences feel about the census, and why they may or may not participate, to help us develop appropriate messages to address these mindsets. CBAMS I revealed five distinct mindsets among the population that varied in their knowledge of, and attitudes toward, the census: *Leading Edge*, *Head Nodders*, *Insulated*, *Unacquainted*, and *Cynical Fifth* (ICF Macro, 2008). While different cultural contexts emerged within these profiles, these mindsets exist throughout the population, regardless of race or ethnicity.

Attitudinal segments will continue to play an important part of the Census Bureau's communications strategy for 2020 and beyond. During CBAMS II, the Census Bureau extended that research to further specify the segments and to learn about their stability and structure. The results of CBAMS II will determine how often and what kind of market research is conducted over the next decade to support communications for the 2020 Census, and will eventually be used to shape messaging directly.

3. **METHODOLOGY**

ICF Macro, an independent research firm, conducted a large-scale, national survey of attitudes toward the census and barriers to census response—with the goal of creating market segments that the Census Bureau will use to target communications leading up to the 2020 Census. In this section, we describe the research questions and then the methods for both data collection and analysis.

3.1. **Questions to be Answered**

3.1.1. **Question 1: What is the best method for creating mindsets?**

Mindsets, or distinct attitudinal segments, may shape Census Bureau communications policies over the next decade. The top priority for this project is to confirm that the method of statistically defining the mindsets is relatively stable and produces reliable, meaningful results that adequately identify key population groups. We compared the results of three statistical approaches to mindset creation: Latent Class analysis (LCA), Q-Factor analysis, and Distance-based Clustering (similar to K-Means analysis). We considered:

- Similarity across clustering methods in the “fit” of solutions with different numbers of mindsets;

- Similarity of profiles of mindsets created using different methods; and
- Similarity of profiles from CBAMS I and CBAMS II using different methods.

3.1.2. **Question 2: How are mindsets now different from mindsets before the 2010 Census?**

Data from CBAMS I and CBAMS II give us the opportunity to explore change in the mindsets between the two survey administrations. Although not all questions are shared between the instruments, it is possible to create mindsets using overlapping variables from the two surveys. We compared mindset solutions from CBAMS I and CBAMS II to determine whether there were qualitative differences in perspectives. This analysis helps us to understand the change that has occurred but, perhaps more importantly, it helps us comprehend how change might unfold before the 2020 Census. The results of this analysis will also inform decisions about the necessity of future segmentation research.

3.1.3. **Question 3: What are the census mindsets?**

Once we selected a method of analysis, we created final census mindsets by carefully selecting the variables to be entered, reducing the set to its components, or underlying factors,¹ and considering different means of creating categorical variables from the ordinal survey variables. We considered several different possible solutions with different numbers of groups, comparing each on estimated group sizes, and group profiles. The solutions were also evaluated on the ability to recreate the classification through a discriminant function, or a model for classifying observations into two or more groups based on a set of variables.

3.1.4. **Question 4: Who is in each mindset?**

In Question 3, we profiled each mindset in terms of the segmentation variables themselves. Within this analysis, we further profiled the groups by demographic and media usage characteristics to form a complete picture of what type of person is in each mindset.

3.1.5. **Question 5: How can we reach the mindsets?**

A few survey questions concerned how people used media. In this analysis, we profiled the mindsets in terms of their use of the Internet and other technology; this information can be used to support an initial communications plan.

3.1.6. **Question 6: What are attitudes toward the use of administrative records?**

In addition to supporting the segmentation analysis, the survey included several questions about the use of administrative records to supplement census responses. We presented these questions in three different frames (control, cost, and burden), distributed randomly across respondents. The analysis compares attitudes across the three frames, and the results may provide early insight on how best to communicate the use of administrative records to the public.

¹ Factors are latent variables that are determined by analyzing observed variables for common covariate structure. Factors are not directly observable and thus must be inferred from the observable metrics.

3.1.7. Question 7: How can we classify new respondents into the segments?

To support communications research going forward, it would be useful to classify survey respondents into mindsets. We provide the initial information to support development of this final typing tool and recommend an approach for refining segment assignment.

3.2. Methods

3.2.1. Data Collection

Survey Instrument

Instrument Development

Survey instrument development began at the project kick-off meeting held on October 7, 2010. ICF Macro and the Census Bureau collaborated to develop an Analysis Plan, which outlined the goals and objectives of CBAMS II. Throughout the survey development process, the team mapped survey questions to the defined goals and objectives.

The survey instrument went through several rounds of review and testing before receiving final approval (see *Cognitive Testing*, below). In November 2011, the Census Bureau provided recommended changes to the Administrative Records section of the questionnaire after receiving insight from Census Director Dr. Groves. This new section was reviewed by an expert panel for inclusion in the final questionnaire.

Aside from removing and replacing many questions from CBAMS I to suit new analytic goals for CBAMS II, there were only two changes to the overall survey approach:

- CBAMS II, unlike CBAMS I, selected a random adult in landline and in-person households rather than collecting responses from the first available adult.
- CBAMS II, unlike CBAMS I, asked all attitude questions of all respondents. CBAMS I asked certain questions only of respondents who were aware of the census.

Cognitive Testing

Methods

The sampling plan for the CBAMS II cognitive interviews called for interviews to be conducted with:

- At least four males;
- At least one mail non-respondent; and
- At least two respondents who were not White.

Table 1: Characteristics of Cognitive Interview Participants

Respondent	Male?	Non-White?	Did Not Mail in Form?
1	✓	✓	✓
2			✓
3		✓	
4		✓	
5	✓	✓	
6			
7	✓		
8	✓		✓
9	✓	✓	✓
Total	5	5	4

We recruited participants for cognitive interviewing from October 27, 2010 through November 3, 2010 using Random Digit Dial (RDD) to choose the telephone numbers. We informed potential respondents that ICF Macro, an independent research firm, was looking for people to help test a questionnaire. Eligible respondents who fit the criteria were scheduled to complete the interview within a week.

We initially scheduled 11 participants with the expectation that two might cancel. Since three respondents canceled and because on-time completion of the cognitive interviews was critical to project success, one of the nine cognitive interviews was conducted with a respondent recruited from a conventional market research sample. This respondent had no experience designing questionnaires.

Three different interviewers conducted interviews. All were experienced in structured interviewing. Two had conducted cognitive interviewing for CBAMS I.

Interviewing took place from October 28, 2010 through November 5, 2010. All cognitive interviews were conducted by phone except the final one, which was conducted in-person. We mailed each respondent a \$50 honorarium to thank him or her for participating.

Recommendations

Based on data from the cognitive interviews, we recommended the following changes to the questionnaire (refer to *Appendix E* for survey questions):

- Read the “don’t know” option for the knowledge series (C4; as it was in CBAMS I).
- Since respondents were comfortable providing the ZIP code, we advised that the statement, “To make sure that the survey represents the whole US, we need to collect some information about your location,” be read only if the respondent needed clarification.
- Change BELIEF1 to read, “The census should only ask how many people live in your household”.
- For the MaxDiff section, include an introductory phrase before each list, shorten the list to three items, and ask the respondent to choose the “most important” item from the list and then from the remaining pair, rather than asking the respondent to choose a “least important”.
- Remove TOG1, TOG5, and TOG6.
- Train interviewers in the correct use of “neither agree nor disagree” to reflect “no opinion”.
- Change the introduction to the paperwork compliance section to: “Different people approach paperwork like bills and forms differently. Some people do things right away and others take their time. For these questions, think about how you do things like paying bills, renewing memberships and subscriptions, or completing your pet registration.”
- Shorten AMQ23 to enhance comprehension.
- Streamline AMQ23b to enhance comprehension.
- Add “Household” to the initial income question.

Materials Development

Translation

The survey instruments and supporting materials were translated into Spanish, Vietnamese, and Chinese using a team translation approach. This involved:

- Two different translators creating forward translations of the document.
- Another translator serving as adjudicator. Using a guide provided by the Survey Methodologist, the adjudicator resolved discrepancies between the two translations.

- A fluent speaker on the ICF Macro staff reviewing the translated document to ensure that the translation flowed and that there were no typographical errors.

Changes to the Survey during Data Collection

Based on our experiences in the field, we decided to make a few changes to the Computer-Assisted Telephone Interviewing (CATI) and Paper-Assisted Personal Interview (PAPI) survey questionnaires after the start of data collection.

CATI

During the CATI survey, respondents experienced difficulty with the term “anonymity”. With Census Bureau approval, we replaced the word “anonymity” with “anonymous” and used the following statement:

“We intend to keep your answers anonymous by not asking for your name, address, or other personal information that could easily identify you.”

See *Appendix E* for the final CATI script.

In-person

Field interviewers representing the White Mountain Apache and Sioux tribes suggested that the original respondent selection process might be culturally inappropriate for their reservations. At these sites, there is a culturally designated spokesperson for each household. If the randomly selected respondent was not the designated spokesperson, tribe members could be offended or refuse to participate.

With Census Bureau approval, we changed the in-person screener for these two Native American sites. This change allowed the person at the door to name a preferred respondent, or to complete the random selection process as usual.

See *Appendix F* for the final in-person script.

Survey Sample

The target population for CBAMS II is all residents (citizens and non-citizens) of the United States. Within the target population, there are key demographic segments that have historically been HTC: high density areas with ethnic enclaves; unattached, mobile unmarried people; and areas with high concentrations of economically disadvantaged families.

We employed a combination of in-person, landline, and cell phone interviewing to reach the different population groups (for more information, please see *Section 4.*). The sample for the in-person survey was based on an address sample. The sample for the telephone survey was selected through RDD of landlines and cell phones.

Changes from CBAMS I

The CBAMS II sampling plan is very similar to that used for CBAMS I. The main difference is the increase in the number of cell phone interviews. This modification is a reflection of continued changes in telecommunications-related behavior among the respondent pool. Nearly 30% of households nationwide are cell-only (i.e., have no traditional landline residential phone) (Blumberg & Luke, 2011).

At the time of CBAMS I, the Census Bureau was conducting a dress rehearsal for the 2010 Census in two geographic areas: San Joaquin County, California; and the City of Fayetteville, North Carolina and nine surrounding counties (Chatham, Cumberland, Harnett, Hoke, Lee, Montgomery, Moore, Richmond, and Scotland). These two areas were excluded from the sampling so as not to overburden them and to avoid public confusion between the dress rehearsal and CBAMS; however, they are included in CBAMS II.

Stratification

Using the Census Planning Database tract-level statistics from Census 2000, we stratified tracts into the following groups:

American Indian Reservations: Census tracts located on American Indian reservations and those having a high concentration of American Indians (40% or more).

High Hispanic population density: Census tracts with a high percentage of Hispanics (60% or more) as well as linguistic isolation (20% or more).

High Asian population density: Census tracts with a high percentage of Asians (60% or more) as well as linguistic isolation (20% or more).

Rural economically-disadvantaged: Rural census tracts with a high percentage of the population living in poverty (30% or more).

Big-market: Census tracts in large media markets, defined as the 10 largest Designated Market Areas (DMAs) in terms of television households. Nielsen Media Research defines United States television markets as small, medium, and large (see *Appendix I* for the full list of markets). Within these markets, we classified all census tracts as low, moderate, or high HTC using a crosswalk provided by the Census Bureau.

- a. **High HTC score:** Top 20% of tracts in terms of HTC.
- b. **Mid HTC score:** Tracts in the 20th to 50th percentile HTC.
- c. **Low HTC score:** Lowest 50% of tracts in terms of HTC.

Mid-market: Census tracts in medium-sized media markets, defined by DMAs with 600,000 to 2,000,000 television households.

- a. **High HTC score:** Top 20% of tracts in terms of HTC.
- b. **Mid HTC score:** Tracts in the 20th to 50th percentile HTC.
- c. **Low HTC score:** Lowest 50% of tracts in terms of HTC.

Small-market: Census tracts in small-sized media markets, defined by DMAs with less than 600,000 television households.

- a. **High HTC score:** Top 20% of tracts in terms of HTC.
- b. **Mid HTC score:** Tracts in the 20th to 50th percentile HTC.
- c. **Low HTC score:** Lowest 50% of tracts in terms of HTC.

Address Sample for In-person Interviewing

We selected the sample of addresses in two stages. First, we selected a sample of 20 sites (groups of census tracts) from each stratum (one through four) with probability proportional to size (PPS) where the number of households in the tract is the measure of size. A systematic PPS sample of census tracts (m) was sampled from each stratum with the tracts sorted by state and county FIPS code and census tract number. The target number of interviews is in Table 4.

We selected five sites within each stratum (see Table 2). A site is defined as one or more census tracts grouped with neighboring tracts to create clusters containing at least 500 unique housing units reported on the 2000 Census. We excluded the sites selected for CBAMS I from the area frame for CBAMS II. We also excluded sites in Alaska and Hawaii from the area frame.

Table 2: Locations Sampled for Strata One through Four

Stratum	Location	% of Population in Target Group
1 American Indian Reservations	Erie County, New York (Cattaraugus Res.)	87%
	Todd County, South Dakota (Rosebud Res.)	92%
	Robeson County, North Carolina (Lumbee Res.) ²	82%
	Navajo County, Arizona (Fort Apache Res.)	95%
	Sandoval County, New Mexico (San Felipe Res.)	77%
2 High Hispanic density	New York County, New York	74%
	Cook County, Illinois	86%
	Miami-Dade County, Florida	86%
	Maricopa County, Arizona	65%
	Los Angeles County, California	98%
3 High Asian density	New York County, New York	73%
	Cook County, Illinois	76%
	Los Angeles County, California	68%
	Los Angeles County, California	68%
	Santa Clara County, California	77%
4 Rural poverty	Clay, County Georgia	38%
	Greene, County Alabama	40%
	Floyd County, Kentucky	33%
	Pike County, Kentucky	31%
	Grundy County, Tennessee	30%

An address list for each site was provided by Marketing Systems Group (MSG Inc.). The addresses are continuously updated based on the USPS's Computerized Delivery Sequence File. The address list did not include non-city style addresses (e.g., Post Office Boxes) in the frame.

Within each site, we selected a systematic sample of 100 addresses with the addresses sorted by delivery sequence number. We selected an equal number of addresses from each selected site so that the sample is self-weighting within each stratum.

Telephone Sample

The RDD frame was a dual-frame of landline and cell phones. Interviewing cell phone respondents is more expensive than landline interviewing. Therefore, we used an *optimal allocation* that considered the cost per interview in order to minimize the variance of survey estimates. This allocation is “optimal” in that no other allocation results in lower variance for the same cost—it is the most statistically efficient allocation. The allocation is based on reaching the optimal number of respondents who only use cell phones (“cell-only”) relative to respondents who have a landline. To determine this number, we used a cell-only percentage of 25% (the latest national estimate of cell-only was 24.5% at the time of design) (Blumberg & Luke, 2011). We also assumed a cell-only interview to be five times the cost of a landline interview. Based on these parameters, the optimal allocation is 13% cell-only and 87% landline. This included dual-users (respondents who have both a cell phone and a landline) and those who only have a landline (landline-only).

Based on our experience, we expected 40-50% of all cell interviews to be cell-only respondents and the remainder to be dual-users. This means that we would reach many dual-users in the course of

² A site on the Eastern Cherokee Reservation in Jackson County, NC was originally selected. The tribe could not participate at the time of interviewing due to an unrelated issue. We replaced this site with a site on the Lumbee Reservation in Robeson, NC.

interviewing cell-only respondents. In fact, we allocated 30% of the interviews to cell phone in order to obtain 13% of cell-only. This is higher than the number of cell phone interviews allocated in CBAMS I.

We oversampled geographic areas that were HTC in Census 2000.

We sampled strata five through seven for landline telephone interviewing. Nielsen Media Research defines United States television markets as small, medium, and large (see *Appendix I* for the full list of markets). Within these markets, we classified all census tracts as low, moderate, or high HTC using a crosswalk provided by the Census Bureau. We then mapped the tracts to telephone exchanges so that appropriate telephone numbers could be generated for each sub-stratum. We excluded telephone exchanges (defined by the first six digits of a phone number) that that contained no listed telephone numbers from the sample.

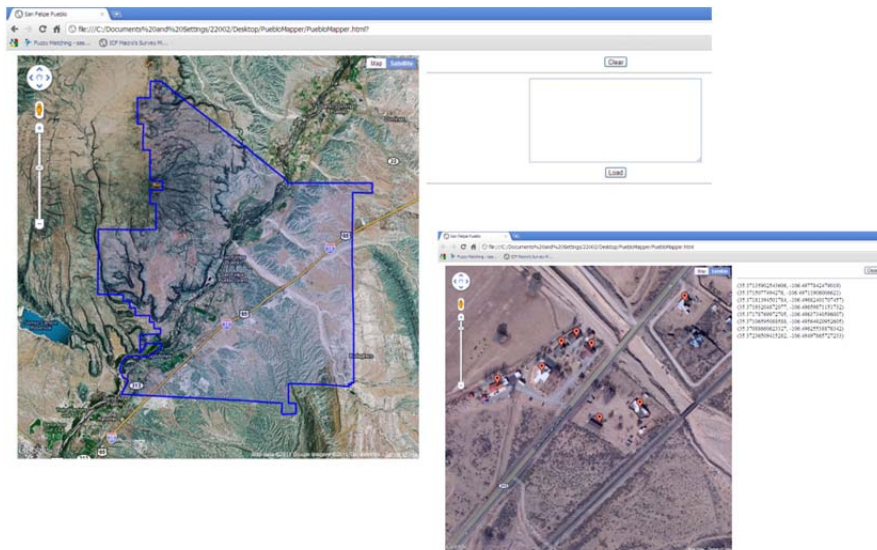
We selected the landline sample using our in-house RDD sampling system (Genesys from MSG, Inc.³). We purchased the cell phone RDD sample from MSG Inc., which maintains a frame of known cell phone exchanges.

The target number of interviews is in Table 4.

GPS Sampling of Native American Reservations

The Navajo, Arizona and Todd, South Dakota sites did not have city-style addresses. To select households in these locations, we developed an interactive mapping application to list the geographic coordinates of all physical structures in the site. The application was based on Google satellite images with overlays of the site boundaries. We then scrolled through each site and marked the geographic locations of each structure within the site boundary. Figure 1 below shows the first two steps of the mapping process. The larger picture shows a map identifying the census tract selected for participation in the study. Zooming in on this selected area, we identified all potential household units on the map.

Figure 1: GPS Sampling



³ The Genesys frame is updated quarterly using the Bell Communications Research (BELLCORE) valid area code-exchange database and keyed residential and business listings from major providers.

From these identified structures, we sampled geographic coordinates (instead of addresses) and uploaded these to a hand-held GPS device. We used Garmin eTrex Venture HC GPS devices and Garmin MapSource software to upload locations. The interviewers used the GPS device to locate the households for interviewing.

Data Collection

Telephone Data Collection

We called on the RDD telephone sample in two “waves”. The survey was programmed using CATI software, which included skip patterns to guide the interviewer through the survey instrument and constrained responses to logical values. Whereas in-person interviews were conducted in four languages, telephone interviews were only conducted in English and Spanish.

A schedule for telephone data collection appears in Table 3. The average length of both the landline and cell interviews was 25 minutes.

We sent pre-notification letters to the landline telephone sample for those records having address information. The first wave of pre-notification letters was mailed on May, 5, 2011. For this mailing, 29.25% of the landline sample had address information available, and pre-notification letters were sent to all of these addresses. The telephone numbers not having address information were either working residential numbers with no address listing or non-residential numbers. A second pre-notification letter was mailed to the second wave on June 21, 2011. For the second mailing, 27% of landline sample had address information. All telephone numbers with addresses were sent pre-notification letters.

Table 3: Telephone Data Collection Schedule

Date	Event	Type	N
5/9/2011	Wave 1	Unlisted landline begins dialing (no pre-notification letter)	32,108
5/9/2011		Cell phone begins dialing	22,486
5/11/2011		Pre-notification letters sent to listed landline households	13,271
5/12/2011		Listed landline begins dialing	13,271
6/17/2011	Wave 2	Unlisted landline (no pre-notification letter)	42,383
6/17/2011		Cell	14,992
6/21/2011		Pre-notification letters sent to listed landline households	15,681
6/25/2011		Listed landline	15,681
7/19/2011	Data Collection Complete		

Dialing Specifications

For the landline survey, we called each number up to 11 times; these calls were distributed across three different time periods:

- Monday - Friday: 9:00 am - 5:00 pm: two attempts.
- Monday - Friday: 5:00 pm - 9:00 pm: four attempts.
- Saturday (10:00 am - 9:00 pm) and Sunday (10:00 am - 9:00 pm): three attempts.

For the cell survey, we called each number up to seven times; these calls were distributed across three different time periods:

- Monday - Friday: 9:00 am - 5:00 pm: one attempt.
- Monday - Friday: 5:00 pm - 9:00 pm: four attempts.
- Saturday (10:00 am - 9:00 pm) and Sunday (10:00 pm - 9:00 pm): two attempts.

Interviewers left voicemail messages on working, residential answering machines on the first and fourth unsuccessful contact attempts.

Sample Eligibility

During data collection, the following outcomes removed a telephone number from being attempted again:

- The number did not reach a residence,
- Phone type did not match sample type (i.e., reached a cell phone on landline sample),
- The household was unavailable, or
- There were no adults associated with the telephone number.

For those instances when an individual was contacted, the following situations resulted survey ineligibility:

- The phone number did not reach a residence,
- There were no adults in the household,
- The contact was not an adult, or
- The person refused to indicate his or her age.

In-Person Data Collection

Interviews were conducted from May 16, 2011 to July 27, 2011. Pre-notification letters were sent to each selected address on May 12, 2011. The Lumbee Tribe of North Carolina received their letters later due to delays in obtaining approval, so we mailed pre-notification letters to those respondents on June 3, 2011. In addition, we mailed the San Felipe Pueblo New Mexico site new pre-notification letters on July 6, 2011 after we reselected the sample for this site.

Interviewers contacted each household to which they were assigned as early as possible in the data collection period. Each household received up to 10 contact attempts on different days of the week (i.e., weekdays, Saturday, and Sunday) and at varying times of day (i.e., morning, early and late afternoon, and early and late evening). Interviewers recorded the day, date, time, and result of each contact attempt for each household. A “Sorry I Missed You” card was left if no one was home (*Appendix H*).

Interviewers revisited initial refusals at a different time and day for a second attempt at an interview. As appropriate, refusals were reassigned to one of the other interviewers working in the site. After two refusals, the interviewer discussed the case with a supervisor, and further contact was suspended pending a decision made by the Field Administrators and the Field Manager.

Incentives

To increase cooperation, interviewers provided a \$10 gift to the eligible member of the selected household. While participation was not required to receive the gift, at least one person in the household needed to complete the screener in order to determine the selected respondent. In addition, the selected respondent signed a receipt to confirm that he or she accepted the incentive.

Staffing

Each site was staffed with two or three interviewers. One supervisor was assigned to each survey cluster (Native American, Hispanic, Asian, and Rural Poverty). The interviewers conducted the in-person surveys in English, Spanish, Chinese, and Vietnamese.

Trainings

Prior to attending the project training, we required all supervisors and field interviewers to read a project-specific training manual and complete a test on field interviewing protocols and procedures.

Field supervisors participated in required half-day training at ICF Macro's New York office. Field interviewers participated in one-day training in either Los Angeles or New York.

Training provided a basic overview of CBAMS II's goals and objectives, covered general interviewing skills, explained policies, and involved an in-depth training on the interviewing procedures and related materials. In order to prepare for actual interviewing in the field and receive practice applying the training concepts, interviewers participated in numerous mock interviews and role-playing exercises throughout the training.

After training, we required interviewers to submit their first two completed interviews; these were subjected to a detailed quality control review within 24 hours of receipt. All interviewers and their supervisors received a detailed report of any issues found in the completed questionnaires, and we retrained field interviewers as needed.

Permission to Interview on Reservations

Process

We worked with the Census Bureau to obtain permission from all selected Native American tribes to conduct research on their reservations. The procedures for obtaining this permission are described below.

Contact with Census Bureau Regional Offices: ICF Macro and the Census Bureau reached out to Census Bureau Regional Offices associated with the selected Native American Reservations. Regional Offices made contact with tribal liaisons.

Contact with tribal leadership: Once initial contact was established, we provided a letter for the Census Bureau to send to tribal leadership. This letter provided general information about the survey and requested the tribe's approval to conduct research on the reservation.

Special considerations and protocols: Once the tribe received the letter, we reached out directly to tribal liaisons to address any questions or concerns.

Thank you letter: Upon completion of the study, we sent tribal leadership a letter to thank them for their participation.

Results

Of the original selected sample, we were not able to obtain permission to conduct interviews with the Cherokee Tribe of North Carolina. Their refusal to participate was unrelated to ICF Macro, the Census Bureau, or CBAMS II. At the time of recruitment, the tribe was experiencing a high profile lawsuit and did not have the capacity to support research on the reservation. We replaced the Cherokee reservation with an alternate site, the Lumbee tribe, also in North Carolina.

All other selected tribes granted permission to conduct CBAMS II on the reservation, but with the following modifications:

Lumbee: The Lumbee tribe was in the midst of internal political changes that delayed the approval process; the tribe did not grant permission until June 3, 2011. This delay did not impact overall productivity at this site. In the end, 66 completes were obtained at this site.

Seneca: The Seneca tribe requested that a list of households be provided to the tribe prior to fielding, and that the field interviewers meet with tribal leadership in advance. This delayed data collection at this site by one week. However, this was a highly productive site, and this delay did not impact the overall completion rate. In all, we obtained 73 out of 100 completes at this site.

White Mountain Apache: The White Mountain Apache tribe agreed to participate only if we hired members of the tribe as field interviewers. The tribal liaison assisted with the recruitment by

providing the hiring information to field interviewers and by providing a list of recommended interviewers.

San Felipe Pueblo: San Felipe requested some modifications to data collection procedures as a condition of approval. These modifications included:

- Interviewers were not permitted on the reservation on the following days:
 - April 21st through May 1st,
 - May 30th,
 - June 24th,
 - June 29th, and
 - July 4th.
- Normal interviewing hours could only be Monday through Friday, 8:00am-5:00pm.
- Weekend visits needed approval by the Governor, and the interviewer had to give 24-hour notice on Friday.
- Interviewers were not allowed in the village during celebrations and festivals.
- The interviewers attended meetings with the liaison and the Governor before interviewing anyone on the reservation.
- Interviewers had to call the tribal liaison 24 hours before they arrived.
- On the day of the interview, the interviewers completed a “permission to enter call” and checked in with the tribal liaison before entering the Pueblo to ensure no ceremonies were in-progress.
- Interviewers wore badges and carried letters to the community from the Governor stating that they had approval to be in the village.
- Interviewers were not permitted in kivas (rooms used for religious rituals).
- Interviewers were not permitted to interview in blocks where a funeral was being held.

Validation

PAPI questionnaires contained a tear-off page for the respondent to provide a first name and phone number. This allowed us to confirm that the interview took place. We attempted verification on 100% of surveys conducted in English. Three hundred validations (28% of all complete interviews) were completed. We contacted respondents from this sample via phone and interviewed them with a screener consisting of selected questionnaire items. We compared phone responses to mail responses to confirm accurate questionnaire administration. We did not encounter any instances of data falsification in CBAMS II.

Data Management

Every Friday, interviewers sent their completed questionnaires by courier service to ICF Macro’s secure Burlington, Vermont facility. Each survey was checked into the sample management database which housed all addresses assigned to each site.

A quality assurance assistant reviewed every returned survey; this person brought any data issues to the attention of the project manager for resolution with supervisors or field interviewers.

Each questionnaire and form was manually keyed into the data entry program with 100% independent verification—that is, each questionnaire and form was keyed twice and discrepancies were flagged for immediate resolution. Data entry specialists entered all data from every questionnaire whether or not it was consistent with skip patterns.

Survey Outcomes

Table 4 shows the total number of completes per stratum.

Table 4: Completed Interviews by Survey Stratum

Mode	Stratum	Target	N	Difference
In-Person	American Indian Reservations	200	274	74
	High Hispanic Population Density	200	322	122
	High Asian Population Density	200	225	125
	Economically Disadvantaged-Rural	200	250	150
	Total In-Person	800	1,071	271
Landline Telephone	<i>Big-Market</i>			
	High HTC Score	310	265	-45
	Mid HTC Score	230	205	-25
	Low HTC Score	160	166	6
	<i>Total</i>	<i>700</i>	<i>636</i>	<i>-64</i>
	<i>Mid-Market</i>			
	High HTC Score	310	297	-13
	Mid HTC Score	230	230	0
	Low HTC Score	160	162	2
	<i>Total</i>	<i>700</i>	<i>689</i>	<i>-11</i>
	<i>Small-Market</i>			
	High HTC Score	310	282	-28
	Mid HTC Score	230	238	8
	Low HTC Score	160	160	0
	<i>Total</i>	<i>700</i>	<i>680</i>	<i>-20</i>
	Total Landline	2,100	2,005	-95
Cell Phone	National Cell Phone	900	995	95
Survey Total		3,800	4,071	271

Table 5 displays observed response rates in each mode, along with the distributions of final dispositions. The response rate used for these calculations is AAPOR Response Rate #3, which is the proportion of interviews completed out of the estimated eligible households.

Table 5: Response Rates

	In-person	Cell	Landline
Response Rate	64%	16%	26%
Completed Interviews	1,071	995	2,005
Eligible Non-Interview	533	1,493	3,787
Refusal	230	814	2,369
Other	326	679	1,418
Ineligible	301	12,842	72,878
Unknown Eligibility	72	22,148	24,686

In-person response rates were depressed by underproduction on the White Mountain Apache Reservation in Arizona. Tribal leadership at this site approved interviewing on reservation land with the condition that tribal members were hired as field interviewers. In addition to having these less experienced field interviewers, there were other challenges with this site.

During data collection, this site was at the center of the largest wildfire on record in Arizona. Most of the tribe was employed by the Forestry Department in order to fight these wildfires.

Typically, both spouses worked for the Forestry Department and worked away from home for two weeks at a time, so many houses were vacant.

This area has also had significant issues with alcoholism and unemployment. With additional pay coming in from the Forestry Department, drinking had increased on the reservation. CBAMS II field interviewers encountered many potential respondents who were intoxicated.

In addition, in 2009, there were 16 rapes on the reservation. Field interviewers mentioned after their hire that they were afraid to go door-to-door, especially with the increased prevalence of intoxicated respondents. We worked with the tribal liaison to develop ways to encourage the interviewers to conduct interviews while ensuring their comfort and safety (such as allowing them to work together to complete interviews). However, production at this site still remained low. In order to compensate for difficulties at this site, we greatly exceeded our quotas on other Native American reservations.

Data Processing

Data Cleaning

We defined a completed survey as one on which the respondent answered question A1, and the interviewer read the closing statement.

Data for the telephone interviews were collected via CATI and did not require cleaning of skip patterns, or inappropriate marks on single-response questions.

Our staff hand-entered the data for the interviews collected in-person, and then applied the following cleaning rules:

- Questions that were answered inappropriately based on responses to previous skip questions were coded as missing.
- Questions that were inappropriately skipped were coded as “no answer”.
- Single-punch questions with multiple marks were coded as “invalid answer”.

Data were processed and combined in SAS.

Weighting

For CBAMS II, the address sample was restricted to census tracts (or groups of tracts) that met the criteria for strata one through four. The landline sample is a national RDD sample excluding telephone exchanges primarily associated with tracts in strata one through four. Together, the landline and address sample represent a national stratified sampling design.⁴ The cell phone sample is a national RDD sample that overlaps with the combined landline sample and the address sample.

We calculated a single set of weights for the data during the two-step process described below. The weights should be applied for the calculation of national estimates and for comparisons within and between strata.

⁴ We excluded the census tracts in strata one through four for developing the RDD frame for strata five through seven. Since exchange to geography associations are not exact (i.e., many tracts may be associated with many telephone exchanges), it is possible that some telephone numbers selected in the RDD frame could reach households that are located in a census tract assigned to strata one through four.

Landline RDD

For each stratum, the probability that a telephone number is selected from the RDD frame is the number of selected telephone numbers (n_L) from the RDD frame divided by the number of possible numbers on the frame (N_L). Since only one respondent is selected in each household, the probabilities are divided by the number of adults in the household as recorded during the survey (A_i) to account for the within household selection. For individual i , the probability of being selected for the landline sample is:

$$\Pr_i(L) = \frac{n_L}{N_L} \times \frac{1}{A_i}$$

The base weight is the inverse of the selection probability, $w_{i1} = 1/\Pr_i(H)$.

The base weights were adjusted for non-response for each stratum. These adjustments are based on simple ratio weights for unresolved telephone status (working or not); unknown eligibility (such as when the respondent hangs up before eligibility is established), and interview non-response (when the respondent terms out in the middle of the survey).

The three adjustments are:

$$NR = \frac{WN + X_2 + U_2}{WN + X_2} \times \frac{WN}{C + R + X_1} \times \frac{C + R}{C} = NR_1 \times NR_2 \times NR_3$$

with the following telephone call outcomes:

- Working number (WN)
- Eligible respondent
 - Completed interview (C)
 - Refused or did not finish interview (R)
 - Ineligible respondent (X_1)
- Unknown if eligible for the survey (U_1)
- Ineligible number (X_2)
- Unresolved number eligibility (U_2)

Table 6: Non-response Adjustment Factors for Landline

Stratum	NR1	NR2	NR3	NR
Big-Market High HTC	1.18	1.82	4.71	10.10
Big-Market, Mid HTC	1.17	1.87	4.73	10.31
Big-Market, Low HTC	1.16	1.86	4.68	10.07
Mid-Market, High HTC	1.13	1.72	3.94	7.70
Mid-Market, Mid HTC	1.14	1.71	4.09	7.99
Mid-Market, Low HTC	1.15	1.74	3.85	7.68
Small-Market, High HTC	1.14	1.61	4.09	7.52
Small -Market, Mid HTC	1.14	1.53	3.60	6.31
Small -Market, Low HTC	1.13	1.62	3.59	6.59

The non-response adjustments are multiplied by the base weight, $w_2 = w_1 \times NR$.

Address Sample

For each stratum, the probability that a site (k) is selected is equal to the number of sites (five per stratum), multiplied by the proportion of addresses in the site (H_k). We selected an equal number of addresses from each selected site (100), which results in a self-weighting design within each stratum. Since only one respondent was randomly selected in each household, the probabilities are then divided by the number of adults in the household as recorded during the survey (A_i) to account for the within household selection.

For individual i , the probability of being selected for the address sample is:

$$\Pr_i(H) = 5 \times \left(H_k / \sum_k H_k \right) \times (100 / H_s) \times \frac{1}{A_i}$$

The base weight is the inverse of the selection probability, $w_1 = 1 / \Pr_i(H)$.

For the address sample, the non-response adjustment is a simple ratio adjustment within each site that weights the responding households to reflect the non-responding households, non-contacts (NC), and refusals (R), $NR = (C + R + NC) / C$. Vacancies and uninhabitable units are excluded. The non-response adjustments are multiplied by the base weight, $w_2 = w_1 \times NR$.

Combine Landline RDD and Address Sample

Both samples have been weighted to reflect their sampling designs and response differences between the strata and sites. Before combining together, we adjust the weighted samples to the population totals for each stratum. The scaling adjustment is based on tract-level population (POP_t) data from the 2000 Census data from the Census Planning Database. For each strata,

$$M = \sum_i w_2 / \sum_t POP_t$$

and $w_3 = w_2 \times M$.

Cell Phone RDD

For each stratum, the probability that a cell phone number is selected from the RDD frame is the number of selected cell phone numbers (n_c) divided by the total number of cell phone numbers on the frame (N_c). For individual (i), the probability of being selected for the cell phone sample is:

$$\Pr_i(C) = \frac{n_c}{N_c}$$

The base weight is the inverse of the selection probability, $w_1 = 1 / \Pr_i(C)$.

For each census region, the base weights were adjusted for non-response. These adjustments are based on simple ratio weights for unresolved telephone status (working or not), unknown eligibility (such as when the respondent hangs up before we establish eligibility), and interview non-response (when the interview is terminated in the middle of the survey).

The three adjustments are:

$$NR = \frac{WN + X_2 + U_2}{WN + X_2} \times \frac{WN}{C + R + X_1} \times \frac{C + R}{C} = NR_1 \times NR_2 \times NR_3$$

with the following telephone call outcomes:

- Working number (WN),
- Eligible respondent,
- Completed interview (C),

- Refused or did not finish interview (R),
- Ineligible respondent (X_1),
- Unknown if eligible for the survey (U_1),
- Ineligible number (X_2), and
- Unresolved number eligibility (U_2).

Table 7: Non-response Adjustment Factors for Cell Phone

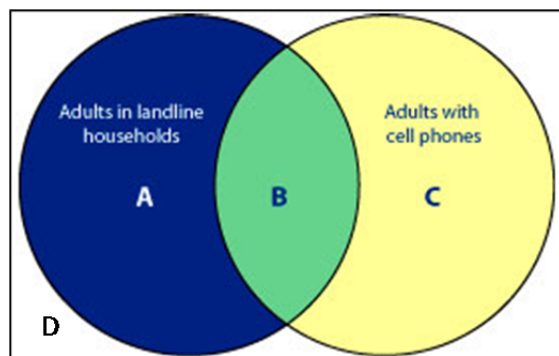
Region	NR1	NR2	NR3	NR
Northeast	1.20	1.67	15.58	31.18
Midwest	1.17	1.63	10.09	19.18
South	1.16	1.65	9.82	18.88
West	1.15	1.53	13.16	23.20

The non-response adjustments are multiplied by the base weight, $w_2 = w_1 \times NR$. The cell phone weights do not need to be scaled as the scaling is inherent in the next step of the weighting. To keep consistent with the landline and address sample, we set $w_3 = w_2$.

Combine Landline/Address Sample with Cell Phone

The Venn diagram below displays three populations covered by the cell and landline sampling frames. Adults with a landline but no cell phone (A) must be reached through a landline telephone sample. Adults with a cell phone and no landline (C) must be reached through the cell phone sample. Adults with both a landline and a cell phone (B) can be reached through either of the frames. The population with no telephone (D) is not covered by either frame, but nationally is only 2% of the population.

Figure 2: Population Coverage by Cell, Landline, and Address Sampling Frames



Since the cell phone frame and the combined landline/address frame overlap, we have the following sample groups:

- a_1 : Landline/Address respondents without a cell phone,
- b_1 : Landline/Address respondents with a cell phone,
- b_2 : Cell phone respondents with a landline, and
- c_2 : Cell phone respondents without a landline.

To determine group membership, the CBAMS II cell phone survey asks, “In addition to your cell phone, is there at least one telephone inside your home that is currently working and is not a cell phone? Do not include telephones only used for business or telephones only used for computers or fax machines.” Those who respond “yes” are classified as cell and landline adults, while those who

responded “no” are classified as cell-only adults. Similarly, the CBAMS II landline survey asks, “In addition to your residential landline telephone, do you also use one or more cell phone numbers?” Those who answered “yes” are classified as cell and landline, while those who responded “no” are classified as landline-only.

The CBAMS II PAPI interview includes both questions listed above. Respondents answering “no” to both (i.e., do not have a phone at all) were included with the landline/address respondents without a cell phone. While these respondents are technically a member of D in the above diagram, they are not a representative sample of this population group due to the limited geographic sampling for the PAPI interviews.

After determining the telephone groups, each is independently weighted to benchmarks for the population they are meant to represent. This is done for two reasons: 1) dual-users are overrepresented since they are eligible in both samples, and 2) differential response rates between dual-users and cell-only respondents in the cell phone sample. The benchmark for the phone groups is the National Health Interview Survey (NHIS). The NHIS is an in-person household survey that collects information about cell phone and landline availability. It provides national estimates of the cell-only population, the landline-only population, and the dual-user population. For the dual-user ratio adjustment, we post-stratified into three categories: receive most calls on cell phone (b_{11}), receive most calls on landline (b_{13}), and receive calls on both regularly (b_{12}).

The NHIS estimates of phone status were based on data collected from July-December 2010 (Blumberg & Luke, 2011). After weighting to NHIS, we have two independent estimates of the dual-user groups, one from cell and one from landline/address. To combine the two estimates, we averaged the two sets of weights (both are weighted to the population) with a composite weight based on sample size and estimated design effect:

$$f_j = \frac{b_{1j} / deff_{1j}^2}{b_{1j} / deff_{1j}^2 + b_2 / deff_{2j}^2}, \text{ where } deff_{1j} = b_{1j} \sum_{b_{1j}} w_3^2 \times \left(\sum_{b_{1j}} w_3 \right)^{-2}.$$

In summary, for each weighting cell, $w_4 = w_3 \times PS \times f$.

Table 8: Calculations for Combining Landline/Address with Cell Phone

	Sample Size	Population (NHIS)	Ratio Adjustment (PS)	Composite Weight (f)
Landline or address respondents with no cell phone ⁵	a_1	A	$A / \sum_{a_1} w_3$	1
Landline or address respondents with a cell phone	b_1	B		
Cell-mostly	b_{11}	B_1	$B_1 / \sum_{b_{11}} w_3$	f_1
Both	b_{12}	B_2	$B_2 / \sum_{b_{12}} w_3$	f_2
Landline-mostly	b_{13}	B_3	$B_3 / \sum_{b_{13}} w_3$	f_3
Cell phone respondents with a landline	b_2	B		
Cell-mostly	b_{21}	B_1	$B_1 / \sum_{b_{21}} w_3$	$1-f_1$
Both	b_{22}	B_2	$B_2 / \sum_{b_{22}} w_3$	$1-f_2$
Landline-mostly	b_{23}	B_3	$B_3 / \sum_{b_{23}} w_3$	$1-f_3$
Cell phone respondents without a landline	c_2	C	$C / \sum_{c_2} w_3$	1

Combine All Samples

After separately weighting each of the phone groups to their respective populations, the final step was to combine the separate samples into one. While each separate sample group represents their respective phone population, collectively the three groups represent the full population displayed in the Venn diagram shown earlier (A+B+C). We then post-stratified the combined sample and calibrated the weighted data to reflect population distributions based on the 2005-2009 American Community Survey 5-Year Estimates. The calibration is a raking adjustment with five dimensions: age×sex, race×Hispanic origin, tenure×marital status×kids in the household, age×educational attainment, and Census division. Raking iteratively matches the sample to the population along each of the listed dimensions. After several iterations, each dimension will match the population totals within tolerance.

⁵ Respondents in the address sample who report no phone at all are included in this group for weighting.

Table 9: Weighting Questions on the Survey

Variable	Mode	Survey Question
ADULTS	Landline PAPI	How many members of your household, including yourself, are 18 years of age or older?
LANDLINE	Cell PAPI	In addition to your residential landline telephone, do you also use one or more cell phone numbers?
CELL	Landline PAPI	In addition to your cell phone, is there at least one telephone inside your home that is currently working and is not a cell phone? Do not include telephones only used for business or telephones only used for computers or fax machines.”
DUAL	All	Of all the telephone calls that you receive, are: 1) all or almost all calls received on a cell phone, 2) some received on a cell phone and some on a regular landline phone, 3) or very few or none received on a cell phone?
AGE	All	What is your age?
SEX	All	What is your gender?
RACE	All	Which of these categories best describes your race?
HISP	All	Are you Hispanic or Latino?
TENURE	All	Do you rent or own your house or apartment?
MAR_STAT	All	What is your marital status?
KIDS	All	Are there children living at home with you who are under 18 and go to school?
EDUC	All	What is the highest grade or year of regular school you completed?
DIV (coded from ZIP)	All	What is your ZIP code?

3.2.2. Analysis

We conducted all analysis for CBAMS II in collaboration with the Census Bureau. We thoroughly discussed interim results to inform the direction of analysis. All results reflect final team decisions and represent the path that was deemed most beneficial to the Census Bureau’s needs.

Data Processing

Prior to conducting the analysis, we processed the variables as follows:

- Attitudinal variables
 - Setting “don’t know” and “refused” responses to missing for all attitudinal variables.
 - Converting the four-point scale to a three-point scale for the E series⁶ by assigning the unread “no opinion” category and the two “disagree” categories to the lowest group. This modification addressed low disagreement and made the observed distributions more symmetric.
 - Reverse coding attitudinal variables⁷ as necessary so that “up” is always the direction of positivity toward the census.

⁶ Census beliefs: e1ar e1br e1er e1fr e1gr e1hr e1ir e1jr e1lr e1mr e1nr belief1 belief2

⁷ Variables reverse- coded: E1ar e1gr e1jr e1lr e1mr e1nr belief1 belief2 q32b q32d q32f comp1 comp4 comp5 comp6 tog5 tog6

- Knowledge variables
 - Setting “don’t know” and “refused” responses to be equivalent to “no” responses for knowledge and awareness questions.⁸
- Funding priorities
 - Assigning preference scores for each of the 10 issues using responses on Mot1-Mot10.

We excluded responses (N=3) from respondents who “straight-lined” or gave the same response on all items in *both* the series of items about census-related beliefs⁹ and the series of items about related concepts such as trust in government.¹⁰

Throughout this report, we present “profiles” of mindsets. These are based on dichotomous¹¹ recodes of the variables:

- All the variables that had been presented with a four-point *strongly disagree* to *strongly agree* scale were split into two categories: *strongly and somewhat disagree*, and *strongly and somewhat agree*. The small number of respondents who said they had no opinion (an unread answer choice) was included in the lower category after the variables were reverse-coded.
- The variables presented with a five-point scale were divided into a top-two group (*strongly and somewhat agree*) and a bottom-three box (*neither agree nor disagree, somewhat disagree, strongly disagree*) before reverse-coding. Dichotomizing before reverse-coding helped to minimize the impact of acquiescence bias (the tendency to agree with everything) on the final segments.
- The four affinity variables (intent, familiarity, importance, and affinity) had idiosyncratic scales. We dichotomized these by splitting them into a high group that responded in the top-box (the highest category) and everyone else.
- The funding priorities (Issue1 through Issue10) were scored based on the MaxDiff series. For each respondent, issues with scores in the two highest categories were coded as “1”, and all other issues were coded as “0”.

Question 1: What is the best method for creating mindsets?

Latent Class Analysis (LCA)

To conduct LCA, we used SAS PROC LCA (2011). While there are more complex commercial packages available for this kind of analysis, we chose SAS PROC LCA because it is available without cost to the Census Bureau for future segmentation efforts. To support LCA, we conducted some data processing. Specifically, we used principal components analysis to reduce the large number of variables to a smaller set of composites, and we recoded all analysis variables into categorical variables with two levels each.

Variable Reduction

LCA assumes that variables are conditionally independent—that membership in the latent clusters themselves is enough to explain all the covariance. This assumption can be violated in cases where

8 Knowledge: A1 c4ar c4br c4cr c4fr c4ir d1r d2r c4dr c4er c4gr c4hr c4jr

9 Census beliefs: e1ar e1br e1er e1fr e1gr e1hr e1ir e1jr e1lr e1mr e1nr belief1 belief2

10 Trust in government: tog1-tog7 q32b q32c q32d q32f priv7 comp1-comp8

11 The advantage of dichotomizing scale variables is in interpretation. While an average scale value (e.g. 3.14 out of five) is useful for comparative analysis, it is not as intuitive as stating the percentage of people who agree (e.g. 62% of people agree.) Thus, the team agreed dichotomies were the best presentation.

several similar questions are asked. Practically speaking, violations of this assumption can lead the model to fit best with a large set of clusters instead of a relatively small set.

To address covariance among the variables, we identified and combined groups of related variables to create composite scores. We used SAS PROC VARCLUS to conduct the analysis, which has the advantage of allowing groups of variables to covary with each other. In other words, the groups do not have to be completely independent. This is important because some relationship among the variables is necessary to create coherent latent classes; the variable grouping was only used to minimize the impacts of pockets of variables that were highly correlated with each other and probably measured the same underlying construct.

There were 21 variables in this analysis. Since the specific measures are not as important here as the comparison among segments based on those measures, we do not detail the specific variables here. An extensive variable reduction effort was undertaken for the final segmentation analysis, and details of that effort appear below in the methodology section for Question 3.

Converting to Categorical Variables

LCA conducted using SAS PROC LCA requires that the analytic variables be categorical. Where variables were not already categorical, we split them on the variable mean.

Latent Class Analysis

PROC LCA supports the use of weights and complex samples. The estimates of values on the segmentation variables presented below and their standard errors were calculated by the procedure itself.

Q-Factor Analysis

Q-Factor analysis is like “regular” or R-Factor analysis except that, instead of identifying the latent components that underlie a set of survey questions, it identifies the latent groups that underlie a set of survey respondents. To conduct the analysis, we correlated each person’s responses on all the variables in Table 12 with each other person’s responses. We used the variables in Table 12, including the composites, so that the results would align as much as possible with the results from the LCA. In the final segmentation, we might not use these composites, but in this phase of the research, we were interested in whether, given the same inputs, the different approaches would produce similar outputs. We did not convert the variables to categorical variables for this analysis; however, since the fact that Q-Factor analysis supports the use of continuous or ordinal data could be a legitimate benefit of this approach.

Using the matrix of inter-respondent correlations, we ran a factor analysis. For each segmentation analysis, we extracted and rotated as many components as we wanted in order to examine mindsets. We assigned individuals to mindsets using each respondent’s own principal component scores.

We used the assignments to estimate the weighted prevalence of each group and the group profiles.

Distance-based Clustering

K-Means is one type of distance-based clustering where the distance from individuals to groups is used to make classifications. People are put into the group they are closest to based on their responses to all questions. We used SAS PROC FASTCLUS to implement the K-Means method. We used the same variables used in the other two analyses, and, like we did in the Q-Factor analysis, we used them in their continuous or ordinal forms rather than converting them into categorical variables.

Evaluating the Different Approaches

Next, we wanted to determine how consistent and meaningful the segments were that emerged from each approach. To compare the approaches, we:

- Directly compared the groups' profiles on the segmentation variables to see whether the mindsets each identified were similar; and
- Compared the extent to which a statistical analysis could replicate group membership from the individual survey responses.

This latter analysis checks the validity of the models. We used discriminant analysis¹² to compare how accurately we could classify individuals into their LCA classes, Q-Factor, and K-Means clusters using their survey responses.

Question 2: How are current mindsets different from mindsets before the 2010 Census?

Some questions from CBAMS I were not included in the CBAMS II questionnaire. In large part, we eliminated certain questions because they failed to vary enough across individuals to add to the explanatory power of the mindsets. Eliminating these questions for the CBAMS II administration gave us the opportunity to add many questions that we hoped would be more powerful. However, their absence means that we cannot exactly replicate the CBAMS I mindsets from the CBAMS II data. Instead, we created and compared new mindsets using questions that were asked in both instruments. To conduct the analysis, we used LCA because this analysis was the preferred method after we completed the analysis of Question 1. As we did for Question 1, we conducted variable reduction and converted the final variables to categorical variables.

Addressing Differences in Skip Patterns

Most respondents who were unaware of the census were not asked the attitudinal questions in CBAMS I. These individuals were labeled *Unacquainted* in the CBAMS I mindsets, and they were excluded from the actual mindset modeling. To align the two datasets for this analysis, we included only respondents who were aware of the census at question A1 or A3. We have included these people to add context to the group size estimates presented below. In CBAMS I, 7.3% of Americans were unaware; in CBAMS II, only 2.5% were unaware.

Variable Reduction

Again, we used SAS PROC VARCLUS to conduct the analysis. We conducted the variable grouping analysis separately for the knowledge, belief, and affinity variables, and for each of these analyses, we used all the data from both surveys. Some individual variables were not well-explained by any of the variable groups,¹³ and these were held out and used individually in the segmentation analysis.

The final set of variables used in the segmentation analysis appears in Table 10.

Converting to Categorical Variables

Where variables were not already categorical, we split them on the variable mean.

¹² Discriminant analysis refers to the development of a decision-based classification rule.

¹³ Again, these were variables for which less than 30% of the variance was shared by the cluster.

Table 10: Variables Used in Segmentation Analysis to Compare CBAMS I and CBAMS II

Measure	Variables
Unaided awareness of the census	a2
Affinity	b5, c3, b1, c2
Correct knowledge about the census	c4a, c4b, c4f
Incorrect beliefs about the uses of census	c4d, c4e, c4g, c4h, c4j
Use: Count citizens and non-citizens	c4i
Use: Track change	c4c
Positive beliefs about the census	e1b, e1e, e1f, e1h, e1i
Negative beliefs about the census	e1a, e1g, e1j, e1l, e1m, e1n

Question 3: What are the census mindsets?

For Questions 1 and 2, we created sets of variables and cut-offs for categorization as a matter of convenience and availability. Since the goal in those two analyses was only to compare apples to apples, the primary objective of a variable selection and reduction strategy was to create variable sets that were the same. In creating the final CBAMS II mindsets, however, considerably more attention to the selection, reduction, and splitting of CBAMS II variables was warranted.

Variable Selection

The research team made several decisions regarding which variables to include in the analysis. Broadly speaking, segments can be created from attitudes, behaviors, demographics, or some combination of those. Clearly, the CBAMS II segments are mostly about people’s attitudes and perceptions. There were, however, several survey questions concerning media and telecommunications use, as well as demographics. The first determination in the segmentation process concerned whether to include all measures in the segmentation algorithm or to base the segmentation on the attitudes specifically and then to *profile* the attitudinal segments using the behavioral and demographic information. We used the latter approach for two reasons:

1. Conceptually speaking, the use of LCA assumes that there are distinct groups of people with coherent, qualitatively different perspectives on a given issue. Including both attitudes and demographics in the models would implicitly assume that the mindsets cohere with the demographics— not just that they are correlated, but that they make up parts of the same whole.
2. Practically speaking, the segmentation and the classification tool may be used to classify new individuals for the next 10 years. Attitudes might be expected to have consistent relationships with propensity to census response. In contrast, the communications and media landscape is changing so quickly that the cultural significance of media behaviors may not be stable. Segmenting based on attitudes may preserve the integrity of the segments in changing cultural circumstances.

Table 28 shows the variables for inclusion in the variable reduction phase of the segmentation. All of these are personality-, perception-, and attitude-related variables. We related the media and communications behaviors and demographic information to the final segments in a separate analysis.

Adjusting the Data for Scale Use

Conducting the segmentation on the raw variables and on conventional dichotomized (top-box) scores consistently led to the emergence of one segment (about 14% of the population) made up of people who tended to agree with every question, even those that were ultimately recoded. To address this “acquiescence bias,” or individual difference in how people used the survey scales, we centered the

responses before combining the variables. This means that for each of the sets of variables listed below, we subtracted each respondent’s mean value from his or her response. For instance, if, on the series of trust in government questions, a respondent gave an average answer of 4.2, we subtracted 4.2 from each of his or her answers. If another person gave an average answer of three, we subtracted that from his or her answers. What this does across subjects is correct for people whose agreement with every item was just shifted up the scale. It is effective because the questions went in different directions (i.e. some were correct and some were incorrect uses.) For some questions, a higher answer was more positive, and for others a negative answer was more positive. That means that centering on the mean just corrects for a tendency to overuse the right-hand side of the scale; it does not “erase” legitimately positive attitudes. This approach eliminated the substantial segment of people whose reported attitudes were inconsistent because of an agreement bias. *Appendix A* provides series of variables centered on mean within respondent.

Recentering the knowledge questions helps eliminate correct answers due to guessing all true or all false. To illustrate, consider the following simple example of four census use questions—two are true and two are false:

Table 11: Example of Recentering the Knowledge Questions

	All Correct	All Yes	All No	All Incorrect
Survey responses:				
Use: Representation	1.0	1.0	0.0	0.0
Use: Allocate funds	1.0	1.0	0.0	0.0
Use: Property tax	0.0	1.0	0.0	1.0
Use: Track lawbreakers	0.0	1.0	0.0	1.0
Mean score	0.5	1.0	0.0	0.5
Recentered values:				
Use: Representation	0.5	0.0	0.0	-0.5
Use: Allocate funds	0.5	0.0	0.0	-0.5
Use: Property tax	-0.5	0.0	0.0	0.5
Use: Track lawbreakers	-0.5	0.0	0.0	0.5

The result of the recentering is that it reduces the score for people who get some correct because they respond “yes” or no” to all or most questions.

Variable Reduction

We conducted factor analysis using PROC FACTOR to identify groups of variables (Table 12). Variables for which less than 30% of the total variance was explained by the factor were held out and entered in the segmentation algorithm separately. These variable groups are an analytic convenience; their meanings are not as important as are the segment profiles based on them, which appear in *Section 5*.

Table 12: Groups of Variables for Final Segmentation

Knowledge Measures	2 Factors	c4dr c4er c4gr c4hr c4ar c4br c4cr c4ir
	1 Factor	d1r d2r
	Separate variable	c4jr
	Separate variable	c4fr
Trust and Privacy Measures	2 Factors	tog1-tog3 tog5-tog6 q32b q32c q32d q32f priv7
	Separate variable	tog4
	Separate variable	tog7
Paperwork Measures	2 Factors	compl-comp8
Belief Measures	2 Factors	e1ar e1gr e1jr e1lr e1br e1er e1fr e1hr e1ir belief2
	Separate variable	e1nr
	Separate variable	e1mr
	Separate variable	belief1
Funding Priorities	4 Factors	issue1 issue3 issue4 issue5 issue7 issue8 issue9 issue10
	Separate variable	issue2
	Separate variable	issue6
Affinity	1 Factor	b5r b1r c2r
	Separate variable	c3r
Other Measures	Awareness	A1
	Census can benefit	Benharm, benefit
	Census can harm	Benharm, harm
	Preference for Internet	ce8

We compared several ways of creating composites based on the measures and found that factor scores were most successful in creating clear, meaningful segments. Other approaches, such as straight averaging, produced profiles that were not as clear in the final segments. We also tried several means of creating categorical variables from the factor scores for submission to the analysis. We found that splitting the respondents into two categories, lower than the mean score versus greater than or equal to the mean score, created the most understandable segments.

Question 4: Who is in each mindset?

We created a demographic profile for each mindset using the data from the survey, including answers from questions: ASKGENDR and M1-M11. We also related mindset to the clusters of census tracts from the Census Planning Database. This analysis, also conducted in CBAMS I, intersects two kinds of segmentation: geographic and demographic segmentation conducted at the census tract level (census “clusters”) and attitudinal segmentation (“mindsets”) (Bates, Forthcoming).

Finally, it can be difficult to see how small groups in the population relate to the mindsets, so we present mindset distributions within each of three HTC groups:

- American Indians and Alaskan Natives, defined as anyone who reported this as a race category, including those who reported this and other categories.
- Less acculturated Asian respondents, defined as those who reported speaking an Asian language at home.

- Less acculturated Hispanic respondents, defined as those who reported speaking Spanish at home.

Question 5: How can we reach the mindsets?

We included most of the telephone use questions for weighting purposes, but they are also useful as a first look at how we can reach the mindsets. We profiled the mindsets by their cell phone and Internet use.

Question 6: What are attitudes toward the use of administrative records?

The survey included an experiment comparing several approaches to framing the Census Bureau's use of administrative records. We compared affinity for administrative records use by frame to determine: (a) how positive people are about the idea overall, and (b) whether there are some messages about administrative records that might lead to more or less positive reactions. The statistical comparisons were simple comparisons of top-box proportions and average scale values (t-test).

Question 7: How can we classify new respondents into the segments?

The goal of classification after segmentation is usually to use a small number of questions to classify new respondents. The initial segmentation included many variables. To find a subset of variables that provides a classification algorithm, we used a multinomial logistic regression model to predict individual mindset membership probabilities. Then, we used nearest neighbor discriminant analysis to classify each person into one mindset. This two-step process is beneficial in that we quantitatively measure individual probabilities of belonging to each mindset. This provides a measure of strength for the classification. For instance, a person who has a 100% membership probability to the *Government-Minded* group will share more of the attitudinal characteristics ideals associated with the *Government-Minded* group than a person who has a 50% membership probability.

4. LIMITATIONS

4.1. Precision in Classifying New Respondents

Initially, the project was intended to produce a final "typing tool" for classifying new respondents into mindsets. However, high accuracy using such a tool typically requires that a small number of variables be used in the initial segmentation. Using more variables in the segmentation can mean a better initial understanding of mindsets. The research team decided that using more variables in the initial segmentation provided the best understanding of mindsets, although precision of the resulting typing algorithms with fewer questions would be low. Instead of producing a final typing tool, therefore, this report describes the relative utility of each question in discriminating among groups and recommends that a handful of new questions be developed to "type" new respondents more efficiently.

5. RESULTS

5.1. Question 1: What is the best method for creating mindsets?

We compared four, five, and six mindset solutions using the three methods.

5.1.1. Comparative Mindset Prevalence

We compared the relative sizes of the mindsets created by each method. Table 13 shows that, for the smallest solution, all approaches created one large group. K-Means analysis created three smaller groups of about the same size, while the Q-Factor and LCA analyses created smaller groups of decreasing size and were very similar to each other. For the largest solution (six mindsets), K-Means analysis again created similarly sized groups while there was more variation in the group sizes estimated using the other two methods. Q-Factor analysis produced the smallest group of two percent. The K-Means solution tendency to equalize segment sizes may result in higher within-group variability of the defining attitudinal characteristics. On the other extreme, the Q-Factor solution indicates unique attitudinal characteristics for this very small segment. The ability to create actionable interventions for two percent of the population is very limited.

Table 13: Prevalence of Mindsets for Four, Five, and Six Mindset Solutions Using Different Methods

Mindset	Four Mindset Solutions			Five Mindset Solutions			Six Mindset Solutions		
	K-Means	Q-Factor	LCA	K-Means	Q-Factor	LCA	K-Means	Q-Factor	LCA
1	36%	36%	36%	28%	28%	33%	23%	30%	24%
2	22%	29%	31%	26%	24%	25%	18%	22%	23%
3	22%	19%	18%	23%	19%	17%	16%	19%	18%
4	19%	16%	15%	14%	16%	13%	15%	16%	14%
5				9%	13%	12%	14%	11%	13%
6							13%	2%	9%

5.1.2. Comparative Mindset Discriminability

We examined the extent to which group assignments made using each approach could be replicated with the data. Table 14 shows that overall classification error rates were about the same at about 10% for K-Means analysis and LCA and tended to be around 10% whereas the error rate for Q-Factor analysis was about 18% for all solutions.

Table 14: Error Rates in Classification for Four, Five, and Six Mindset Solutions Using Different Methods

Mindset	Four Mindset Solutions			Five Mindset Solutions			Six Mindset Solutions		
	K-Means	Q-Factor	LCA	K Means	Q-Factor	LCA	K-Means	Q-Factor	LCA
1	4%	29%	10%	4%	29%	11%	5%	33%	17%
2	10%	20%	10%	4%	20%	13%	9%	12%	19%
3	13%	8%	9%	12%	10%	12%	15%	26%	13%
4	10%	13%	2%	3%	14%	4%	3%	15%	2%
5				19%	17%	8%	10%	19%	14%
6							12%	4%	1%
Overall	9%	18%	8%	8%	18%	10%	9%	18%	11%

Note: In all cases, mindsets are organized in decreasing order of size.

Correspondence among Mindset Assignment

We examined whether the three approaches tended to assign the same people to the same groups. Across approaches, “same” meant the most common pairing, rather than matching profiles and then

estimating correspondence. Table 15 below illustrates how often each type of method classified individuals into the same group. Correspondence between K-Means and Q-Factor is considerably higher than the correspondence between either of the methods and LCA. All of the chi-square statistics comparing group assignment for all the pairs of statistical approaches were significant—suggesting that there was some shared variance, and that the clusters had something in common.

Table 15: Percent of Individuals Classified into Similar Mindset

	K-Means ↔ Q-Factor	Q-Factor ↔ LCA	K-Means ↔ LCA
Four Mindset Solution	68%	48%	44%
Five Mindset Solution	63%	44%	41%
Six Mindset Solution	61%	40%	34%

5.1.3. Comparative Mindset Profiles

In comparing the actual profiles of the mindsets obtained using each approach, we hoped to discover:

- Whether the three approaches produced groups that could be broadly aligned, and
- Whether any individual approach produced more distinct groups.

The profiles appear in *Appendix B*. It is important to remember that the actual content of the profiles does not matter for this exercise. After we selected an approach, we conducted the segmentation again, and profiled the mindsets extensively. Those results appear in *Appendix B*. When analyzing the profiles, comparisons of the data items among mindsets will identify the distinguishing characteristics. We look for patterns of variables that stand out as high or low. To facilitate examination of these patterns, we applied color to the tables. Distinguishing characteristics of each group can be identified by reading across each row, and noting any boxes in bright yellow (high response) or bright blue (low response). In cases where responses were reverse-coded (indicated by *), the opposite is true:; blue indicates high agreement, while yellow indicates low agreement. The “brighter” the color, the more distinguished the group’s responses were from the others. To create the profiles, we used the dichotomous “top-box” scores we created for the final segmentation analysis (this allows the profiles throughout this report to look similar). These scores are described above in the methodology for Question 3 (page 22).

Broadly speaking, there are two major and related observations to be made from the tables located in *Appendix B*. First, while the identified groups were fairly similar for the four-group solution, they were much less so for the six-group solution. For instance, a four-mindset K-Means solution identified one large group of people with high intent to respond and accurate knowledge of the census (as indicated by their “no” answers on the *Uses* items that were not actual census uses). The same group appeared in the four-mindset LCA solution. However, while the same profile appeared in the six-mindset K-Means solution, *two* groups with these characteristics appeared in the six-mindset LCA solution. The two groups differed in terms of their trust in government.

The second observation is that profiles of LCA groups were notably more distinct from each other than were profiles of K-Means or Q-Factor groups. This is visually apparent because, in the tables, more saturated blue and yellow shading indicates more extreme values. To confirm it, however, we measured the range of values for each profile measure within the statistical approach. For instance, the highest K-Means profile value for intent in Table 36 was 77% and the lowest was 48%, so the range was 29 points. The average of ranges across all the profile measures was higher in the LCA solutions than in either the K-Means or Q-Factor solutions. In the six-mindset case, the average range

for K-Means was .23, the average range for Q-Factor was .27, and the average range for LCA was .37.

Both of these observations may stem from better isolation of clusters on the part of the LCA approach. In general, K-Means tends to identify groups that are similar in size. If the true underlying groups in the data vary widely in size, then LCA might be better for isolating and profiling those groups.

5.1.4. **Summary: The Best Statistical Approach**

We tested three statistical approaches to mindset creation: K-Means analysis, Q-Factor analysis, and LCA. The three approaches did assign some people to similar clusters, but correspondence among the clustering approaches was not high. When we used the survey data to predict group membership assigned by each of the three methods, the K-Means analysis and LCA had similar, low error rates. Q-Factor analysis had consistently higher error rates. Groups identified using LCA had more distinct profiles than did groups identified using the other two approaches. That is, the individual groups were more different from each other when we employed LCA. Because the approach is associated with relatively low error rates in classification and more distinct mindsets, we elected to use LCA to create the census mindsets.

We believe LCA is the appropriate approach, but it is limited in that all attitudinal variables must be dichotomized. This means that attitudinal scale variables must be summarized into two categories. K-means and Q-Factor are not limited by this constraint. This limitation does seem to influence the segmentation as discussed in the next section.

5.2. **Question 2: How are mindsets now different from mindsets before the 2010 Census?**

By comparing mindsets before and after the 2010 Census, we wanted to learn two pieces of information. First, we wanted to understand whether there were quantitative differences;—that is, whether the sizes of the mindsets had changed. Second, we wanted to know whether there were qualitative differences;—that is, whether the belief profiles themselves had matured.

5.2.1. **Comparative Mindset Prevalence**

Fit indices from LCA indicated that solutions with four or five mindsets were the best fit. In LCA, the number of groups with the lowest Bayesian Inference Criterion (BIC) or Consistent Aikake's Information Criterion (CAIC)¹⁴ statistics can sometimes be seen as the “optimal” solution. In the CBAMS I data, CAIC was lowest for a four-group solution, and BIC was lowest for a five-group solution, although the difference in BIC between the four- and five-group solutions was not greater than two.

More importantly, we compared the relative sizes of the mindsets for the two datasets.

Table 16 shows that whether we fit four, five, or six groups for the CBAMS I data, the result was four large mindsets. In the five-mindset solution, for instance, mindsets one through four were 20 to 30% of the population, and mindset five was just 3%. In the CBAMS II data, in contrast, additional groups were fairly large.

These groups are based on the same variables in each dataset; additional nuance in CBAMS II does not arise from more or better variables in the analysis. The fit indices for CBAMS II point to a possible five- or six-group solution, although entropy (a measure of the model goodness of fit,) was

¹⁴ The Bayesian Inference Criterion (BIC) and Consistent Aikake's Information Criterion (CAIC) are both measures of fit used to compare models to each other. They take into account the fit of the model (how well it explains the data) and the number of parameters (here, relate how well it relates to the number of groups). In any set of models, lower BIC and CAIC values are considered better-fitting.

lower for all CBAMS II solutions than for CBAMS I solutions. That might mean that a small number of groups more effectively explains the CBAMS I data than the CBAMS II data.

This is initial evidence that mindsets regarding the census have changed some since CBAMS I. Of course, the substantial increase in awareness also suggests that beliefs regarding the census are now more crystallized.

Table 16: Prevalence of Mindsets for Four, Five, and Six Mindset Solutions Using CBAMS I and CBAMS II Data

Mindset	Four Mindset Solutions		Five Mindset Solutions		Six Mindset Solutions	
	CBAMS I	CBAMS II	CBAMS I	CBAMS II	CBAMS I	CBAMS II
1	30%	35%	29%	32%	26%	29%
2	23%	23%	21%	24%	22%	18%
3	20%	20%	20%	16%	21%	15%
4	20%	19%	20%	15%	20%	15%
5			3%	10%	2%	12%
6					2%	9%
Unaware	7%	3%	7%	3%	7%	3%

5.2.2. Comparative Mindset Discriminability

We examined the extent to which group assignments made using each approach could be replicated using the data. Table 17 shows that overall classification error rates differed for CBAMS I and II mindsets. Consistent with the observation that all solutions seem to support the existence of four groups in the CBAMS I data, the error rate for classification of the four-segment solution in CBAMS I was very low.

Table 17: Overall Error Rates in Classification for Four, Five, and Six Mindset Solutions Using CBAMS I and CBAMS II Data

CBAMS	Number of Mindsets		
	4	5	6
I	2%	2%	13%
II	5%	10%	7%

5.2.3. Comparative Mindset Profiles

The profiles of four mindset solutions in CBAMS I and CBAMS II appear in Table 18. Again, to facilitate examination of these patterns, we have applied color to the tables. Higher values are highlighted in yellow and lower values highlighted in blue. This color coding allows us to observe which variables go together in the clusters created by each segmentation method, and they allow us to see the relative magnitudes of differences. To create the profiles, we used the top-box scores for all the attitudes and rates of endorsement (percent indicating “yes”) for all of the knowledge items.

The four-mindset solution in the CBAMS I data produced two groups with relatively high affinity, and two groups with relatively low affinity. The two high-affinity groups differed in their tendencies to endorse incorrect uses of the census. Only 6% of the first group thought the census was used to set property taxes, whereas 62% of the second group thought that it was. These groups can be broadly aligned with the *Leading Edge* and *Head Noddors* groups from the CBAMS I analysis. Interestingly, the two low-affinity groups were also distinguished by their tendencies to endorse incorrect uses of

the census. One group, making up about 30% of the population, had relatively low unaided awareness and tended to endorse incorrect uses for the census. The other group, making up about 23% of the population, was characterized by more accurate knowledge regarding what the census is not used for but relatively inaccurate knowledge regarding its actual uses. These groups might be aligned with the *Insulated* and *Cynical Fifth* mindsets from the CBAMS I analysis.

It is worth noting, however, that the sizes of the groups were markedly different in this analysis. In particular, the *Insulated* group in this analysis is 30% of the population whereas it was 6% of the population in CBAMS I. This is likely because knowledge and awareness variables made up less of the original set of variables. Comparing the group sizes between the two solutions suggests that the extra *Insulated* individuals might have been *Head Noddors* from CBAMS I. They were 41% of the population in the CBAMS I analysis, and are now about 20% (Table 18).

LCA with a smaller set of CBAMS I variables appears to give rise to a four-group solution with very similar characteristics to the solution originally produced by the Q-Factor analysis conducted for the ICP. In other words, the different approaches, even with different entry variables, both seem to reveal that: (a) there were four mindsets and not more, and (b) those mindsets had the general characteristics of the *Leading Edge*, *Head Noddors*, *Insulated*, and *Cynical Fifth* groups. We will use “equivalent” to note that these are not the original CBAMS I segments. They are created by the LCA segmentation model run on CBAMS I data.

Evidence from the group sizes and model fits suggests that there may be more than four mindsets in CBAMS II, conducted after the 2010 Census and the ICP. However, a four-mindset solution in the CBAMS II data again reveals two high-affinity groups. These have about the same profiles as the two high-affinity groups in the CBAMS I data, although what might be termed the *Leading Edge Equivalent* is larger in CBAMS II (35%) than in CBAMS I (20%).

In CBAMS II, in contrast to CBAMS I, the remaining two groups are not both low-affinity. There is one group with moderate intent to respond (57%) and perceived importance (53%). This group has relatively negative beliefs about the census and moderately accurate knowledge about what the census is used for, although they are somewhat inaccurate regarding what the census is not used for. This group might be a post-census *Insulated Equivalent* group. These people might originally have been unaware and not very knowledgeable but now have greater awareness and knowledge. If this is so, then the remaining group might be seen as a post-census *Cynical Fifth Equivalent*. This group now has poor knowledge of the uses of the census and very slightly more positive opinions toward it suggesting that the more knowledgeable members migrated to other mindsets.

Finally, the *Unacquainted* group from CBAMS I was 7% and has decreased to 3%. This group is composed of those who have never heard of the census, even when prompted with a description; therefore, this group does not have a profile as they did not answer the remaining questions in CBAMS I. However, it is an important result to note that this group has decreased in size as it implies that fewer people now, than before the 2010 Census, have no knowledge of the census at all.

Table 18: Profiles of Four Mindset Solutions Produced Using CBAMS I and CBAMS II Data

Mindset*	CBAMS I				CBAMS II			
	LEE	HNE	IE	CFE	LEE	HNE	IE	CFE
Size	20%	20%	23%	30%	35%	19%	23%	20%
Intent	83%	74%	37%	35%	89%	80%	57%	27%
Affinity	57%	58%	13%	18%	61%	52%	19%	10%
Familiarity	18%	21%	8%	7%	37%	30%	20%	9%
Importance	90%	81%	30%	39%	94%	90%	53%	31%
					100			
Aware of Census	97%	98%	93%	77%	%	92%	95%	89%
Use: Allocate funds	79%	89%	58%	75%	86%	89%	93%	41%
Use: Representation	85%	85%	69%	69%	86%	87%	93%	46%
Use: Track change	99%	97%	87%	91%	96%	94%	92%	71%
Use: Plan for the future	95%	96%	80%	88%	92%	90%	97%	66%
Use: Count citizens and non-citizens	71%	88%	65%	79%	64%	96%	73%	68%
Use: Property tax	6%	62%	6%	65%	14%	66%	37%	35%
Use: Track lawbreakers	1%	45%	4%	52%	7%	43%	23%	24%
Use: Local illegal residents	5%	59%	12%	59%	10%	56%	32%	36%
Use: State income tax	4%	68%	8%	65%	18%	73%	43%	33%
Use: Measure unemployment	35%	86%	33%	81%	35%	80%	56%	47%
Invasion of privacy *	100%	98%	98%	95%	99%	93%	98%	94%
Important to be counted	58%	64%	13%	14%	59%	74%	8%	22%
Census shows pride	26%	48%	2%	6%	26%	50%	1%	8%
Let gov't know what community needs	28%	46%	3%	9%	40%	54%	3%	10%
Doesn't matter *	99%	98%	98%	96%	99%	94%	98%	96%
Civic responsibility	52%	60%	3%	7%	52%	63%	4%	12%
Confidentiality can be trusted	26%	38%	2%	5%	27%	34%	1%	8%
Concern for misuse *	98%	95%	96%	95%	99%	91%	95%	92%
Govt. already has info. *	99%	98%	98%	94%	98%	94%	98%	91%
Never see results *	96%	95%	93%	94%	96%	88%	95%	89%
Takes too long *	100%	95%	94%	94%	98%	95%	97%	94%

* LEE = Leading Edge Equivalent, HNE = Head Nodders Equivalent, IE = Insulated Equivalent, and CFE = Cynical Fifth Equivalent

5.2.4. Summary: CBAMS I Mindsets vs. CBAMS II Mindsets

Model fit indices and estimates of mindset sizes suggest that there were only four mindsets in the CBAMS I data (excluding *Unacquainted*). This is consistent with the original mindset solution from CBAMS I, and the four groups estimated using LCA are similar in profiles to the four mindsets estimated for CBAMS I using Q-Factor analysis.

Consistent with the evidence that there are more than four groups in the CBAMS II data, however, the four-group CBAMS II solution produced groups with different profiles. While the *Head Nodder Equivalent* and *Leading Edge Equivalent* profiles still seem to appear, the *Leading Edge Equivalent* group in CBAMS II was much larger. The lower-affinity groups were quite different from the original *Insulated Equivalent* and *Cynical Fifth Equivalent* groups and may represent post-census groups—low-affinity groups that have been positively impacted by the 2010 Census and the ICP.

At this point, we could compare solutions with five or six mindsets between the two data sources, but the modeling clearly shows that the CBAMS II and CBAMS I mindsets are different and that the four-group solution was, and is, appropriate for CBAMS I. Instead, we turn our attention to creating the most nuanced CBAMS II mindsets possible.

5.3. **Question 3: What are the Census Mindsets?**

The research team examined solutions with four, five, six, seven, and eight mindsets. The results presented in *Section 5.2* suggested that there were more than four groups in CBAMS II, and indeed, five, six, and seven segment solutions provided increasing insight into specific mindsets. Six and seven segment solutions, especially, provided increased insight into the mindsets of people whose attitudes toward the census were negative. The final segments, profiled in Table 19, are described within this section.

The use of color in Table 19 is designed to bring attention to those variables that set each segment apart. Observed values at the top of the range are highlighted in yellow, and observed values at the bottom of the range are highlighted in blue. The colors do not reflect significant or qualitative differences.

Below, we describe each group, starting with the group having the highest affinity for the census.

5.3.1. **Government-Minded**

About 19% of American adults have positive attitudes toward the census and its purpose. Eighty-nine percent of these people know that the census is used to determine political representation, and this group is set apart by the high priority they place on political representation. They also care about government administrative functions in fire and police stations, on roads and highways, and for public transportation. They care less than other groups about “softer” issues such as healthcare and childcare.

This group is not concerned about sharing their information with the government. They see the government’s attempts to collect information as important to government functions. They also know better than any other group what the census is *not* used for.

5.3.2. **Compliant and Caring**

About 15% of people in the *Compliant and Caring* group have high affinity for the census. They also have a different perspective from the *Government-Minded* group. People in the *Compliant and Caring* group do not put a high priority on the census in particular or on political representation, but they do tend to care about social programs like those in schools and for elder care, and they believe that the census could benefit those programs as well as them personally.

This group also tends to complete paperwork dutifully, so their high self-reported response to the census could be a combination of their positive feelings toward the census in general and their overall compliance with requests to complete and return forms. Whereas the *Government-Minded* segment may complete the census because they believe in the specific purpose of the census, the *Compliant and Caring* group may complete the census because they feel good about it.

5.3.3. **Dutiful**

The first two high-affinity groups are characterized by a commitment to the specific goals of the census and by positive feelings related to the census. The third is characterized by a sense of duty to complete the census. Those in the *Dutiful* group (14% of the population) know what the census is for, although they also think it serves some functions that it actually does not. They do not have strong

priorities for the political distribution of funds, but they do think it is their responsibility to be counted.

5.3.4. **Local-Minded**

About an eighth of the population thinks the census is used for purposes like tracking lawbreakers and setting taxes. People in the *Local-Minded* group also tend to be ambivalent toward government, reporting that they tend to trust local governments more than the Federal Government, and they tend to think that refusing to complete the census is a good way to show the government that they are dissatisfied. At the same time, they tend to think that the government keeps their information safe, and that it has their best interests in mind.

Perhaps because they are disenchanted, the *Local-Minded* group does not prioritize representation in government, but they do tend to care about schools, healthcare, and other soft issues. The best way to communicate with this group might be to appeal to their sense of community without referring to the Federal Government, which this group feels removed from.

5.3.5. **Uninformed**

About 16% of the population cannot reliably report what the census is actually used for. Only about half of these people know that the census helps to determine government representation, and they are similarly poor at reporting the other uses for the census. On the positive, they are no more likely than other groups to think that the census is used for purposes such as identifying illegal immigrants or setting taxes.

The *Uninformed* group tends to think that they will never see the results of the census, and that it should only ask about the number of household residents. This is not surprising, since they do not appear to know what the results of the census are or why it would ask other questions.

Compared to others, this group is not very concerned about their personal information, but they prefer not to complete the census on the Internet. They do tend to put a high priority on healthcare and on care for the elderly, so these political priorities (along with assurances of confidentiality and a response option that does not involve technology) could help increase their affinity for the census.

5.3.6. **Cynical**

A tenth of the population is aware of the census, knows what it is used for, and is highly suspicious of it and of the government. Across all measures, the *Cynical* group has the lowest opinion of the government and expresses the most concern about the security of their personal information. Like the *Government-Minded* group, however, they place a premium on political representation and on government functions like fire and police protection.

5.3.7. **Suspicious**

About 14% of the population is in the group with the lowest intent to respond to the census—the *Suspicious* group. This group has, by far, the lowest self-reported census awareness; they also tend to be less likely than other groups to complete paperwork on time. The challenge with this group will be making them aware of the census as well as leading them to care enough to complete it when it arrives. Since they are not characterized by any particular political funding priorities, appeals that include reasons for completing the census will probably not be successful initially with this group. Instead, appeals that alleviate their suspicion (they are the most likely to report that the census could harm them) and give them more positive feelings about the census might help.

Table 19: CBAMS II Segment Profiles

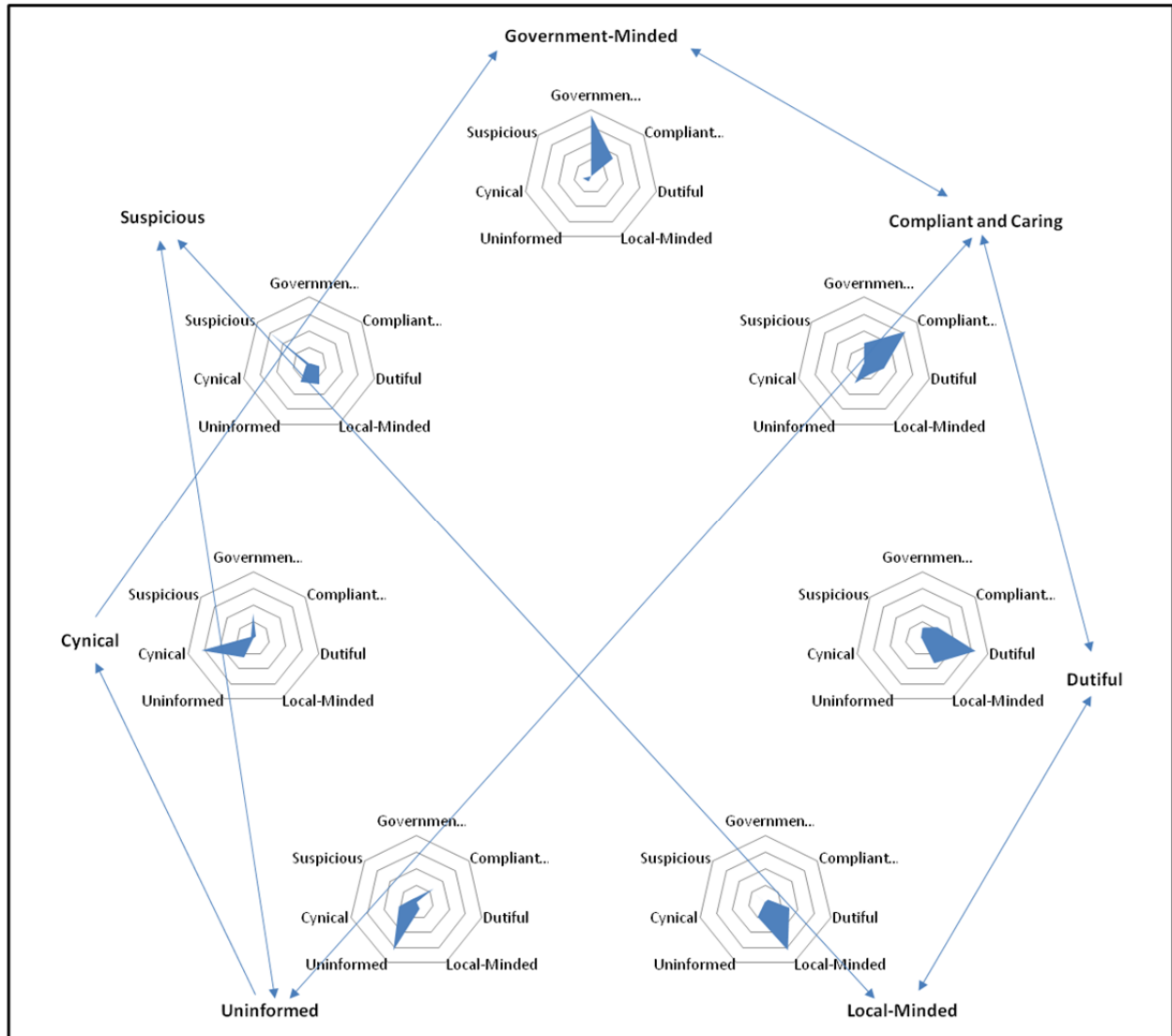
	Total	Compliant			Local-Minded	Uninformed	Cynical	Suspicious
		Government-Minded	and Caring	Dutiful				
Size	100%	19%	15%	14%	12%	16%	10%	14%
Aware of Census	93%	100%	98%	94%	90%	97%	99%	69%
Replied to Census	81%	89%	88%	83%	80%	79%	81%	61%
Intent	66%	87%	85%	80%	70%	46%	55%	27%
Affinity	39%	57%	54%	54%	45%	22%	12%	14%
Importance	70%	90%	92%	94%	82%	50%	40%	29%
Familiarity	25%	37%	31%	32%	22%	15%	22%	12%
Use: Representation	79%	89%	83%	92%	78%	51%	91%	72%
Know: Law requires response	43%	39%	36%	60%	54%	28%	55%	40%
Know: Census is confidential	86%	85%	91%	94%	93%	79%	74%	86%
Use: Allocate funds	78%	86%	87%	94%	82%	56%	77%	69%
Use: Track change	89%	96%	95%	97%	90%	75%	89%	84%
Use: Plan for the future	87%	97%	93%	94%	84%	75%	76%	85%
Use: Count citizens and non-citizens	73%	59%	68%	89%	88%	73%	59%	78%
Use: Property tax	35%	10%	16%	62%	67%	17%	16%	69%
Use: Track lawbreakers	22%	2%	4%	33%	53%	16%	4%	53%
Use: Local illegal residents	30%	3%	8%	50%	65%	31%	12%	53%
Use: State income tax	38%	12%	22%	64%	73%	23%	19%	71%
Use: Measure unemployment	52%	27%	42%	85%	90%	26%	28%	82%
Invasion of privacy *	84%	98%	97%	94%	81%	79%	67%	61%
Important to be counted	95%	99%	100%	99%	98%	94%	86%	88%
Doesn't matter *	83%	98%	94%	95%	84%	74%	69%	59%
Civic responsibility	91%	99%	97%	100%	96%	87%	78%	70%
Let gov't know what community needs	84%	91%	94%	97%	93%	72%	59%	78%
Confidentiality can be trusted	79%	86%	90%	94%	88%	72%	50%	64%
Census shows pride	77%	78%	83%	91%	91%	73%	45%	71%
Concern for misuse *	76%	94%	94%	84%	77%	68%	51%	54%

	Total	Compliant			Local-Minded	Uninformed	Cynical	Suspicious
		Government-Minded	and Caring	Dutiful				
Govt. already has info. *	79%	96%	95%	91%	79%	74%	56%	49%
Takes too long *	82%	93%	91%	93%	90%	81%	77%	45%
Never see results *	61%	86%	78%	81%	56%	35%	34%	41%
Census should only ask number of residents *	55%	78%	79%	69%	42%	26%	34%	41%
Refusal is a form of government protest *	67%	89%	73%	67%	46%	67%	61%	52%
Trust state more than Federal *	56%	67%	61%	56%	50%	54%	47%	52%
Govt. has my best interests in mind	51%	51%	55%	57%	66%	51%	12%	54%
Govt. keeps info safe	56%	62%	58%	68%	71%	49%	20%	55%
Govt. should collect info.	89%	96%	96%	95%	93%	85%	68%	82%
Govt. uses info responsibly	58%	62%	67%	73%	70%	50%	19%	56%
Trust local more than Federal *	50%	53%	55%	55%	51%	54%	29%	49%
Census Bureau more trustworthy	54%	55%	62%	65%	69%	44%	34%	49%
Privacy well protected	51%	59%	56%	60%	62%	44%	19%	51%
Govt. doesn't care about me *	41%	58%	46%	49%	35%	30%	18%	40%
Lost control over information *	35%	40%	36%	39%	39%	32%	15%	35%
Govt. knows too much *	46%	63%	52%	49%	42%	37%	22%	43%
Businesses have too much info.	57%	55%	61%	53%	59%	52%	72%	54%
Paperwork: Complete immediately	64%	59%	64%	67%	80%	64%	53%	66%
Paperwork: Completing feels good	86%	86%	88%	90%	94%	86%	75%	80%
Paperwork: Set aside time	59%	51%	61%	68%	73%	60%	43%	56%
Paperwork: Put on stack *	24%	18%	27%	19%	30%	24%	24%	28%
Paperwork: Miss deadlines *	64%	69%	63%	68%	60%	61%	70%	58%
Paperwork: Start and stop *	67%	74%	70%	71%	60%	63%	73%	54%
Paperwork: Wait to complete *	64%	68%	71%	65%	63%	67%	58%	53%
Paperwork: Prioritize	82%	84%	86%	84%	84%	80%	82%	76%

	Total	Government- Minded	Compliant and Caring	Dutiful	Local- Minded	Uninformed	Cynical	Suspicious
Census could benefit me	47%	55%	70%	67%	50%	22%	12%	41%
Census could harm me	7%	2%	8%	4%	3%	6%	12%	18%
Prefers to complete on Internet	34%	51%	40%	32%	19%	20%	42%	27%
Hospitals and healthcare	31%	26%	29%	35%	33%	39%	21%	32%
Schools and the education system	55%	51%	65%	55%	63%	60%	40%	52%
Daycare for children	11%	1%	20%	4%	24%	15%	0%	18%
Mental healthcare	12%	3%	19%	7%	22%	14%	4%	16%
Care for the elderly	31%	16%	40%	23%	46%	47%	22%	30%
Job training programs	20%	14%	25%	23%	24%	19%	15%	22%
Fire and police stations	33%	44%	32%	37%	19%	26%	50%	22%
Political representation in Congress	25%	50%	10%	37%	5%	7%	49%	15%
Roads and highways	15%	33%	2%	19%	1%	7%	31%	12%
Public transportation	9%	19%	2%	10%	3%	3%	16%	8%

**Reverse Scored*

Figure 3. Mindset Probabilities—Individuals with Low Assignment Probability



5.3.8. Mindset Probabilities

The LCA model produces individual probabilities for belonging to each mindset. Individuals are then assigned to a mindset based on the largest probability, which we call the “assignment probability”. In the majority of cases, the assignment probability is large, and the remaining probabilities are very small. But in some instances, the assignment probability is much smaller. Table 20 displays the minimum assignment probabilities for each mindset. This was generally around 0.3 for each mindset. This means, the highest probability of membership to any mindset was 0.3, suggesting that this individual must have had other relatively high membership probabilities.

To evaluate the relationships among the mindset probabilities, we analyzed the individuals with the lowest assignment probabilities. For most mindsets, this was a maximum of around 0.7, with *Government-Minded* as the exception at 0.8. We limited the analysis to individuals whose assignment probability was in the first quartile for each mindset. Using this subset, we computed the median, lower quartile, and upper quartile value for each mindset probability.

These values are located on page 43 in Table 21. Page 41 plots the upper quartile values for each of the assigned mindsets. The arrows represent the strongest relationships between the probabilities.

The values in the table and the graphs tell us what other probabilities tend to score high when the assignment probability is low (in the lower quartile). *Government-Minded* and *Compliant and Caring* have a reciprocal relationship. Those who have the lowest *Government-Minded* assignment probabilities tend to have *Compliant and Caring* as their next highest probability and vice versa. No other probability strongly emerges for *Government-Minded*, but *Compliant and Caring* also has reciprocal relationships with *Uninformed* and *Dutiful*. *Dutiful* is also related to *Local-Minded* while *Uninformed* is related to *Cynical* and *Suspicious*. *Local-Minded* is also related to *Suspicious*. *Cynical* does not reciprocate with *Uninformed*, but it does relate to *Government-Minded* (but not vice versa).

Table 20: Summary Statistics for Assignment Probabilities for Each Mindset

	Min	Q1	Median	Q3	Max
<i>Government-Minded (n=736)</i>	0.30	0.81	0.96	0.99	1.00
<i>Compliant and Caring (n=672)</i>	0.30	0.68	0.88	0.95	1.00
<i>Dutiful (n=520)</i>	0.32	0.69	0.89	0.97	1.00
<i>Local-Minded (n=500)</i>	0.29	0.67	0.84	0.94	1.00
<i>Uninformed (n=744)</i>	0.32	0.69	0.85	0.96	1.00
<i>Cynical (n=354)</i>	0.30	0.70	0.91	0.98	1.00
<i>Suspicious (n=542)</i>	0.30	0.71	0.90	0.97	1.00

Table 21: Mindset Probability Summary Statistics—Individuals with Lowest Assignment Probability in Each Mindset

Government-Minded (n=210)				Compliant and Caring (n=186)			
	Q1	Median	Q3		Q1	Median	Q3
<i>Gov't-Minded</i>	0.57	0.64	0.73	<i>Gov't-Minded</i>	0.00	0.02	0.25
<i>Comp & Caring</i>	0.06	0.20	0.34	<i>Comp & Caring</i>	0.48	0.55	0.63
<i>Dutiful</i>	0.00	0.00	0.00	<i>Dutiful</i>	0.00	0.00	0.24
<i>Local-Minded</i>	0.00	0.00	0.00	<i>Local-Minded</i>	0.00	0.01	0.14
<i>Uninformed</i>	0.00	0.02	0.07	<i>Uninformed</i>	0.01	0.07	0.26
<i>Cynical</i>	0.00	0.01	0.11	<i>Cynical</i>	0.00	0.00	0.01
<i>Suspicious</i>	0.00	0.00	0.00	<i>Suspicious</i>	0.00	0.00	0.00

Dutiful (n=132)				Local-Minded (n=150)			
	Q1	Median	Q3		Q1	Median	Q3
<i>Gov't-Minded</i>	0.00	0.01	0.13	<i>Gov't-Minded</i>	0.00	0.00	0.00
<i>Comp & Caring</i>	0.01	0.06	0.23	<i>Comp & Caring</i>	0.00	0.00	0.05
<i>Dutiful</i>	0.49	0.58	0.65	<i>Dutiful</i>	0.00	0.02	0.30
<i>Local-Minded</i>	0.00	0.07	0.32	<i>Local-Minded</i>	0.52	0.56	0.64
<i>Uninformed</i>	0.00	0.00	0.01	<i>Uninformed</i>	0.00	0.03	0.20
<i>Cynical</i>	0.00	0.00	0.00	<i>Cynical</i>	0.00	0.00	0.00
<i>Suspicious</i>	0.00	0.00	0.02	<i>Suspicious</i>	0.01	0.07	0.31

Uninformed (n=216)				Cynical (n=109)			
	Q1	Median	Q3		Q1	Median	Q3
<i>Gov't-Minded</i>	0.00	0.01	0.06	<i>Gov't-Minded</i>	0.01	0.15	0.30
<i>Comp & Caring</i>	0.00	0.06	0.26	<i>Comp & Caring</i>	0.00	0.01	0.04
<i>Dutiful</i>	0.00	0.00	0.00	<i>Dutiful</i>	0.00	0.00	0.00
<i>Local-Minded</i>	0.00	0.01	0.09	<i>Local-Minded</i>	0.00	0.00	0.00
<i>Uninformed</i>	0.52	0.57	0.64	<i>Uninformed</i>	0.03	0.11	0.25
<i>Cynical</i>	0.00	0.04	0.22	<i>Cynical</i>	0.46	0.55	0.64
<i>Suspicious</i>	0.00	0.01	0.06	<i>Suspicious</i>	0.00	0.00	0.03

Suspicious (n=167)			
	Q1	Median	Q3
<i>Government-Minded</i>	0.00	0.00	0.00
<i>Compliant and Caring</i>	0.00	0.00	0.01
<i>Dutiful</i>	0.00	0.01	0.12
<i>Local-Minded</i>	0.02	0.11	0.27
<i>Uninformed</i>	0.01	0.10	0.24
<i>Cynical</i>	0.00	0.00	0.04
<i>Suspicious</i>	0.49	0.54	0.60

5.4. **Question 4: Who is in each mindset?**

Table 22 (next page) presents certain demographics for each of the mindsets. The mindsets are presented in a different order to make it easier to see important similarities among the groups. The high-affinity *Government-Minded* group and the much lower-affinity *Cynical* group are very similar in terms of their lifestyles, income, age, and ethnic make-ups. Both groups have relatively high proportions of:

- Males,
- White people, born in the United States,
- Married people, and
- People over age 54.

Both groups have relatively low proportions of:

- Families with children living at home,
- Single people,
- Home renters, and
- People with household incomes under \$50,000.

The major difference between these two mindsets is, obviously, that one is positive toward the census and the other is not. The challenge for future communications is to move people who hold the *Cynical* mindset toward the *Government-Minded* one. These two mindsets share much in common, so future research should focus on understanding their opposing attitudes about the census.

A similar, if less striking, resemblance emerged between the *Local-Minded* and *Suspicious* mindsets. Both groups are characterized by relatively high proportions of:

- Hispanic and Black people,
- People speaking a language other than English at home,
- Those who rent their home,
- People with household incomes under \$50,000,
- People with children at home, and
- People without a high school degree.

The *Local-Minded* mindset has greater affinity for the census than does the *Suspicious* mindset, but they are particularly suspicious of the Federal Government. This is not surprising in light of the demographic profile. These groups may include higher proportions of ethnic groups that are somewhat isolated from the mainstream culture. They certainly include relatively high proportions of immigrants to the United States who may be suspicious of the Federal Government and reluctant to provide information. It seems clear that the right way to target the *Suspicious* group is with messages about what the census is; they are, after all, misinformed. However, these messages should be crafted to focus on local benefits to census respondents and not on responsibility to the Federal Government.

The remaining three mindsets, *Dutiful*, *Compliant and Caring*, and *Uninformed*, have less distinct demographic profiles. The *Dutiful* mindset is fairly diverse and has a demographic profile that closely resembles the U.S. population. The *Compliant and Caring* mindset also tends to demographically resemble the U.S. population, but tends to have more females and those with higher education. The *Uninformed* mindset is characterized by people having relatively low education and income.

Table 22: Demographic Profiles of Mindsets¹⁵

	Total	Government-Minded	Cynical	Dutiful	Compliant and Caring	Uninformed	Local-Minded	Suspicious
Male	49%	53%	67%	57%	36%	42%	35%	54%
Kids at home	39%	34%	34%	36%	38%	42%	47%	42%
Married	54%	62%	61%	55%	56%	51%	50%	37%
Single	27%	22%	22%	29%	21%	23%	29%	43%
No high school degree	14%	5%	5%	12%	8%	24%	20%	26%
College or more	27%	45%	30%	31%	33%	16%	17%	13%
Hispanic	14%	7%	7%	12%	12%	17%	23%	20%
Black, not Hispanic	12%	4%	5%	11%	15%	13%	19%	16%
White, not Hispanic	68%	84%	82%	70%	68%	65%	49%	54%
Language other than English at home	11%	4%	3%	10%	9%	17%	22%	13%
Born in the US	84%	91%	92%	86%	87%	81%	70%	81%
Rent the home	27%	17%	17%	28%	28%	30%	36%	35%
Income < \$50K	52%	30%	41%	55%	45%	67%	70%	65%
Age under 25	13%	9%	7%	17%	9%	9%	12%	28%
Age over 54	32%	34%	39%	33%	31%	33%	29%	24%

¹⁵ Distinguishing characteristics of each group can be identified by reading across each row, and noting any boxes in bright yellow (high response) or bright blue (low response). The “brighter” the color, the more distinguished the group’s responses were from the others. The colors help make sense of what the statistics within each cell mean. Only by comparing across groups do the statistics show whether responses were high or low for any question. For example, in the *Local-Minded Group*, 70% answered that they were born in the United States. Compared to other groups, this percentage is very low.

Table 23: Census Tract Clusters Associated with Mindsets¹⁶

	Total	Government-Minded	Cynical	Dutiful	Compliant and Caring	Uninformed	Local-Minded	Suspicious
Average I Homeowner	36%	27%	39%	39%	40%	38%	33%	36%
Average II Rent	12%	15%	12%	13%	11%	10%	15%	11%
Econ Disad I Homeowner	4%	4%	2%	3%	2%	7%	7%	5%
Econ Disad II Rent	2%	2%	0%	3%	1%	3%	4%	2%
Ethnic I Homeowner	5%	3%	4%	3%	7%	6%	5%	5%
Ethnic II Rent	3%	2%	3%	3%	4%	2%	4%	3%
Mobile/Single	5%	8%	5%	4%	3%	3%	5%	6%
Advantaged Homeowner	33%	41%	35%	32%	30%	31%	27%	31%

¹⁶ Distinguishing characteristics of each group can be identified by reading across each row, and noting any boxes in bright yellow (high response) or bright blue (low response). The “brighter” the color, the more distinguished the group’s responses were from the others. The colors help make sense of what the statistics within each cell mean. Only by comparing across groups do the statistics show whether responses were high or low for any question. For example, in the *Local-Minded* group, 70% answered that they were born in the United States. Compared to other groups, this percentage is very low.

These census tract clusters were developed to understand the geographic and demographic segments of census respondents. When they are cross-referenced to the attitudinal mindsets, it becomes clear that the *Uninformed* group is more likely than other groups to be in economically disadvantaged regions of the country.

The *Government-Minded* mindset is relatively more likely to be in the *Advantaged Homeowner* group and relatively less likely to be in the *Average Homeowner* cluster than is the *Cynical* segment. One difference between these two groups could be their affluence, but, again, their cluster profiles are similar.

Some specific groups are so small that it is difficult to see in a general profiling analysis where they fall.

Table 24 and Table 25 show the mindset memberships of some HTC groups. The first table is for population groups who have historically been HTC. The second is based on a geographic HTC score for each census tract. The HTC score was based on the CPD. We divided the tracts on the CPD into quartiles with the lower quartile being the easiest to count and the upper quartile being the hardest.

Thirty percent of American Indians fall into the *Suspicious* mindset. This is twice the population percentage. Both Asian and Hispanic people who speak a language other than English at home tended to fall into the *Local-Minded* group. This is not surprising since the demographic profile revealed that relatively large proportions of this mindset consisted of people not born in the United States and those speaking another language than English at home.

The distribution of mindsets for the various levels of geographic HTC score are fairly consistent and do not reveal any notable patterns.

Table 24: Mindsets for Some Hard-to-Contact Groups

	Population (n=4068)	American Indian (n=296)	Asian does not speak English at home (n=159)	Hispanic does not speak English at home (n=353)
Total	100%	100%	100%	100%
<i>Government-Minded</i>	19%	11%	7%	4%
<i>Compliant and Caring</i>	15%	20%	0%	14%
<i>Dutiful</i>	14%	7%	22%	13%
<i>Local-Minded</i>	12%	12%	34%	26%
<i>Uninformed</i>	16%	14%	22%	21%
<i>Cynical</i>	10%	6%	3%	3%
<i>Suspicious</i>	14%	30%	11%	19%

Table 25: Mindsets by Geographic Hard-to-Contact Scores

	Population (n=4068)	Quartile (HTC Range)			
		First (0-8) (n=538)	Second (9-26) (n=813)	Third (27-51) (n=1,118)	Fourth (52+) (n=1,356)
Total	100%	100%	100%	100%	100%
<i>Government-Minded</i>	19%	23%	21%	17%	14%
<i>Compliant and Caring</i>	15%	16%	14%	17%	15%
<i>Dutiful</i>	14%	13%	17%	13%	11%
<i>Local-Minded</i>	12%	8%	8%	16%	17%
<i>Uninformed</i>	16%	14%	18%	16%	19%
<i>Cynical</i>	10%	11%	12%	9%	7%
<i>Suspicious</i>	14%	15%	10%	12%	18%

Government-Minded (19%)

The *Government-Minded* group is the one most aware of the census. They fully understand how the census is, and is not, used. Political representation is also important to them.

The *Government-Minded* group thinks that the census is important. They believe they will see the results of the census in their neighborhood and that the government cares what people like them think.

This group does not think the census could harm them in anyway. They do not see the census as an invasion of privacy and are not concerned that the government will misuse their information. They think it is the Federal Government's job to collect information about them, and think that completing the census is their civic responsibility. This group does not think that refusing to complete the census is an effective way to protest the government.

The *Government-Minded* group does not think that the census takes too long to complete. This group does not miss deadlines or start and stop paperwork. Typically, they put paperwork in a stack to complete it at some time.

People in the *Government-Minded* group care more about infrastructure and safety programs related to fire and police stations, roads and highways, and public transportation than they do social welfare programs like those in support of schools, daycare, and care for the elderly.

Overall, the *Government-Minded* group has a high affinity toward the census. They replied to the 2010 Census, and they intend to reply to the 2020 Census. They are also:

- Married (62%; average = 54%),
- White, not Hispanic (84%; average = 68%),
- Born in the United States (91%; average = 84%),
- Speaks English-only at home (4% Speak language other than English at home; average = 11%),
- Educated: attended college or more (45%; average = 27%),
- Higher income (30% income < \$50K; average = 52%), and
- Use the Internet (94%; average = 80%).



Compliant and Caring (15%)

The *Compliant and Caring* group is aware of the census. They generally have an accurate understanding of how the census is used, but they may think the census is used for purposes it is not, like determining taxes and measuring unemployment. They do know that the census is not used for purposes like tracking lawbreakers and locating illegal immigrants. A person in the *Compliant and Caring* group is less likely to wait to complete paperwork, and more likely to prioritize paperwork in terms of when it is due.

The people in this group feel the census is important and that it is important to be counted. They also believe that the government cares about what they think.

Compliant and Caring group members think that will see the results of the census in their neighborhood, and more than any other group, they feel that the census could benefit them (70%). Members of this group are characterized by a preference for people-centered government programs, such as those related to schools and the educational system, daycare for children, mental healthcare, care for the elderly, and job training programs.

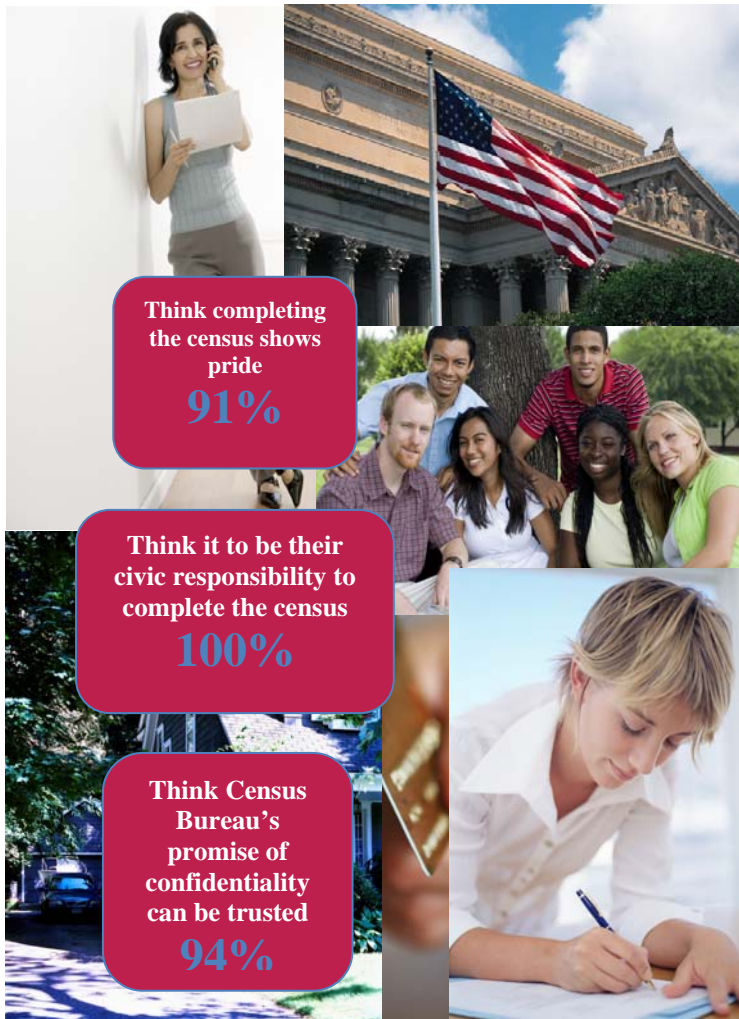
They do not think that the census is an invasion of privacy, and they are generally less concerned that the government will misuse their information in some way. Those in this group believe that the government should collect information about them, and disagree that the census should only ask the number of residents in a household.

This group has high affinity toward the census. They replied to the 2010 Census, and intend to reply to the 2020 Census. They are also:

- Female (64%; average = 51%),
- Less likely to be single (21%; average = 27%), and
- Higher income (45% income < \$50K; average = 52%).



Dutiful (14%)



The *Dutiful* group has a very positive view of the census. Ninety-four percent of this group feels that the census is important, and 67% believe that the census could benefit them. People in this group feel that it is important for them to be counted, and that it is their responsibility to let the government know what the community needs (97%). One hundred percent of people in this group felt that completing the census is an important civic responsibility and do not think the census is a burden or that it takes too long to complete.

While people in this group believe that they are familiar with the census, they have many misconceptions about how the census is used. While they correctly believe that the census is used to track population changes and plan for the future, they incorrectly believe that the census is used to determine property taxes, income taxes, measure unemployment, track lawbreakers, and locate illegal immigrants.

The *Dutiful* group is characterized by their trust in the Federal Government and their belief in the importance of political representation. They also generally have trust in the Census Bureau, and believe that the Census Bureau's promise of

confidentiality can be trusted (94%).

Overall, this group has a high affinity toward to the census, and intends to complete the Census 2020.

The *Dutiful* group resembles the general population of the United States. They represent diversity in sex, education, race, and socioeconomic background.

- Married (55%; average = 54%),
- White, not Hispanic (70%; average = 68%),
- Black, not Hispanic (11%; average = 12%)
- Born in the United States (86%; average = 84%), and
- Age over 54 (33%; average = 32%).

Local-Minded (12%)

The *Local-Minded* group does not have an accurate understanding of what the census is used for. This group believes that the census is used for purposes such as determining taxes, tracking lawbreakers, locating illegal immigrants, and measuring unemployment, which it is not. However, they correctly believe that the census is required by law.

They generally feel positively toward the government, and believe that filling out the census is one way to show pride in their government. Conversely, they believe that refusing to fill out the census form is a way to protest the government. They think that the government has their best interests in mind, and trust the government to keep their information safe and use their information responsibly. They also think that the Census Bureau will protect their privacy. In general, this group still feels like they have control over information about them and how it is used.

Although the *Local-Minded* group trusts the government, they have an even greater trust in the Census Bureau.

This group strives to complete paperwork on time. They complete their paperwork immediately, or set aside time to make sure it gets done.

The *Local-Minded* group cares more about people-oriented social welfare programs such as those related to daycare, mental healthcare, the elderly, and job training programs—more so than safety- and infrastructure-related programs such as those for fire and police stations, political representation, roads and highways, and public transportation. They also have these characteristics:

- Female (65%; average = 51%),
- Have children at home (47%, average = 39%),
- Less educated:
 - No high school degree (20%; average = 14%),
 - Attended college or more (17%; average = 27%),
- Diverse:
 - Black, not Hispanic (19%; average = 12%),
 - Hispanic (23%; average = 14%),
 - White, not Hispanic (49%; average = 68%),
- Immigrants (70% born in the U.S.; average = 84%),
- Speaks a language other than English at home (22%; average = 11%),
- Lower-income (70% had income < \$50k; average = 52%),
- Renters (36%; average = 27%), and
- Less likely to use the Internet (68%; average = 80%).



Uninformed (16%)

The *Uninformed* group cannot reliably say what the census is for, and their lack of full understanding of the census makes them ambivalent. They know that it is not used in ways that could be considered harmful (such as tracking lawbreakers or illegal immigrants), but they do not know about some of the more positive aspects, such as allocating funds, tracking changes in the population, or planning for the future.

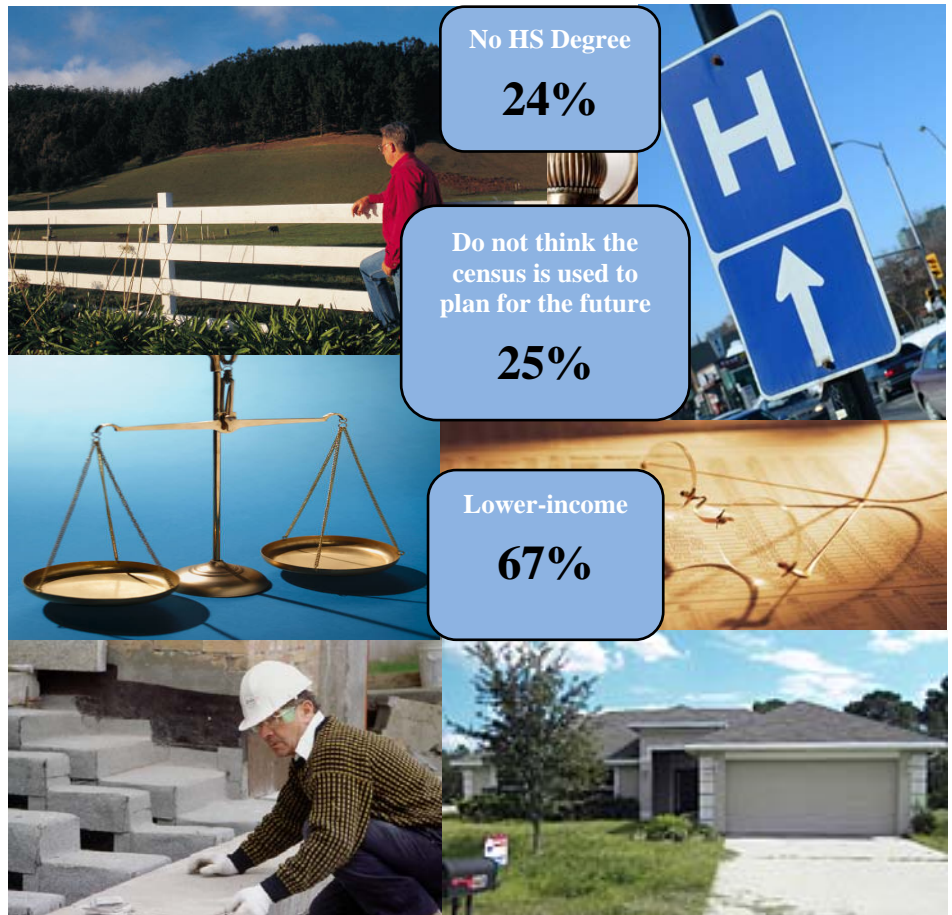
The *Uninformed* group does not think the census could benefit them, but they do not think it could harm them either. They also do not think they could see the results from the census in their neighborhoods. Members of this group care less about political representation than those of other groups.

Members of the *Uninformed* group are not particularly concerned that the government has too much information about them but think the census should only ask for the number of adults in the household.

While they are not concerned about their information being in the hands of the government, they are concerned that businesses have too much information about them.

The *Uninformed* group cares more about social programs geared toward hospitals and the elderly, which is not surprising since they are older than the other groups. Age might be another reason why they are less likely to want to complete the census on the Internet, and why they are very unlikely to use the Internet for social networking or to post information about themselves online. They are also:

- Less educated:
 - No high school degree (24%; average = 14%),
 - Attended college or more (16%; average = 27%),
- Lower income (67% had incomes < \$50k; average = 52%), and
- More likely to speak a language other than English at home (17%; average = 11%).



Cynical (10%)

The *Cynical* group has the lowest affinity toward the census.

They have very high awareness of the census, and they do generally know how the census is used. However, they incorrectly believe that the census is not used to plan for the future. In terms of the census' value, they do not think that the census shows the government what their community needs. They also believe that they will never see the impact of the census in their community. In general, they do not think that the census could benefit them.

The *Cynical* group does not think that is the government's role to collect information about them. They think that the government already has too much information about them—including information asked as part of the census.

Members of the *Cynical* group have very low trust in government, and they are concerned about how the government may use their information. They feel strongly that the census is an invasion of privacy and that the Census Bureau's promise of confidentiality cannot be trusted. They are concerned that the government will misuse information about them, and that the government will not use their information safely or responsibly. They do not think that the government has their best interests in mind, or that it cares about people like them.

Their cynicism is not only directed toward the government. They also feel that businesses have too much information about them, and feel an overall loss of control over their personal information and how it used.

Although they do not complete paperwork immediately, this group reports that they rarely miss paperwork deadlines.

People in this group care less about soft social programs such as those related to hospitals and healthcare, schools and the education system, daycare for children, mental healthcare, and job training. They put priority on infrastructure and public safety programs such as public transportation, roads and highways, political representation in Congress, and fire and police stations. They also have these characteristics:

- White, not Hispanic (82%; average = 68%),
- Males (67%; average = 49%),
- Born in the United States (92%; average = 84%),
- Speaks English only at home (97%; average = 89%),
- Married (61%; average = 54%), but less likely to have children at home (34%; average = 39%),
- Older (39% over age 54; average = 32%), and
- Have a higher income (41% income < \$50K; average = 52%).



Suspicious (14%)

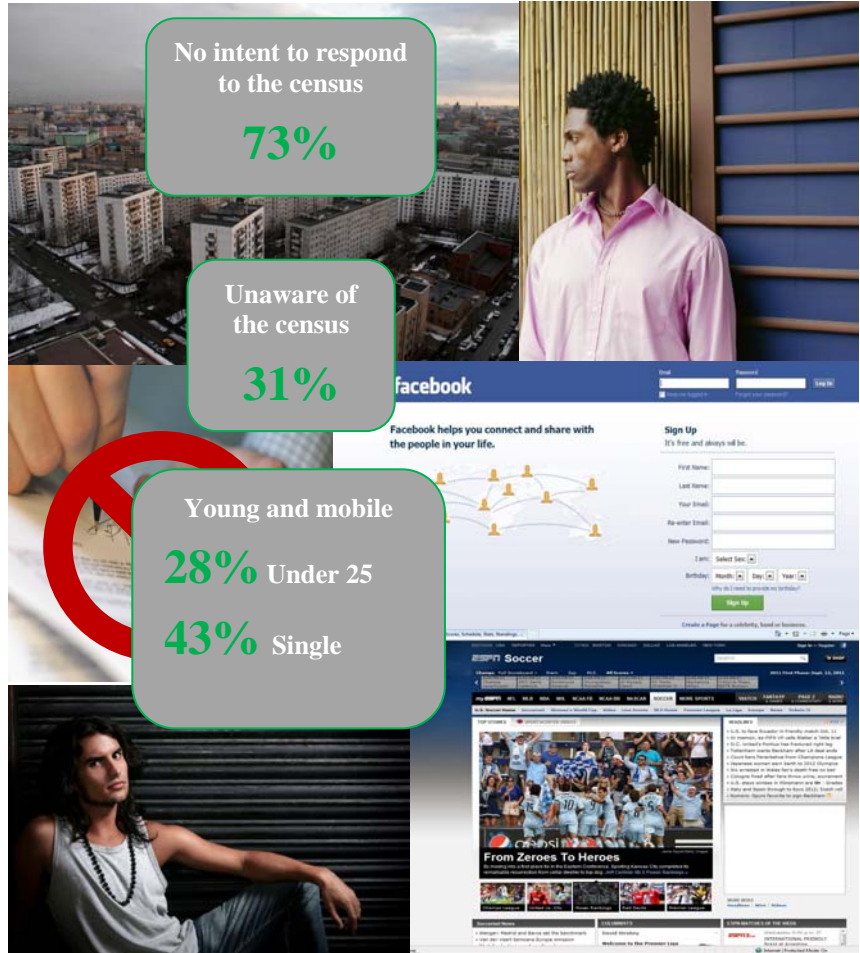
The *Suspicious* group is likely to have never heard of the census. Because they are less familiar with the census, they do not think it is very important. They see the census as a burden, and think that it takes too long to fill out. They believe that the government already has this information about them, and they do not feel any responsibility to complete the census.

The *Suspicious* group thinks that the census could harm them in some way, and are concerned that their information may be misused. They mistakenly believe that the census is used for purposes such as determining taxes, locating illegal immigrants, and tracking lawbreakers. They also see the census an invasion of privacy.

The *Suspicious* group believes that the government does not care what people like them think. They do not think it is important for them to be counted, and they are not particularly concerned about political representation.

Overall, the *Suspicious* group has low affinity toward the census. They did not respond in 2010, and they are unlikely to respond in 2020. They are also:

- Young (Mean age = 39),
- Single (43%; average = 27%),
- Mobile:
 - Rent their homes (35%; average = 12%),
 - Have only a cell phone (38%; average = 30%),
- Diverse:
 - Hispanic (20%; average = 14%),
 - Black, not Hispanic (16%; average = 12%),
 - White, not Hispanic (54%; average = 68%),
- Less educated:
 - No high school degree (26%; average = 14%),
 - Attended college or more (13%; average = 27%),
- Less savvy about technology:
 - Do not use the Internet (32%; average = 80%), and
 - Use the Internet for social networking (71%; average = 64%).



5.5. **Question 5: How can we reach the mindsets?**

Internet use profiles of the mindsets appear in Table 26. A majority of every group reported accessing the Internet using a computer at least occasionally. Internet penetration in the *Government-Minded* mindset was almost 100 percent. It was much lower in most of the lower-affinity groups, with the *Cynical* group as an exception. Again, the *Cynical* and *Government-Minded* groups had similar profiles; comparing their Internet usage patterns, however, reveals two striking differences:

- *Cynical* group members are much less likely to use the Internet for social networking (45%) than are those in the *Government-Minded* group (64%); and
- *Cynical* group members are much less likely to post personal information on the Internet (26%) than are those in the *Government-Minded* group (44%).

Cynical group members do not use the Internet less than those from the *Government-Minded* group, but they are less invested in technology.

Local-Minded and *Suspicious* groups are less likely than others to use the Internet, but those who did tended to use it for social networking. Therefore, Facebook and similar sites might be a useful channel for reaching out to these groups.

The highest proportions of cell phone-only users appeared in the *Local-Minded*, and *Suspicious* groups. Cell-only users are more likely than the general population to be low-income, to rent their homes, and to be members of ethnic minorities (Blumberg & Luke, 2011). These characteristics apply, to varying degrees, to these mindsets as well.

Table 26: Media Profiles of Mindsets

	Total	Government-Minded	Cynical	Dutiful	Compliant and Caring	Uninformed	Local-Minded	Suspicious
Cell phone only	30%	22%	23%	31%	30%	29%	38%	38%
Landline-only	12%	6%	12%	8%	6%	21%	13%	16%
Both cell phone and landline	64%	74%	67%	65%	70%	57%	61%	51%
Uses the Internet	80%	94%	84%	88%	89%	67%	68%	68%
Use web: financial	66%	78%	68%	66%	71%	58%	59%	54%
Use web: social networking	64%	64%	45%	65%	63%	63%	75%	71%
Use web: shop	62%	78%	70%	64%	66%	50%	49%	55%
Use web: create accounts	50%	60%	49%	52%	54%	41%	49%	43%
Use web: news	64%	77%	67%	66%	68%	49%	62%	56%
Use web: post personal info	45%	44%	26%	50%	46%	40%	48%	56%
Use web: taxes	38%	50%	42%	36%	44%	26%	35%	32%

One of the questions of interest is to determine whether one's concerns for privacy might be a barrier to using the Internet to collect census data. To understand this, we created two privacy indexes: confidentiality trust and privacy concerns. The two indexes were created through factor analysis of these six questions:

E1ir. The Census Bureau's promise of confidentiality can be trusted.	0.71	-0.02
TOG3 When I give information to the government in Washington, I know it will be kept safe	0.80	-0.18
Q32c: People's rights to privacy are well protected.	0.75	-0.22
Q32d: People have lost all control over how personal information about them is used.	-0.19	0.70
Q32f: The government knows more about me than it needs to.	-0.17	0.74
PRIV7. Businesses and private industry have too much information about me.	-0.04	0.77

We then scaled the factors so that five is the highest score and zero is the lowest and calculated the averages for each type of Internet user:

Table 27: Average Confidentiality Trust and Privacy Concern Indices

On the Internet, do you...	Confidentiality Trust	Privacy Concern
Pay bills, manage bank accounts, or trade stocks		
Yes	3.06 (+/-0.06)	3.06 (+/-0.07)
No	3.04 (+/-0.10)	3.20 (+/-0.10)
Visit social networking sites such as Facebook, Myspace, or LinkedIn		
Yes	3.14 (+/-0.06)	3.03 (+/-0.07)
No	2.90 (+/-0.09)	3.26 (+/-0.09)
Shop or buy things on sites like amazon.com or expedia.com.		
Yes	3.07 (+/-0.06)	3.06 (+/-0.07)
No	3.03 (+/-0.10)	3.19 (+/-0.10)
Create accounts to get personalized information		
Yes	3.09 (+/-0.07)	3.05 (+/-0.08)
No	3.02 (+/-0.08)	3.17 (+/-0.08)
Read news sites or blogs		
Yes	3.11 (+/-0.06)	3.03 (+/-0.07)
No	2.96 (+/-0.10)	3.26 (+/-0.09)

Post things about yourself like pictures, status, or blog entries.

Yes

3.19

2.99

(+/-0.07)

(+/-0.09)

No

2.95

3.21

(+/-0.07)

(+/-0.07)

Prepare and file state or Federal income taxes

Yes

3.06

3.03

(+/-0.08)

(+/-0.08)

No

3.05

3.16

(+/-0.07)

(+/-0.07)

Three Internet behaviors stand out as having a difference in the indices between those who do and do not: (a) visit social networking sites; and (b) read news and blogs, post personal information and content on the Internet. In each case, those who perform each of these behaviors are less concerned about privacy and more trusting of confidentiality. To see how this relates to the census, we took the index averages for those whose preference would be to respond to the census by mail, Internet, in-person, or telephone.

Table 28: Average Confidentiality Trust and Privacy Concern Indices by Mode Preference

If you had a choice, would you prefer to answer the census by	Confidentiality Trust	Privacy concern
Telephone	3.16 (+/-0.21)	3.18 (+/-0.22)
In-person	3.08 (+/-0.19)	3.02 (+/-0.18)
Internet	3.12 (+/-0.07)	3.01 (+/-0.08)
Mail	3.01 (+/-0.07)	3.24 (+/-0.07)

One interesting difference emerges in that privacy concerns are less for those who prefer to respond by Internet over mail. Of those who perform at least one of the three highlighted Internet behaviors above, 46% preferred Internet and 42% preferred mail. The average privacy concern index is 3.00 for those who prefer to respond via Internet versus 3.17 for those who prefer to respond via mail. This evidence suggests that privacy concerns are a barrier to Internet response, even among those who participate in social activities on the Internet.

5.6. Question 6: What are attitudes toward the use of administrative records?

Feelings about use of administrative records to obtain census information were mixed.

Use of Government Records:

- Forty-three percent of people responded positively (4/5 out of 5) when asked how they felt about the Census Bureau using administrative records.
- Thirty-two percent responded negatively (1/2 out of 5).

Use of Government Records vs. Home Visits

- Thirty-four percent responded positively (4/5 out of 5) about the Census Bureau sending an interviewer to their home rather than using other government records; 46% responded negatively (1/2 out of 5).
- When faced with the choice of the Census Bureau using government records or sending an interviewer to their home, 42% preferred government records, and 58% preferred a personal visit.

Use of Administrative Sources:

- **SSN:** Most people (65%) would be unwilling (1/2 out of 5) to allow the Census Bureau to use SSNs to obtain sex, age, date of birth, and race information from other government agencies.
- **Tax Return:** About half of the population would approve of the Census Bureau gathering sex, age, date of birth and race information from their most recent tax return.
- **Sources with high approval:** Of the seven administrative sources offered, tax returns received the highest approval, followed by:
 - Government benefits such as unemployment or social security (45%),
 - Employment history (40%), and
 - Medicare records (38%).
- **Sources with lower approval:** People were less approving of the Census Bureau obtaining information from health insurance (32%), followed by:
 - A credit bureau (25%), and
 - Medical records (22%).

5.6.1. Frame Comparison

The attitudinal questions regarding the use of administrative records for future census counts were preceded, or framed, from three perspectives:

- **Cost:** The 2010 Census cost over \$10 billion. The Census Bureau wishes to save money by obtaining sex, age, date of birth, and race information from government records for people who do not mail back their Census forms.
- **Burden:** Some people think that filling out and mailing back a Census form is too much trouble. The Census Bureau is looking at ways to make the census easier to complete by obtaining sex, age, date of birth, and race information from government records for people who do not mail back their census forms.
- **Control:** The Census Bureau is thinking about obtaining sex, age, date of birth, and race information from government records for people who do not mail back their census forms.

Respondents were then asked attitudinal questions with slight wording differences to highlight the cost, burden or control theme. The results of this frame setup should be interpreted with caution. The framing on the cost frame referenced a huge amount of money while the burden frame simply referred to “too

much trouble.” However, as related to decennial messaging, this simply implies that if Census does intend to frame the use of administrative records as a significant cost savings, the messages would need to be equally powerful.

Additionally, the wording for the control and burden frame question on preferred sources of administrative records both include, “to make it easier.” This inclusion muddles the ability to directly compare the burden and control frames. However, the results still differed between these two frames possibly indicating that the framing (burden) or lack of framing (control) the respondent was previously exposed to continued to influence question response. ,

Framing the benefit of using administrative records in terms of cost savings resulted in higher support than the control frame. Framing the benefit in terms of burden also resulted in more support over the control frame, but the cost frame elicited a more positive effect. The cost frame is directionally more positive than the burden frame for all variables, often significantly so. The percentage of people who felt positive about the Census Bureau using government sources to obtain administrative data is 48% when framed as cost savings, 10 percentage points higher than the control. When framed as being less burdensome, 44% felt positive about this. When framed as the higher cost option, nearly 60% of people felt negatively toward the Census Bureau sending an interviewer to their home. This is significantly higher than the burden frame (43.2%), which is significantly higher than the control frame (36.1%). The percentage of people willing to allow the Census Bureau to use their SSN to gather census data is only 21%. The cost frame estimate (25%) is significantly higher than the burden frame (19%) and control frame (17%). When faced with the choice of the Census Bureau using government records to obtain information or sending an interviewer to their home to do so, twice as many people in the cost frame chose government records than in the control frame, 57% and 28% respectively.

5.6.2. Mindset Analysis

The *Dutiful* and *Local-Minded* mindsets are most positively accepting of the Census Bureau using administrative records for gathering household information. They have the highest approvals of the various sources to get information. Using tax returns, employment history, and government benefits receive the highest approval; use of medical records and credit bureau receive the lowest approval. *Dutiful* and *Local-Minded* mindsets differ in their preference for using government records as opposed to an interviewer going to the home. Among the *Local-Minded* group, 33% chose government records over an interviewer visit compared to 44% for the *Dutiful* group. The *Government-Minded* and *Compliant and Caring* groups share similarities in their attitudes toward administrative records. They are receptive to the use of administrative records, but are less approving of many data sources, particularly health insurance and medical records. Both are very receptive to the use of tax records to collect census information.

The *Cynical*, *Uninformed* and *Suspicious* mindsets are the least positive toward the use of administrative records. They share a similar approval of using tax records for the census—about 45%, much lower than the other mindsets. However, their approval regarding other sources differs. The *Suspicious* mindset provides higher approval for using credit bureaus, employment history, medical records, Medicare, and health insurance; their approval rates are comparable to the *Dutiful* and *Local-Minded* mindsets. The *Cynical* mindset is least approving of all sources of data, particularly medical records and health insurance. Despite the *Cynical* mindset’s resistance to the use of government records for the census, when faced with a choice, nearly half of them chose government records over an interviewer visit, the highest of all the mindsets.

There is a strong interaction between the mindsets and how the administrative records questions are framed. The burden frame doubles the preference for using government records over an interviewer visit for the *Dutiful* and *Cynical* mindsets. When framed as cost savings, the preference nearly doubles again with over 70% preferring the information to come from records. For *Government-Minded* and *Local-*

Minded mindsets, the burden frame has no impact on preference to use government records, but there is a very large increase when the question is framed as cost savings.

The *Cynical* group is most impacted by the cost and burden frames. When the use of administrative records is framed as a reduction in household burden, the positive responses toward using them increase by 2.5 times over the control. When framed as cost reduction, the increase is five times the control. Similarly, the cost and burden frames increase the percentage of negative responses toward interviewers visiting households instead of using administrative records. When asked whether they are willing to allow the Census Bureau to use SSNs, the percentage unwilling was reduced from 90% to 60%.

5.6.3. **Key Lessons Learned**

Nearly two-thirds of the population is positive or neutral about the use of administrative records. However, when asked if they would prefer that the Census Bureau obtain their information from administrative records or send an interviewer, only 42% preferred the use of administrative records.

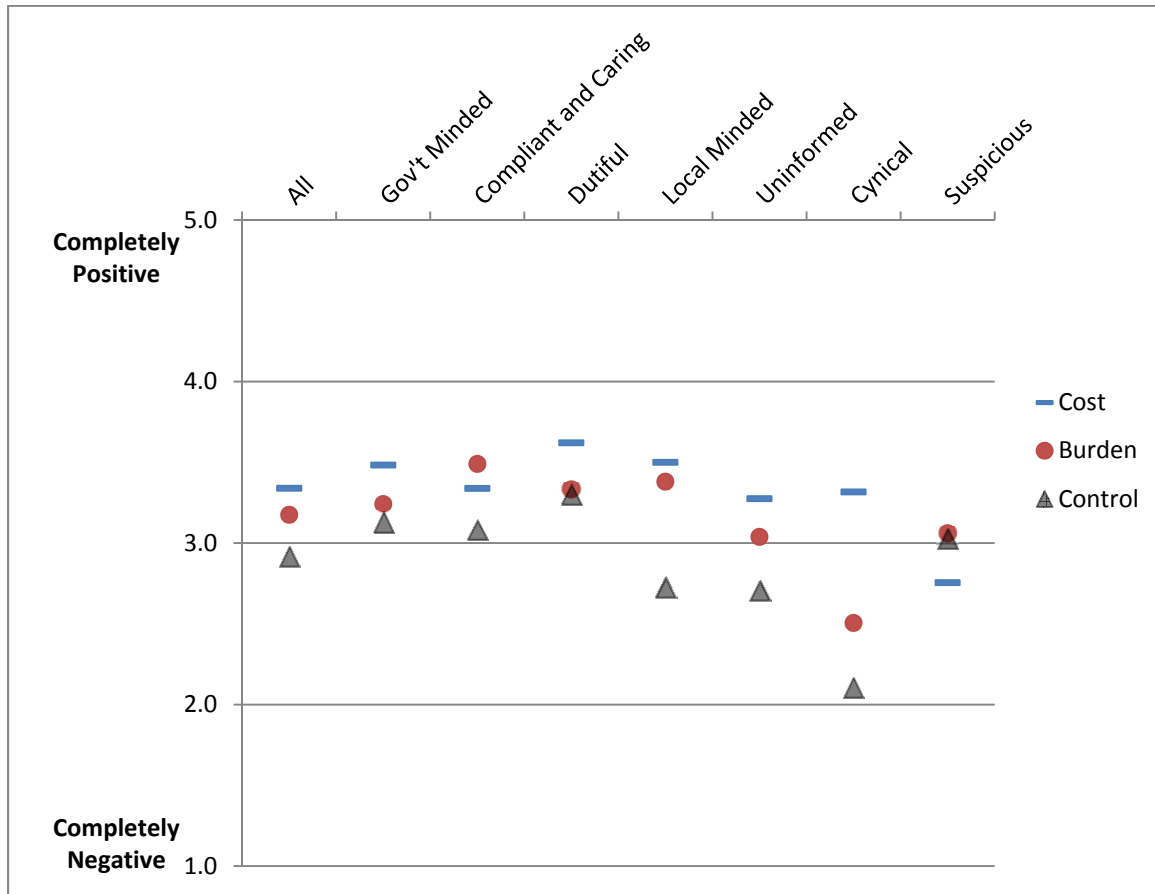
People provide higher approval of government records, such as employment and social security, rather than private records such as medical records or credit history.

Both the burden and cost frames resulted in a more positive response to the use of administrative records than the control frame. This suggests that focusing on the benefits to the respondent might be an effective way to gain support. As the Census Bureau plans for the future use of administrative records, framing their use as a cost savings will resonate with the population more than reducing burden.

Recommendations:

- Future messaging of about the benefits of administrative records should focus on cost savings.
- The administrative records methodology should focus on government records rather than private financial or medical records.
- Future research should focus on changes to the cost message over the decade. The cost message may particularly resonate with the public given that the 2010 Census is still very recent. The current fiscal climate may also be contributing to the more positive approval of administrative records when framed as cost savings.

Figure 4: How do you feel about the Census getting your information from other government records?



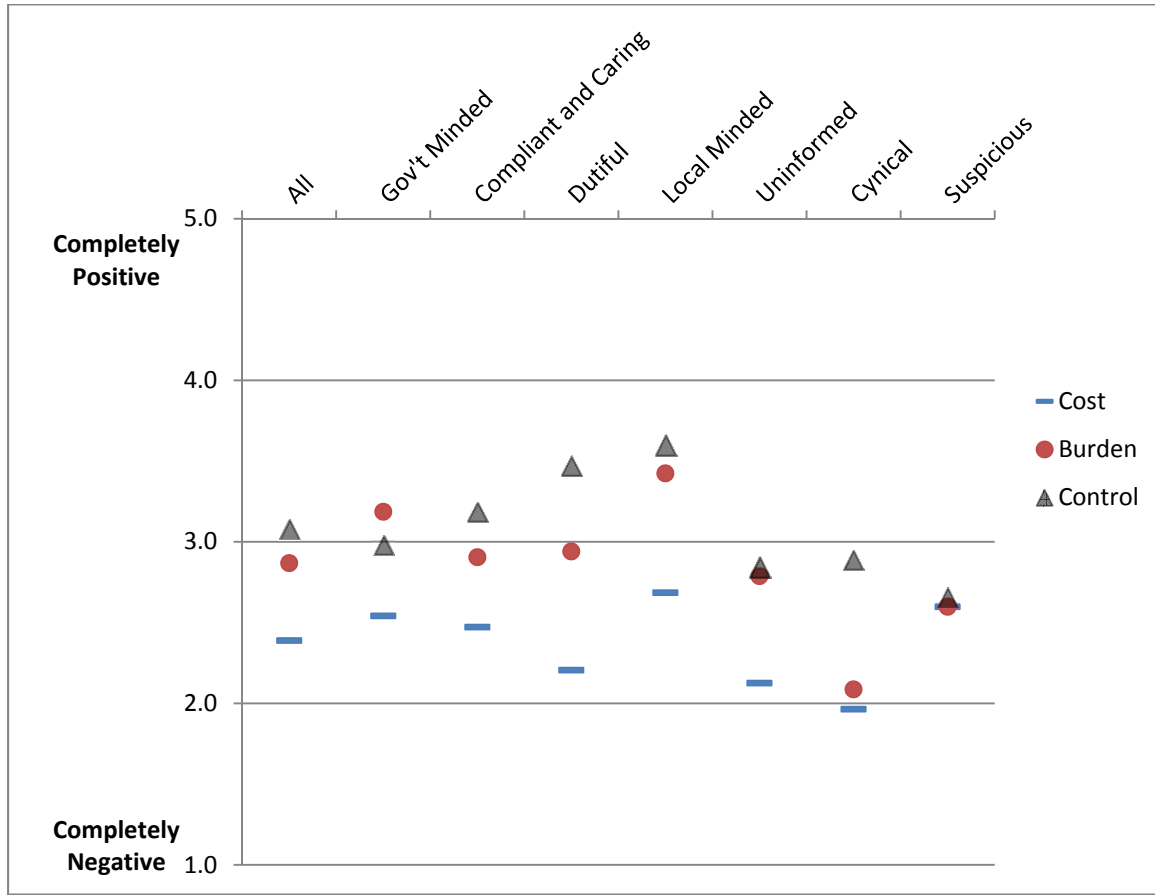
	Percentage rating 1 or 2 (negative)				Percentage rating 4 or 5 (positive)			
	Total	Cost (a)	Burden (b)	Control (c)	Total	Cost (a)	Burden (b)	Control (c)
All	32.4 (+/-2.3)	27.2 (+/-3.8) ^c	31.0 (+/-4.0) ^c	39.5 (+/-4.2) ^{ab}	43.2 (+/-2.5)	48.2 (+/-4.3) ^c	43.5 (+/-4.3)	37.6 (+/-4.2) ^a
Gov't-Minded	29.2 (+/-5.0)	27.5 (+/-8.1)	32.0 (+/-9.2)	28.0 (+/-8.5)	50.6 (+/-5.5)	54.9 (+/-9.3)	51.6 (+/-9.7)	44.7 (+/-9.5)
Compliant and Caring	29.1 (+/-5.5)	28.1 (+/-9.2)	23.1 (+/-8.7) ^c	37.6 (+/-10.3) ^b	47.5 (+/-6.0)	46.9 (+/-10.5)	52.8 (+/-10.2)	41.5 (+/-10.4)
Dutiful	25.5 (+/-5.7)	17.3 (+/-7.3) ^c	26.3 (+/-10.0)	32.7 (+/-11.4) ^a	51.1 (+/-6.7)	56.1 (+/-11.0)	48.6 (+/-11.5)	48.6 (+/-11.9)
Local-Minded	33.3 (+/-7.1)	26.3 (+/-11.2) ^c	29.6 (+/-13.7)	45.2 (+/-12.2) ^a	46.1 (+/-7.3)	56.7 (+/-12.0) ^c	45.0 (+/-14.1)	34.0 (+/-11.5) ^a
Uninformed	32.1 (+/-5.7)	24.0 (+/-9.3) ^c	31.7 (+/-9.9)	41.9 (+/-10.4) ^a	37.0 (+/-5.9)	40.8 (+/-10.2)	36.8 (+/-10.2)	32.7 (+/-10.3)
Cynical	47.9 (+/-8.0)	27 (+/-11.8) ^{bc}	52.1 (+/-14) ^a	64.3 (+/-12.7) ^a	28.9 (+/-7.0)	50.6 (+/-13.5) ^{bc}	26.6 (+/-11.7) ^{ac}	9.9 (+/-6.9) ^{ab}
Suspicious	35.9 (+/-7.0)	41.2 (+/-12.8)	28.5 (+/-10.8)	38.5 (+/-12.2)	35.1 (+/-6.8)	29.4 (+/-10.8)	35.1 (+/-11.6)	40.9 (+/-12.5)

Cost AM1 Suppose you didn't send back your census form for one reason or another. On a scale from 1 to 5 where 1 is completely negative and 5 is completely positive, how do you feel about the Census Bureau saving money by getting your information from other government records?

Burden AM1 Suppose you didn't send back your census form for one reason or another. On a scale from 1 to 5 where 1 is completely negative and 5 is completely positive, how do you feel about the Census Bureau making things easier by getting your information from other government records?

Control AM1 Suppose you didn't send back your census form for one reason or another. On a scale from 1 to 5 where 1 is completely negative and 5 is completely positive, how do you feel about the Census Bureau getting your information from other government records?

Figure 5: How do you feel about the Census sending an interviewer to your home to ask you for the information rather than using other government records?



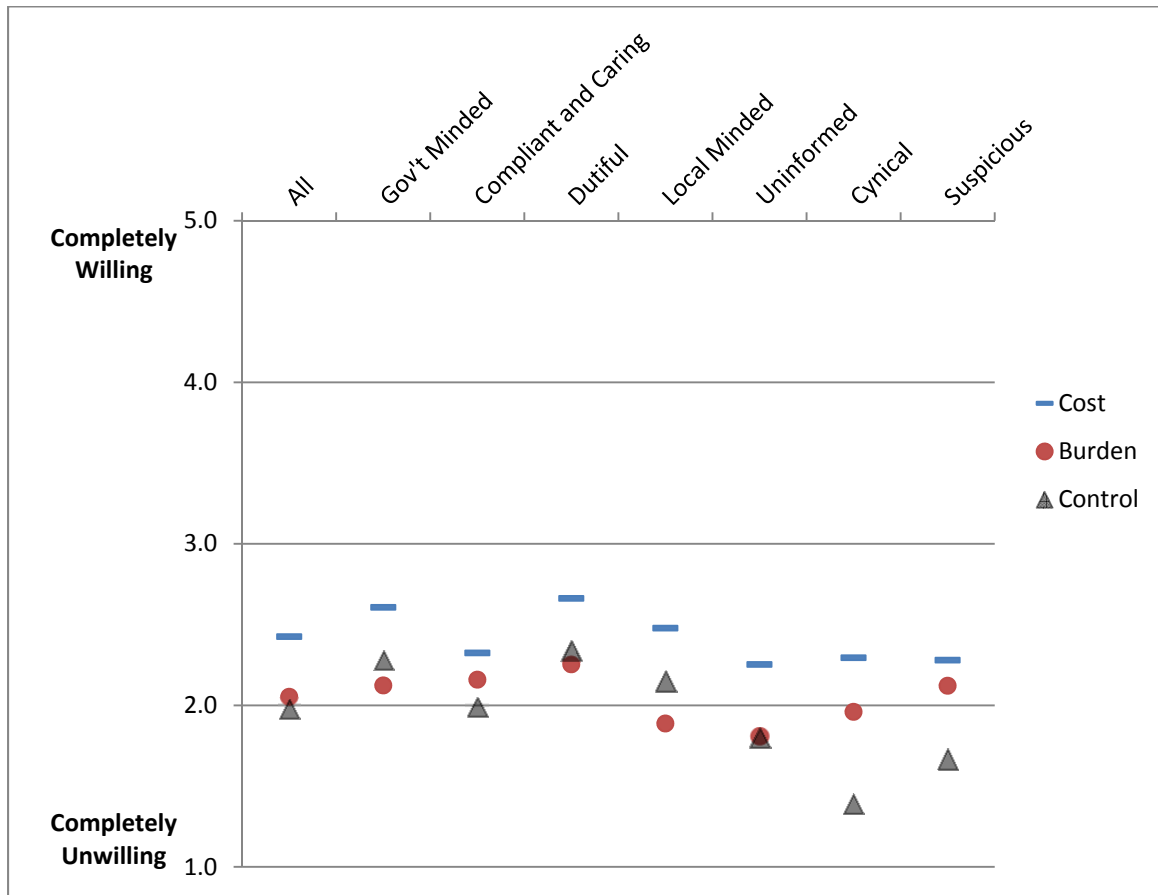
	Percentage rating 1 or 2 (negative)				Percentage rating 4 or 5 (positive)			
	Total	Cost (a)	Burden (b)	Control (c)	Total	Cost (a)	Burden (b)	Control (c)
All	46.0	58.4	43.2	36.1	34.0	22.2	37.0	43.1
	(+/-2.5)	(+/-4.2) ^{bc}	(+/-4.3) ^{bc}	(+/-4.1) ^{ab}	(+/-2.3)	(+/-3.5) ^{bc}	(+/-4.2) ^{ac}	(+/-4.2) ^{ab}
Gov't-Minded	40.1	54.9	29.6	35.9	35.4	26.4	40.8	39.1
	(+/-5.4)	(+/-9.4) ^{bc}	(+/-8.4) ^a	(+/-9.2) ^a	(+/-5.4)	(+/-8.9) ^{bc}	(+/-9.8) ^a	(+/-9.0) ^a
Compliant and Caring	42.8	54.5	41.7	31.8	35.4	24.3	38.1	43.8
	(+/-6)	(+/-10.5) ^c	(+/-10.2)	(+/-10.1) ^a	(+/-5.6)	(+/-9) ^{bc}	(+/-9.7) ^a	(+/-10.2) ^a
Dutiful	44.2	64.9	42.0	26.5	36.9	15.0	38.9	56.1
	(+/-6.6)	(+/-10.8) ^{bc}	(+/-11.3) ^{ac}	(+/-10.4) ^{ab}	(+/-6.5)	(+/-7.5) ^{bc}	(+/-11.3) ^{ac}	(+/-11.8) ^{ab}
Local-Minded	33.6	49.7	24.5	22.0	43.9	31.4	49.4	54.5
	(+/-6.9)	(+/-11.9) ^{bc}	(+/-13.0) ^a	(+/-9.9) ^a	(+/-7.3)	(+/-11.4) ^c	(+/-14.2)	(+/-12.1) ^a
Uninformed	54.2	65.7	47.5	49.4	31.0	16.4	36.3	41.2
	(+/-6.2)	(+/-9.9) ^{bc}	(+/-10.7) ^a	(+/-10.6) ^a	(+/-5.5)	(+/-6.6) ^{bc}	(+/-10.1) ^a	(+/-10.3) ^a
Cynical	59.6	71.0	67.9	39.9	24.7	11.6	22.2	39.9
	(+/-7.8)	(+/-12.4) ^c	(+/-13.0) ^c	(+/-12.9) ^{ab}	(+/-6.9)	(+/-7.5) ^c	(+/-11.5)	(+/-13.5) ^a
Suspicious	50.6	51.3	55.0	45.4	29.5	26.9	31.8	29.6
	(+/-7.2)	(+/-12.8)	(+/-12.1)	(+/-12.3)	(+/-6.4)	(+/-11.0)	(+/-11.0)	(+/-11.1)

Cost AM2 How do you feel about the Census spending more by sending an interviewer to your home to ask you for the information rather than using other government records?

Burden AM2 How do you feel about the Census sending an interviewer to your home to ask you for the information rather than using other government records?

Control AM2 How do you feel about the Census sending an interviewer to your home to ask you for the information rather than using other government records?

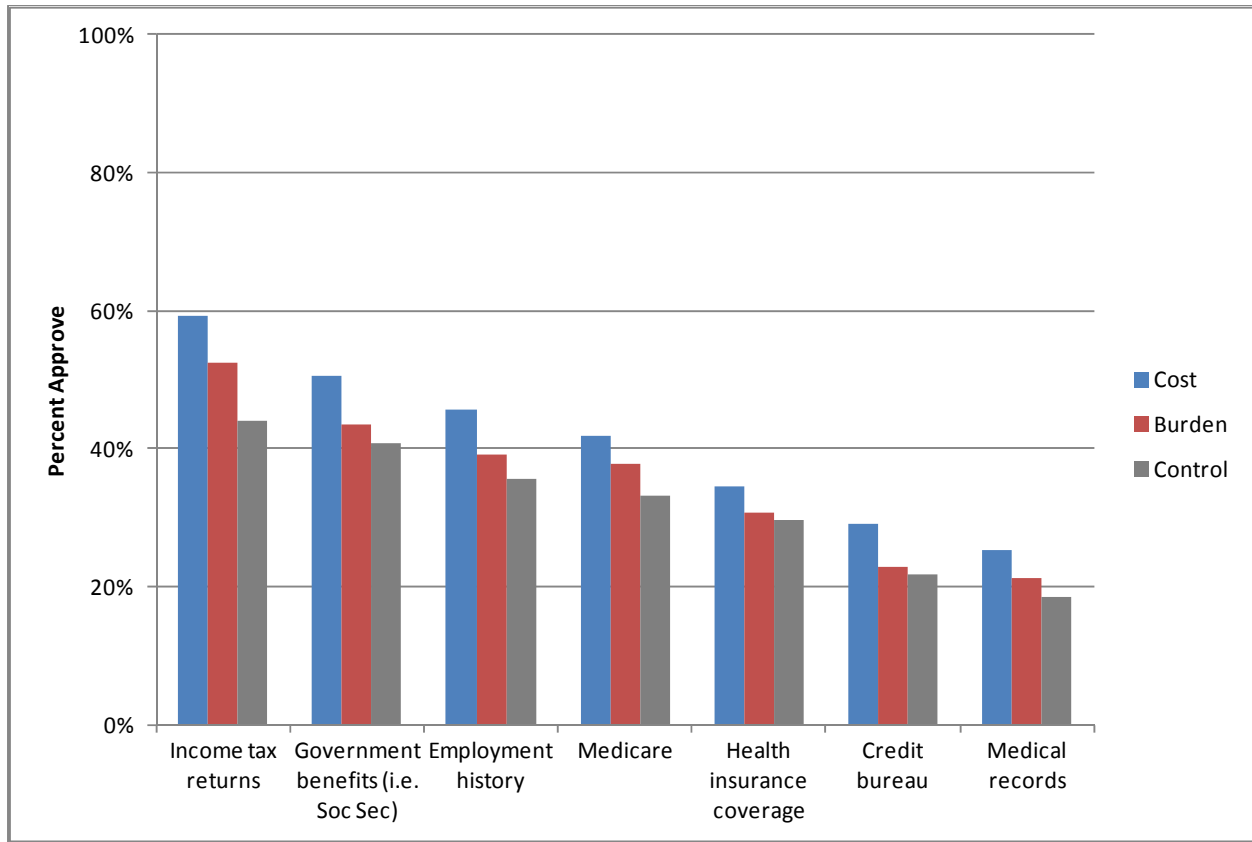
Figure 6: How willing would you be to allow the Census Bureau to use your Social Security Number to obtain your sex, age, date of birth, and race from other government agencies?



	Percentage rating 1 or 2 (unwilling)				Percentage rating 4 or 5 (willing)			
	Total	Cost (a)	Burden (b)	Control (c)	Total	Cost (a)	Burden (b)	Control (c)
All	65.2 (+/-2.3)	55.6 (+/-4.2) ^{bc}	69.0 (+/-4.0) ^a	71.4 (+/-3.7) ^a	20.5 (+/-2.0)	24.7 (+/-3.7) ^{bc}	19.3 (+/-3.4) ^a	17.4 (+/-3.2) ^a
Gov't-Minded	59.8 (+/-5.4)	52.2 (+/-9.4) ^b	67.9 (+/-9.1) ^a	59.1 (+/-9.0)	24.7 (+/-4.8)	29.7 (+/-8.8)	21.9 (+/-8.1)	22.4 (+/-7.6)
Compliant and Caring	63.2 (+/-5.7)	58.5 (+/-10.2)	62.3 (+/-9.8)	69.2 (+/-9.8)	20.8 (+/-4.8)	22.2 (+/-8.7)	22.3 (+/-8.3)	17.3 (+/-7.7)
Dutiful	57.7 (+/-6.6)	44.9 (+/-11.2) ^{bc}	64.6 (+/-10.6) ^a	63.4 (+/-11.2) ^a	26 (+/-5.8)	28.7 (+/-10.4)	24.5 (+/-9.8)	24.8 (+/-9.9)
Local-Minded	63.8 (+/-6.9)	50.2 (+/-11.9) ^{bc}	77.2 (+/-10.5) ^a	68.3 (+/-11.1) ^a	22.5 (+/-5.8)	27.0 (+/-10.1)	16.7 (+/-9.2)	22.2 (+/-9.9)
Uninformed	71.3 (+/-5.6)	60.4 (+/-10.4) ^{bc}	76.1 (+/-9.1) ^a	77.9 (+/-9.0) ^a	18.3 (+/-4.8)	22.9 (+/-8.4)	17.2 (+/-8.4)	14.4 (+/-8.4)
Cynical	74.7 (+/-6.9)	59.4 (+/-13.5) ^c	73.6 (+/-12.2) ^c	90.4 (+/-7.2) ^{ab}	12.4 (+/-5.5)	17.1 (+/-10.8)	15.1 (+/-10.9)	5.2 (+/-5.2)
Suspicious	69.8 (+/-6.8)	65.4 (+/-12.5)	64.5 (+/-12.3)	79.6 (+/-9.1)	15.5 (+/-5.3)	21.3 (+/-11.3)	14.1 (+/-8.6)	11.4 (+/-7.1)

Cost AM3, Burden AM3, and Control AM3 On a scale of 1 to 5 where 1 is completely unwilling and 5 is completely willing, how willing would you be to allow the Census Bureau to use your Social Security Number to obtain your sex, age, date of birth, and race from other government agencies?

Figure 7: Approval of Administrative Records Sources

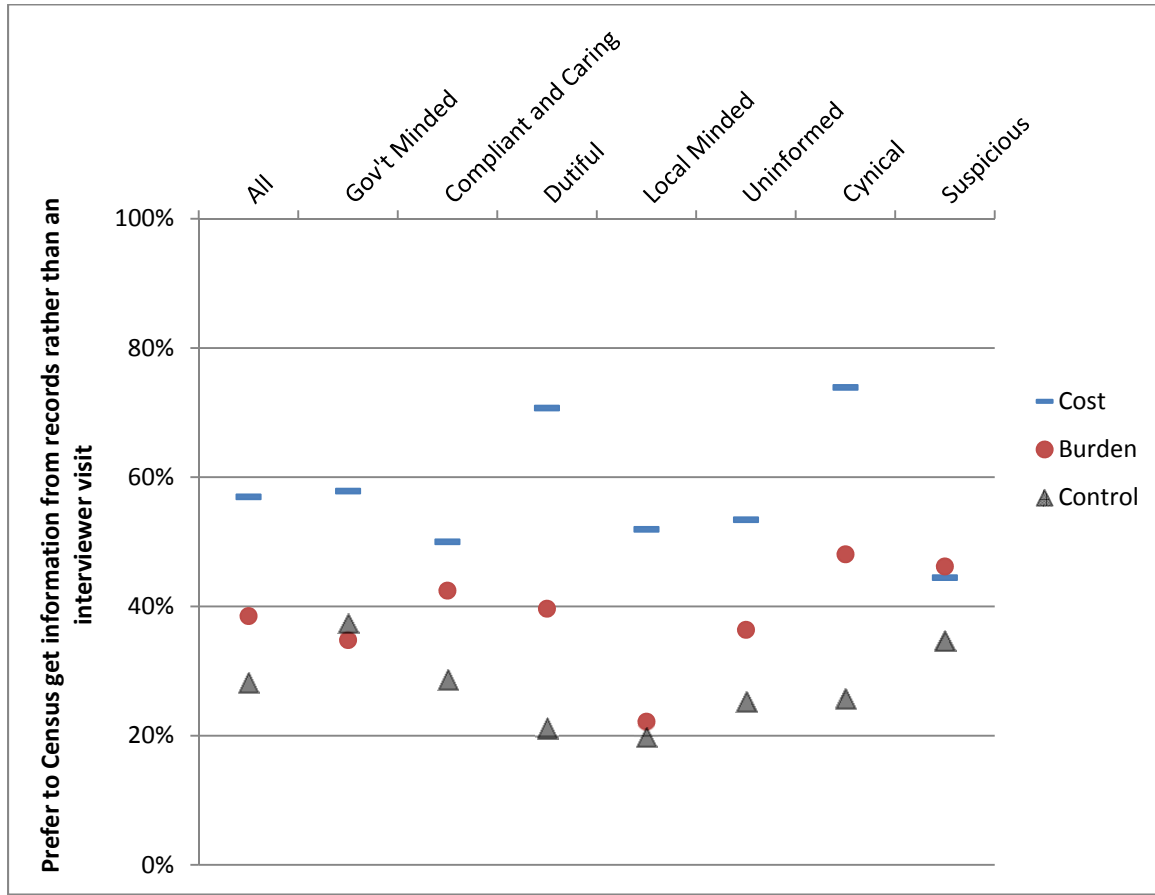


Approve Census Bureau getting sex, age, DOB and race from...	Total	Cost (a)	Burden (b)	Control (c)
a. Your most recent income tax returns.	52.1	59.3	52.4	44.0
	(+/-2.5)	(+/-4.2) ^{bc}	(+/-4.4) ^{bc}	(+/-4.3) ^{ab}
b. A credit bureau	24.6	29.1	22.9	21.6
	(+/-2.1)	(+/-3.9) ^{bc}	(+/-3.7) ^a	(+/-3.5) ^a
c. Your employment history	40.2	45.7	39.2	35.6
	(+/-2.4)	(+/-4.2) ^{bc}	(+/-4.3) ^a	(+/-4.1) ^a
d. Medical records from your doctor	21.7	25.2	21.3	18.5
	(+/-2.0)	(+/-3.7) ^c	(+/-3.6)	(+/-3.2) ^a
e. Information about your health insurance coverage	31.7	34.5	30.8	29.6
	(+/-2.3)	(+/-4.1)	(+/-4.1)	(+/-4)
f. Information on your government benefits such as unemployment or Social	45.0	50.6	43.5	40.7
	(+/-2.5)	(+/-4.3) ^{bc}	(+/-4.3) ^a	(+/-4.2) ^a
g. Your Medicare records	37.7	41.8	37.9	33.1
	(+/-2.4)	(+/-4.2) ^c	(+/-4.3)	(+/-4.1) ^a

Cost AM4 In order to save money, would you approve or disapprove the Census Bureau getting sex, age, date of birth and race information for your household from...

Burden AM4, Control AM4 In order to make it easier to do the census, would you approve or disapprove the Census Bureau getting sex, age, date of birth and race information for your household from...

Figure 8: Would you prefer that the Census gets your household's information from other government records or would you prefer that the Census send an interviewer to your home to ask you for it?



	Total	Cost (a)	Burden (b)	Control (c)
All	41.5 (+/-2.5)	56.9 (+/-4.4) ^{bc}	38.5 (+/-4.4) ^{ac}	28.2 (+/-4) ^{ab}
Gov't-Minded	43.3 (+/-5.5)	57.9 (+/-9.6) ^{bc}	34.8 (+/-9.2) ^a	37.4 (+/-9.2) ^a
Compliant and Caring	40.5 (+/-6.1)	50.0 (+/-10.9) ^c	42.5 (+/-10.6)	28.7 (+/-9.6) ^a
Dutiful	44.0 (+/-6.7)	70.7 (+/-10) ^{bc}	39.6 (+/-11.3) ^{ac}	21.2 (+/-9.2) ^{ab}
Local-Minded	33.0 (+/-6.8)	51.9 (+/-12.2) ^{bc}	22.2 (+/-10.7) ^a	19.8 (+/-9.5) ^a
Uninformed	39.4 (+/-6.4)	53.4 (+/-10.9) ^{bc}	36.4 (+/-11.1) ^a	25.2 (+/-10) ^a
Cynical	49.3 (+/-8.4)	73.9 (+/-10.9) ^{bc}	48.1 (+/-15.4) ^{ac}	25.7 (+/-12.2) ^{ab}
Suspicious	41.9 (+/-7.5)	44.5 (+/-13.5)	46.2 (+/-12.7)	34.7 (+/-12.8)

Cost AM5 If you had to choose, would you prefer that the Census save money by getting your household's information from other government records or would you prefer that the Census spend more to send an interviewer to your home to ask you for it?

Burden AM5 If you had to choose, would you prefer that the Census make things easier by getting your household's information from other government records or would you prefer that the Census send an interviewer to your home to ask you for it?

Control AM5 If you had to choose, would you prefer that the Census gets your household's information from other government records or would you prefer that the Census send an interviewer to your home to ask you for it?

Table 29: Administrative Records Profiles of Mindsets

	Gov't-Minded	Compliant and Caring	Dutiful	Local-Minded	Uninformed	Cynical	Suspicious
Feelings (Scale 1:5) toward Census getting information from other government records if form not sent back	3.3	3.3	3.4	3.2	3.0	2.6	3.0
Feelings (Scale 1:5) toward Census sending an interviewer for the information rather than using other government records	2.9	2.9	2.9	3.2	2.6	2.3	2.6
Willingness (Scale 1:5) to allow Census to use SSN to obtain sex, age, DOB, and race from other government agencies	2.3	2.2	2.4	2.2	2.0	1.9	2.0
Approve the Census getting sex, age, DOB and race information from...							
a. Your most recent income tax returns.	60%	57%	58%	53%	45%	45%	44%
b. A credit bureau	23%	23%	30%	29%	22%	14%	30%
c. Your employment history	38%	42%	48%	50%	36%	24%	41%
d. Medical records from your doctor	13%	20%	25%	35%	21%	7%	32%
e. Information about your health insurance coverage	27%	31%	41%	40%	28%	11%	41%
f. Information on your government benefits such as unemployment or Social	48%	49%	55%	51%	32%	37%	43%
g. Your Medicare records	36%	38%	46%	45%	34%	24%	41%
Prefer that the Census gets information from other government records rather than send an interviewer	43%	41%	44%	33%	39%	49%	42%

5.7. Question 7: How can we classify new respondents into the segments?

The latent class model for developing the mindsets used linear combinations of variables (recentering and factor scores). In total, we used 60 variables to construct the classes. Our goal is to predict an individual's membership to a mindset class using a subset of variables. We used a multinomial logistic regression model to estimate probabilities and nearest neighbor discriminant analysis to select the class. Since the model's purpose is to classify individuals into a mindset, we excluded a 20% validation sample from the model building. For each set of variables, we computed the AIC and the overall misclassification rate for the validation sample.

To build the multinomial logistic regression model, we analyzed the nominal association between mindset and each variable used in the latent class model. The nominal association was quantified by the *uncertainty coefficient* (also called *Theil's U*), which measures the information we know about the mindset given each individual latent class variable. We ordered each independent variable based on its *U* statistic and introduced each into the logistic model in this order. Each iteration of the modeling represents the cumulative gain from adding each variable. The modeling results are in Table 30.

Table 30: Classification Model Results Using LCA Model Variables

Model	U	Total Variables	AIC	Misclassification Rate	Accuracy per Question	Percent Accuracy Gained
26 Add: ex1*	0.0055	60	1435140	4.58	1.59	1%
25 Added: harmme	0.0070	60	5273032	5.57	1.57	0%
24 Added: bx1*	0.0072	60	12207174	5.82	1.57	0%
23 Added: dx2*	0.0089	60	19421885	6.19	1.56	-1%
22 Added: ex2*	0.0115	60	29054742	5.69	1.57	0%
21 Added: jx1*	0.0123	60	34098881	5.82	1.57	0%
20 Added: internetpr	0.0154	60	40489395	6.19	1.56	0%
19 Added: ax2*	0.0203	59	45987192	6.56	1.58	2%
18 Added: e1n*	0.0235	59	48847095	8.42	1.55	0%
17 Added: hx2*	0.0260	59	70286470	8.29	1.55	0%
16 Added: dx1*	0.0268	59	77630542	8.66	1.55	2%
15 Added: tog4*	0.0309	59	88382108	10.77	1.51	1%
14 Added: c3	0.0366	39	102144732	11.63	2.27	2%
13 Added: ben	0.0368	38	110398815	13.00	2.29	1%
12 Added: belief1*	0.0482	37	124851351	13.61	2.33	1%
11 Added: e1m*	0.0509	37	139921682	14.85	2.30	2%
10 Added: jx3*	0.0554	37	155396285	16.46	2.26	2%
9 Added: issue6	0.0651	37	171651150	18.44	2.20	6%
8 Added: jx2*	0.0751	36	203700563	23.39	2.13	4%
7 Added: c4j*	0.0838	28	241478431	26.49	2.63	4%
6 Added: ix1*	0.1041	28	260578431	29.21	2.53	7%
5 Added: c4f*	0.1073	25	298542521	33.91	2.64	3%
4 Added: ax1*	0.1139	25	324048066	35.77	2.57	0%
3 Added: issue2	0.1206	25	363496878	36.01	2.56	48%
2 Added: hx1*	0.1369	24	452350932	56.68	1.80	40%
1 Start: aware*	0.2154	13	555376918	69.06	2.38	

To evaluate the contribution of individual variables, we estimate percent accuracy gained and accuracy per variable. The peak accuracy per variable occurs with model seven with 73.5% accuracy and 28 variables, or 2.63 accuracy points per question. This model became the starting point for developing a reduced set of variables to classify into mindset classes. We fit the model with all 28 variables and then removed those that minimally improved the model fit. Refer to Table 26.

Next, we computed the percent increase in accuracy that each variable added to the model and added variables according to those effects that increase accuracy the most. For example, ISSUE6 increased accuracy by 6% when added to the model. Other variables such as INTERNETPREF had little or no impact on accuracy. In the case of variables that were factor scores, we used the variables that loaded highest in the score. For instance, ISSUE8 and ISSUE9 loaded high on the JX3 factor. For each step in the modeling, we computed AIC, misclassification rate, and accuracy per variable.

Table 31: Reduced Model Variable Selection – Round 1

Model	Total Variables	AIC	Misclassification Rate	Accuracy per Question
7 aware c4d c4e c4g c4h c4j c4a c4b c4c c4f d1 d2 c4i e1a e1g e1j e1l e1b e1e e1f e1h e1i belief2 belief1 issue2 b5 b1 c2	28	240620435	27.85	2.58
7.01 remove e1br, c4cr; add issue6	27	213280122	25.74	2.75
7.02 add issue8,9 (factor jx2)	29	196396652	23.51	2.64
7.03 add issue1,7 (factor jx3)	31	188194328	25.62	2.40
7.04 add e1mr	32	175063644	24.88	2.35
7.05 add c3r	33	170622537	26.11	2.24
7.06 remove e1ar	32	172323863	25.12	2.34
7.07 dichotomize issues	32	157581278	24.63	2.36
7.08 recenter aware c4, d1r,d2r	32	148105777	23.89	2.38
7.09 recenter e1, belief, b5r,b1r,c2r	32	178163514	17.82	2.57
7.10 remove e1e, b1r	30	175939867	18.44	2.72
7.11 categorize c3	30	173252415	19.31	2.69
7.12 remove c4i, d1r	28	210380048	19.80	2.86
7.13 remove c4a	27	211230021	20.67	2.94
7.14 adding tog2,3 q32c (factor dx1)	30	197550948	22.28	2.59
7.15 remove q32c	29	198674494	22.03	2.69
7.16 remove d2r	28	204762577	22.15	2.78

Next, we took all 28 variables in model 7.16 (except TOG2 and TOG3) and evaluated them based on their nominal association with mindset classification. TOG2 and TOG3 are based on a five-point scale and are being treated as ordinal. The remaining 26 variables were ordered based on descending *U* and introduced into the model one at a time. TOG2 and TOG3 were kept in each model as predictors. The cumulative modeling results are presented in Table 32. To evaluate the variables that contribute the most accuracy,

we computed the accuracy gained for each variable. Eighteen categorical variables that improved the predictive accuracy were retained. These were included with TOG2 and TOG3 for additional model selection. We also changed from treating C2r (five-point scale) as a dichotomized variable and treated it as ordinal. We also brought B1r back into the model. B1r had been removed in the first round of variable selection, but removing it seemed to compromise the class prediction. Therefore, we reintroduced it in the second round.

Table 32: Reduced Model Variable Selection – Round 2

	Total Variables	AIC	Misclassification Rate	Accuracy per Variable
7.16.01 aware issue2 c4f c4j b5 c4g c4h issue6 belief1 issue7 e1h issue8 eli e1j c4b issue1 belief2 tog2 tog3 c2r	20	287318299	25.12	3.74
7.16.02 remove issue7	19	289006773	24.01	4.00
7.16.03 remove belief2	18	297180376	27.72	4.02
7.16.02 add belief2	19	289006773	24.01	4.00
7.16.04 remove tog3	18	296644426	25.62	4.13
7.16.05 remove c4f	17	298928917	24.63	4.43
7.16.06 add b1	18	282378071	24.51	4.19
7.16.07 remove belief2	17	291573786	27.10	4.29
7.16.08 remove tog2	16	298975821	24.75	4.70
7.16.09 add belief2	17	290105399	25.00	4.41
7.16.08 remove belief2	16	298975821	24.75	4.70
7.16.10 treat b1r as ordinal	16	301013718	25.37	4.66
7.16.11 remove b5	15	307100741	23.51	5.10

The final model includes 15 variables and predicts mindset class with 76% accuracy:

Affinity	B1r. If the census were held today, how likely would you be to participate (5-pt scale)? C2r. Overall, how would you describe your general feelings about the census (5-pt scale)? AWARE Heard of the census of the United States (y/n, recentered)?
Knowledge	C4gr. Thinks the census is used to locate people living in the country illegally (y/n, recentered). C4hr. Thinks the census is used to determine state income tax rates (y/n, recentered). C4jr. Thinks the census is used to determine the rate of unemployment (y/n, recentered). C4br. Thinks the census is used to decide how many representatives each state will have in Congress (y/n, recentered).
Beliefs	E1hr. It is my civic responsibility to fill out the census form (4-pt scale, recentered, dichotomized). E1ir. The Census Bureau’s promise of confidentiality can be trusted (4-pt scale, recentered, dichotomized). E1jr. I am concerned that the information I provide will be misused (4-pt scale, recentered, dichotomized). BELIEF1. The census should only ask for the number of people living in the household and nothing else (4-pt scale, recentered, dichotomized).
Funding Priorities	ISSUE1: Care for the elderly is important (6-pt rank, dichotomized). ISSUE2: Daycare for children is important (6-pt rank, dichotomized). ISSUE6: Mental healthcare is important (6-pt rank, dichotomized). ISSUE8: Public transportation is important (6-point rank, dichotomized).

The model and algorithm for classification is in Appendix J.

Table 33 is a classification matrix comparing the results of the predictive model with the LCA model. The shaded diagonals represent the same classification. The predictive model performs best in classifying the *Government-Minded* group with 84.6% accuracy. It performs worst for the *Suspicious* group, at 69.1 percent accuracy. Most misclassifications of the *Suspicious* mindset fall into the *Uninformed* mindset, followed by *Local-Minded* and *Cynical*.

Models with more variables will produce more accurate predictions, but a model that uses only 15 variables will be useful in quickly identifying people who are of a particular mindset. For example, if the Census Bureau were conducting focus groups with people of the *Cynical* mindset, a 15-minute screening survey would take a mere three to five minutes, whereas a model with 30 variables would require twice the screening time and yield only 10 points more accuracy.

Further, while we classify people into mindsets, it is important to recognize that people may have attitudes toward the census that draw from multiple mindsets. The multinomial probability model measures the strength of a mindset in each particular person. For instance, a person may share most characteristics with the *Cynical* mindset, yet still have some characteristics that are more common to the *Uninformed* mindset. The probabilities provide more information about a person’s attitudinal profile than a single classification.

Table 33: *Mindset Classification Matrix*

Latent Class Model	Popula- tion Share	Predictive Model						
		Govt Minded	Compli- ant and Caring	Dutiful	Local Minded	Unin- formed	Cynical	Suspicious
Govt Minded	19.3	84.6	2.0	3.4	0.7	8.1	0.7	0.0
Compliant and caring	14.0	8.6	71.4	1.0	2.9	7.6	1.0	7.6
Dutiful	14.9	3.7	3.7	78.7	5.1	2.2	4.4	2.2
Local Minded	11.5	0.0	0.0	5.3	75.5	1.1	6.4	9.6
Uninformed	10.2	7.4	1.2	0.0	0.0	80.2	7.4	2.5
Cynical	16.4	0.7	0.7	6.8	3.4	8.9	73.3	4.1
Suspicious	13.7	1.0	5.2	0.0	7.2	10.3	6.2	69.1

5.8. Analysis of Alternative Question Format for Benefit and Harm

One of the questions on the CBAMS II survey asks:

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?

One of the recommendations from cognitive testing the instrument was to divide the question into two separate questions, one focused on benefit and the other on harm. Specifically, the cognitive report recommendation is:

There was some evidence that the answer choices were not exclusive at BENHARM. One respondent said her answer would have been different if the question had referred to the impact on the community rather than on her personally, indicating that her feelings about the possible benefit and harm of the Census were mixed. Another respondent had difficulty answering and eventually said “neither”, suggesting that she could not decide between the two bipolar options. The question is a forced choice, bipolar attitude question from a previous survey. However, these results suggest that there is genuine ambivalence (as opposed to neutrality) that is not being adequately measured by the question in its current form.

Recommendation 4. Ask separate questions about “benefit” and “harm” to allow for

Do you believe that answering and sending back your census form could harm you?

Do you believe that answering and sending back your census form could benefit you?

While both questions are asking a respondent their opinion on whether sending back the census form will cause them harm, benefit, both or neither, there are a few differences. First, the original question used the term “personally.” Removing this word allows a broader interpretation of benefit and harm, such as benefit for the community. Second, in the original question, the response options were provided to the respondent except that “both benefit and harm” was not read. The respondent was expected to repeat back one of the responses, which may have resulted in response ordering effects. With the revision, the set of two questions only requires the respondent to answer “yes” or “no”.

The original plan after cognitive interviewing was to run a split sample experiment with 50 percent receiving the original question and 50 percent receiving the two yes/no questions. Later during questionnaire development, a decision was made to eliminate the experiment and use the original question. However, the in-person questionnaires were printed and distributed with the experiment intact. Therefore, we have 569 interviews where the original question was asked and 500 interviews where the two question set was asked. Each of the 20 sites had sample from each of the two conditions. This was not controlled in the experiment, but was generally evenly distributed within a site. One site had a 70/30 split, but the remaining sites were somewhere between a 60/40 and 50/50 split.

One of the comments in the cognitive interviewing report was that there is “genuine ambivalence” to the question that is not represented by the forced choice option. About 8% of the respondents did not provide an answer to whether the census benefits them. Only 2% of respondents did not provide an answer to whether the census harms them. Less than 1% did not respond to the forced choice.

To compare the question versions, we constructed a four-category variable from the two yes/no questions (we treated non-respondents at “no” for the purposes of this comparison):

Benefit?	Harm?	BENHARM
No	No	1 Neither benefit nor harm
Yes	No	2 Benefit
No	Yes	3 Harm
Yes	Yes	4 Both benefit and harm

The percentage of respondents who reported “harm” or “both benefit and harm” are very low based on both questionnaire options. Combined, less than 5% of the population thinks that mailing back their census form can harm them. But, the percentage of respondents who think mailing back their census form will benefit them is very different between the two conditions. Over 75% of respondents reported benefit, but not harm, when asked in two separate questions. This compared to 45% when asked as the

forced choice. The expected result of removing “personally” and broadening the scope to community, business, and so forth, is that more people should choose “yes” to the benefit question. However, the experiment cannot discern whether the difference is due to splitting the question into two or removing “personally,” or both.

Table 34: Comparison of Benefit and Harm Questions

	Original n=569 (a)	Two questions n=500 (b)
1 Neither benefit nor harm	49.7 (+/-12.0) ^b	19.8 (+/-9.2) ^a
2 Benefit	45.6 (+/-12.1) ^b	75.5 (+/-9.8) ^a
3 Harm	2.8 (+/-3.6) ^c	3.8 (+/-3.9)
4 Both benefit and harm	1.9 (+/-1.8)	0.9 (+/-1.0)

6. KEY LESSONS LEARNED, CONCLUSIONS, AND RECOMMENDATIONS

LCA Produced the Most Meaningful Census Mindsets

With four segments, the same general characteristics emerged from the segments using three different models (K-Means, Q-Factor, and LCA), but the profiles for the LCA groups were notably more distinct (higher between-segment variability) from each other than were profiles of K-Means or Q-Factor groups. On average, the range across all the profile measures was higher in the LCA solutions than in either the K-Means or Q-Factor solutions. As we increased the number of segments, the methods deviated from each other in grouping, but again the segments from LCA were clearly more distinct than the other two methods. Therefore, the CBAMS II research team recommended moving forward with LCA to produce CBAMS II mindsets.

Census Mindsets have Changed

Model fit indices and estimates of mindset sizes suggest that there were only four mindsets in the CBAMS I data (excluding *Unacquainted*). This is consistent with the original mindset solution from CBAMS I, and the four groups estimated using LCA are similar in profiles to the four mindsets estimated for CBAMS I using Q-Factor analysis. The four-group CBAMS II solution produced groups with different profiles. While the *Head Nodder** and *Leading Edge** profiles still seem to appear, the *Leading Edge** group in CBAMS II was much larger. The lower-affinity groups were quite different from the original *Insulated** and *Cynical Fifth** groups and may represent post-census groups—low-affinity groups that have been positively impacted by the 2010 Census and the ICP.

Seven Census Mindsets

LCA revealed seven distinct mindsets toward the census. These mindsets are listed below ranked from highest to lowest affinity; common characteristics that describe each group are indicated in italics.

1. **Government-Minded** (19% of the population)
High census affinity; aware of the census and its uses; affluent, White, educated, and with high Internet use.
2. **Compliant and Caring** (15% of the population)
High census affinity; believes the census could benefit them; cares about social programs; female; cell-only (defined as not having a landline telephone, only a cell phone).
3. **Dutiful** (14% of the population)

High trust in government; believes completing the census is their civic responsibility; includes the Hispanic HTC group.

4. **Local-Minded** (12% of the population)
Low understanding of the census; trusts the government; female; non-White, immigrants, and low income; cell-only.
5. **Uninformed** (16% of the population)
Lower income, less educated, not technologically savvy; ambivalent toward the census.
6. **Cynical** (10% of the population)
Low affinity toward the census; concerned about privacy and suspicious of the government; older White Americans; primary men.
7. **Suspicious** (14% of the population)
Low awareness of census; thinks the census could harm them; young and mobile; American Indians and Asians.

Recommendations for Future Mindset Replication

We recommend a model that uses a small subset of variables. The reason is efficiency of future classifications as well as the fact that people are not fully aligned with one, and only one, mindset. While it is convenient to classify people into mindsets, people more likely have attitudes toward the census that draw from multiple mindsets. The classification model provides a measure of an individual's shared characteristics with each mindset. This is more informative than a single classification because it provides a dominant mindset as well as a secondary mindset.

Administrative Records

Nearly two-thirds of the population is positive or neutral about the use of administrative records. People provide higher approval for the use of government records, such as employment and social security, rather than private records such as medical records or credit history.

Both the burden and cost frames resulted in a more positive response to the use of administrative records than the control frame. Future messaging about administrative records should focus on cost savings. However, future research should focus on changes to the cost message over the decade. The cost message may particularly resonate with the public given that the 2010 Census is still very recent. The current fiscal climate may also be contributing to the more positive approval of administrative records when framed as cost savings.

7. ACKNOWLEDGEMENTS

We would like to thank the following individuals for their work on CBAMS II:

From the Census Bureau, we would like to thank Monica Wroblewski, Mike Lotti, Nancy Bates, and the entire CBAMS II team, including Willette Allen, Tasha Boone, Mary Bucci, Jenny Childs, Gianna Dusch, Mary Frazier, Peter Miller, Eric Newburger, Eric Pinkerton, Laura Sewell, and Curtis Zunigha

From ICF Macro, we would like to thank Tom Bancroft, Josh Brown, Stephanie Dion, Mia Eyth, Ashley Foy, Timothy Martin, and Lee Robeson.

8. REFERENCES

Bates, N. a. (Forthcoming). Using a Geographic Segmentation to Understand, Predict, and Plan. *Journal of Official Statistics* .

Blumberg, S., & Luke, J. (2011, June). *Wireless substitution: Early release of estimates from the National Health Interview Survey July–December 2010*. Retrieved from www.cdc.gov: <http://www.cdc.gov/nchs/nhis.htm>.

ICF Macro. (2008). *Census Barriers, Attitudes, and Motivators Survey : Methodology Report*.

ICF Macro. (2008). *Census Barriers, Attitudes, and Motivators Survey: Analytic Report*.

PROC LCA & PROC LTA (Version 1.2.7) [Software]. (2011). University Park: The Methodology Center, Penn State. Retrieved from. <http://methodology.psu.edu>

This page intentionally left blank.

APPENDIX A: VARIABLES USED IN CBAMS II SEGMENTATION VARIABLE REDUCTION

Table 35. Variables Used in CBAMS II Segmentation Variable Reduction

Variable	Content	Question
a2	Awareness	The Census is the count of all the people who live in the United States. Have you ever heard of that before? If the Census were held today, how likely would you be to participate? By participate, we mean fill out and mail in a Census form.
b1r	Intent	
b5r	Importance	Thinking about the Census overall, how important do you feel it is for you to participate in the Census?
belief1	Census should only ask number of residents *	The Census should only ask for the number of people living in the household and nothing else. (Strongly agree, Agree, Disagree, Strongly disagree)*
belief2	Refusal is a form of government protest *	Refusing to fill out the Census is a way for people to show that they don't like what the government is doing. (Strongly agree, Agree, Disagree, Strongly disagree, Neither agree nor disagree/No opinion)* 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?
Benharm, benefit, harm	Two measures: Census can benefit (yes/no); Census can harm (yes/no)	Do you believe that answering and sending back your census form could benefit you? Do you believe that answering and sending back your census form could harm you?
c2r	Affinity	Overall, how would you describe your general feelings about the Census? Do you feel...? (Highly favorable, Moderately favorable, Neutral, Not too favorable, Rather unfavorable)
c3r	Familiarity	In general, how familiar are you with the way Census data impacts you and your community. Would you say...? (Very familiar, Somewhat familiar, Not very familiar, Not familiar at all) Is the Census used...?
c4ar	Use: Allocate funds	To decide how much money communities will get from the government?
c4br	Use: Representation	Is the Census used...? To decide how many representatives each state will have in Congress?
c4cr	Use: Track change	Is the Census used...? To see what changes have taken place in the size, location and characteristics of the people in the United States?
c4dr	Use: Property tax	Is the Census used...? To determine property taxes?
c4er	Use: Track lawbreakers	Is the Census used...? To help the police and FBI keep track of people who break the law?
c4fr	Use: Plan for the future	Is the Census used...? To help businesses and governments plan for the future?
c4gr	Use: Local illegal residents	Is the Census used...? To locate people living in the country illegally?
c4hr	Use: State income tax	Is the Census used...? To determine state income tax rates?
c4ir	Use: Count citizens	Is the Census used...? To count both citizens and non-citizens?

Variable	Content	Question
	and non-citizens	
c4jr	Use: Measure unemployment	Is the Census used...? To determine the rate of unemployment?
c6r	Aware of home visit Preferred mode: coded to reflect	Are you aware that if you don't mail back the Census form that a Census Bureau interviewer tries to visit your home to gather the necessary information?
ce8	internet preference	If you had a choice, would you prefer to answer the census by Telephone, In-person, Internet, Mail
comp1	Paperwork: Wait to complete *	I usually wait to complete paperwork until it is due. Strongly agree. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
comp2	Paperwork: Complete immediately	I usually take care of paperwork as soon as I receive it. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
comp3	Paperwork: Completing feels good	Completing paperwork on time makes me feel good. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
comp4	Paperwork: Start and stop *	I usually start and stop paperwork, rather than completing it in one sitting (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
comp5	Paperwork: Put on stack *	I usually put paperwork I receive in a stack of things I need to complete at some point. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
comp6	Paperwork: Miss deadlines *	I sometimes miss deadlines for paperwork, especially when it's not a bill. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
comp7	Paperwork: Set aside time	I try to set aside a special time in the week to take care of paperwork. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
comp8	Paperwork: Prioritize	I prioritize paperwork in terms of when it is due. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
d1r	Know: Law requires response	As far as you know, does the law require you to answer the Census questions?
d2r	Know: Census is confidential	As far as you know, is the Census Bureau required by law to keep information confidential?
e1ar	Invasion of privacy *	The Census is an invasion of privacy. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1br	Important to be counted	It is important for everyone to be counted in the Census. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1er	Census shows pride	Taking part in the Census shows I am proud of who I am. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1fr	Let gov't know what community needs	Filling out the Census form will let the government know what my community needs. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1gr	Doesn't matter *	I just don't see that it matters much if I personally fill out the Census form or not. (Somewhat agree, Neither agree

Variable	Content	Question
		nor disagree, Somewhat disagree, or Strongly disagree)
e1hr	Civic responsibility	It is my civic responsibility to fill out the Census form. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1ir	Confidentiality can be trusted	The Census Bureau's promise of confidentiality can be trusted. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1jr	Concern for misuse *	I am concerned that the information I provide will be misused. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1lr	Govt. already has info. *	The government already has my personal information, like my tax returns, so I don't need to fill out a Census form. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1mr	Never see results *	I'll never see results from the Census in my neighborhood. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
e1nr	Takes too long *	It takes too long to fill out the Census information, I don't have time (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
issue1	Care for the elderly	For each list, please tell me which one is the most important to you and which one is next most important to you. Care for the elderly
issue10	Schools and the education system	For each list, please tell me which one is the most important to you and which one is next most important to you. Schools and the education system
issue2	Daycare for children	For each list, please tell me which one is the most important to you and which one is next most important to you. Daycare for children
issue3	Fire and police stations	For each list, please tell me which one is the most important to you and which one is next most important to you. Fire and police stations
issue4	Hospitals and healthcare	For each list, please tell me which one is the most important to you and which one is next most important to you. Hospitals and healthcare
issue5	Job training programs	For each list, please tell me which one is the most important to you and which one is next most important to you. Job training programs
issue6	Mental health care	All of these programs and services may be important, but we want to get your view of what is most important to you and next most important to you. Mental health care
issue7	Political representation in Congress	For each list, please tell me which one is the most important to you and which one is next most important to you. Political representation in Congress
issue8	Public transportation	For each list, please tell me which one is the most important to you and which one is next most important to you. Public transportation
issue9	Roads and highways	For each list, please tell me which one is the most important to you and which one is next most important to you. Roads and highways
priv7	Businesses have too much info.	Businesses and private industry have too much information about me. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
q32b	Govt. doesn't care	I don't think public officials care much what people like me think. (Somewhat agree, Neither agree nor disagree,

Variable	Content	Question
	about me *	Somewhat disagree, or Strongly disagree)
q32c	Privacy well protected	People's rights to privacy are well protected. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
q32d	Lost control over information *	People have lost all control over how personal information about them is used. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
q32f	Govt. knows too much *	The government knows more about me than it needs to. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
tog1	Govt. uses info responsibly	The government in Washington can be trusted to use my information responsibly. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
tog2	Govt. has my best interests in mind	I trust the government in Washington to keep my best interests in mind (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
tog3	Govt. keeps info safe	When I give information to the government in Washington, I know it will be kept safe (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
tog4	Govt. should collect info.	The government in Washington should collect information about the population so that it can make the right decisions (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
tog5	Trust state more than Federal *	I trust my state government more than the government in Washington. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
tog6	Trust local more than Federal *	I trust my city, town, and county government more than the government in Washington. (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)
tog7	Census more trustworthy	The Census Bureau is more trustworthy than most other parts of the government in Washington (Somewhat agree, Neither agree nor disagree, Somewhat disagree, or Strongly disagree)

**Variable reverse scored.*

Centered Variables

We centered on mean within respondent for the following series:

- c4dr c4er c4gr c4hr c4jr c4ar c4br c4cr c4fr d1r d2r c4ir aware;
- tog1-tog7 comp1-comp8 q32b q32c q32d q32f priv7; and
- e1ar e1gr e1jr e1lr e1mr e1nr belief1 e1br e1er e1fr e1hr e1ir belief2.

APPENDIX B: PROFILES OF FOUR MINDSET SOLUTIONS PRODUCED USING DIFFERENT APPROACHES

Table 36. Profiles of Four Mindset Solutions Produced Using Different Approaches

	K-Means				LCA				Q-Factor			
Size	33%	19%	18%	30%	36%	19%	15%	31%	29%	14%	32%	24%
Aware of Census	96%	91%	92%	91%	100%	93%	100%	82%	96%	95%	91%	90%
Replied to Census	86%	78%	80%	77%	88%	85%	86%	66%	87%	82%	76%	79%
Intent	76%	68%	56%	59%	88%	77%	62%	35%	79%	65%	59%	59%
Affinity	49%	40%	19%	38%	62%	53%	15%	15%	49%	36%	29%	41%
Importance	81%	72%	49%	69%	93%	90%	49%	41%	81%	65%	59%	73%
Familiarity	31%	26%	19%	21%	37%	32%	21%	10%	32%	25%	20%	23%
Use: Representation	85%	71%	82%	75%	89%	83%	90%	60%	87%	81%	74%	75%
Know: Law requires response	46%	39%	46%	41%	43%	55%	58%	29%	46%	50%	38%	42%
Know: Census is confidential	90%	85%	80%	86%	88%	93%	83%	82%	88%	90%	83%	86%
Use: Allocate funds	83%	79%	73%	76%	88%	85%	80%	63%	84%	79%	74%	77%
Use: Track change	93%	87%	90%	87%	96%	93%	89%	80%	94%	89%	88%	87%
Use: Plan for the future	91%	84%	80%	88%	93%	90%	83%	79%	92%	88%	81%	89%
Use: Count citizens and non-citizens	70%	78%	67%	77%	67%	96%	65%	69%	72%	76%	69%	78%
Use: Property tax	32%	36%	30%	40%	21%	60%	21%	42%	28%	34%	36%	41%
Use: Track lawbreakers	15%	22%	19%	32%	9%	44%	10%	30%	13%	19%	22%	36%
Use: Local illegal residents	22%	35%	26%	38%	13%	56%	18%	40%	20%	31%	31%	39%
Use: State income tax	35%	39%	34%	45%	24%	65%	27%	45%	33%	36%	39%	46%
Use: Measure unemployment	52%	55%	38%	59%	41%	75%	35%	59%	45%	58%	51%	59%
Invasion of privacy *	91%	88%	74%	80%	98%	78%	73%	77%	90%	83%	81%	81%
Important to be counted	97%	98%	88%	96%	98%	99%	91%	91%	96%	97%	94%	96%
Doesn't matter *	91%	86%	72%	79%	97%	81%	75%	73%	90%	82%	81%	78%
Civic responsibility	96%	93%	80%	89%	98%	99%	83%	80%	94%	92%	87%	91%
Let gov't know what community needs	90%	89%	65%	86%	94%	95%	64%	76%	86%	81%	81%	90%
Confidentiality can be trusted	89%	81%	56%	81%	90%	92%	57%	69%	84%	79%	71%	85%
Census shows pride	82%	81%	56%	81%	83%	96%	54%	69%	76%	78%	71%	85%
Concern for misuse *	87%	80%	63%	71%	94%	70%	56%	70%	86%	72%	74%	72%
Govt. already has info. *	89%	83%	67%	74%	95%	76%	64%	70%	85%	84%	77%	73%
Takes too long *	88%	88%	76%	76%	93%	82%	82%	70%	88%	82%	83%	75%
Never see results *	72%	66%	44%	56%	82%	58%	43%	47%	71%	63%	55%	54%
Census should only ask number of residents *	63%	58%	47%	48%	77%	45%	38%	43%	66%	51%	52%	47%
Refusal is a form of government protest *	76%	67%	64%	59%	87%	41%	64%	60%	78%	68%	65%	56%

	K-Means				LCA				Q-Factor			
Trust state more than Federal *	64%	63%	45%	51%	68%	42%	40%	60%	62%	49%	57%	53%
Govt. has my best interests in mind	61%	58%	8%	61%	54%	66%	14%	55%	48%	47%	43%	66%
Govt. keeps info safe	72%	56%	18%	61%	64%	72%	18%	55%	59%	55%	46%	66%
Govt. should collect info.	99%	93%	62%	92%	96%	96%	71%	85%	93%	91%	81%	94%
Govt. uses info responsibly	75%	62%	13%	64%	67%	75%	16%	57%	58%	56%	50%	69%
Trust local more than Federal *	55%	63%	37%	45%	59%	38%	28%	59%	50%	43%	52%	52%
Census more trustworthy	56%	53%	35%	65%	53%	83%	39%	46%	55%	54%	47%	65%
Privacy well protected	68%	55%	16%	53%	60%	63%	18%	50%	55%	52%	43%	57%
Govt. doesn't care about me *	56%	45%	22%	35%	57%	35%	17%	38%	44%	41%	39%	42%
Lost control over information *	43%	37%	23%	32%	45%	26%	12%	39%	37%	32%	34%	35%
Govt. knows too much *	59%	53%	26%	39%	61%	34%	18%	47%	55%	41%	42%	41%
Businesses have too much info.	54%	44%	67%	63%	53%	63%	79%	49%	59%	55%	53%	63%
Paperwork: Complete immediately	66%	90%	50%	55%	62%	79%	58%	62%	59%	67%	73%	57%
Paperwork: Completing feels good	90%	93%	73%	85%	88%	96%	77%	81%	88%	85%	84%	86%
Paperwork: Set aside time	67%	55%	44%	61%	55%	87%	45%	53%	63%	59%	52%	63%
Paperwork: Put on stack *	3%	85%	20%	12%	22%	19%	26%	28%	2%	5%	61%	11%
Paperwork: Miss deadlines *	70%	90%	68%	40%	68%	57%	68%	63%	67%	68%	78%	40%
Paperwork: Start and stop *	94%	91%	88%	9%	73%	57%	75%	61%	89%	79%	86%	5%
Paperwork: Wait to complete *	69%	90%	64%	44%	68%	64%	63%	60%	62%	63%	79%	47%
Paperwork: Prioritize	90%	76%	75%	82%	81%	92%	76%	81%	89%	84%	75%	82%
Census could benefit me	54%	50%	25%	50%	59%	65%	20%	34%	53%	45%	39%	50%
Census could harm me	3%	9%	13%	7%	3%	5%	12%	10%	5%	5%	10%	6%
Prefers to complete on internet	39%	29%	34%	31%	44%	20%	37%	30%	39%	35%	32%	30%
Hospitals and healthcare	34%	29%	18%	36%	29%	30%	26%	36%	15%	76%	24%	34%
Schools and the education system	53%	66%	45%	57%	54%	59%	38%	63%	55%	37%	61%	59%
Daycare for children	7%	16%	4%	18%	8%	15%	2%	18%	7%	7%	13%	17%
Mental health care	7%	16%	6%	17%	9%	20%	7%	13%	9%	13%	11%	16%
Care for the elderly	25%	37%	30%	36%	24%	40%	32%	35%	25%	40%	33%	32%
Job training programs	15%	25%	22%	21%	18%	24%	14%	23%	25%	0%	24%	20%
Fire and police stations	39%	27%	43%	24%	39%	26%	53%	21%	41%	37%	29%	26%
Political representation in Congress	34%	15%	37%	14%	38%	12%	41%	11%	37%	35%	18%	15%
Roads and highways	19%	9%	23%	11%	21%	10%	21%	10%	25%	5%	14%	12%
Public transportation	14%	4%	11%	5%	13%	4%	14%	5%	15%	9%	7%	6%

*Reverse-coded

Table 37: Profiles of Five Mindset Solutions Produced Using Different Approaches

	K-Means					LCA					Q-Factor				
Size	22%	17%	14%	25%	23%	33%	17%	13%	12%	25%	25%	30%	3%	27%	15%
Aware of Census	89%	91%	94%	92%	98%	100%	92%	100%	90%	81%	90%	92%	77%	96%	96%
Replied to Census	78%	76%	81%	83%	85%	90%	83%	89%	74%	65%	78%	76%	81%	88%	82%
Intent	54%	66%	68%	67%	74%	90%	74%	63%	59%	33%	59%	61%	49%	80%	64%
Affinity	36%	36%	42%	37%	42%	65%	52%	15%	30%	11%	40%	31%	12%	51%	35%
Importance	64%	66%	74%	73%	71%	93%	90%	49%	65%	38%	71%	61%	37%	83%	66%
Familiarity	19%	27%	31%	23%	29%	37%	31%	21%	20%	10%	22%	22%	17%	33%	25%
Use: Representation	71%	73%	87%	74%	91%	92%	84%	89%	57%	64%	75%	75%	60%	88%	81%
Know: Law requires response	42%	42%	46%	41%	47%	45%	55%	61%	33%	29%	42%	39%	43%	46%	47%
Know: Census is confidential	86%	85%	84%	85%	89%	88%	92%	84%	85%	81%	87%	84%	68%	88%	89%
Use: Allocate funds	75%	78%	81%	79%	81%	90%	85%	78%	68%	65%	76%	77%	64%	85%	77%
Use: Track change	85%	85%	89%	91%	95%	96%	92%	89%	84%	82%	87%	88%	79%	94%	89%
Use: Plan for the future	86%	81%	91%	86%	90%	95%	90%	82%	79%	81%	89%	83%	61%	93%	86%
Use: Count citizens and non-citizens	75%	74%	72%	75%	68%	68%	95%	68%	74%	67%	77%	71%	50%	72%	76%
Use: Property tax	44%	36%	29%	36%	26%	21%	60%	18%	35%	43%	42%	37%	28%	27%	31%
Use: Track lawbreakers	35%	23%	20%	20%	13%	9%	46%	10%	21%	30%	35%	22%	22%	13%	18%
Use: Local illegal residents	40%	33%	26%	31%	19%	12%	56%	17%	38%	38%	39%	32%	32%	19%	30%
Use: State income tax	49%	42%	32%	42%	27%	23%	65%	24%	42%	46%	47%	40%	34%	32%	35%
Use: Measure unemployment	60%	52%	46%	54%	44%	41%	74%	33%	54%	59%	58%	52%	48%	43%	56%
Invasion of privacy *	76%	84%	85%	89%	86%	99%	76%	71%	86%	76%	81%	84%	53%	92%	82%
Important to be counted	94%	96%	97%	96%	94%	99%	99%	91%	96%	90%	95%	95%	80%	97%	96%
Doesn't matter *	76%	84%	83%	83%	90%	97%	79%	75%	86%	70%	78%	83%	63%	91%	82%
Civic responsibility	88%	89%	94%	91%	92%	99%	99%	85%	90%	78%	91%	88%	68%	95%	92%
Let gov't know what community needs	85%	84%	84%	84%	85%	94%	95%	65%	84%	75%	89%	83%	35%	88%	81%
Confidentiality can be trusted	78%	78%	83%	80%	79%	90%	92%	57%	82%	66%	84%	74%	37%	85%	79%
Census shows pride	79%	77%	78%	80%	70%	84%	96%	55%	77%	65%	84%	74%	44%	78%	76%
Concern for misuse *	69%	77%	78%	80%	79%	93%	68%	58%	82%	67%	73%	76%	50%	86%	72%
Govt. already has info. *	71%	81%	82%	81%	82%	95%	74%	65%	85%	66%	74%	79%	35%	86%	84%
Takes too long *	75%	85%	81%	84%	87%	94%	80%	81%	90%	66%	75%	83%	75%	88%	83%
Never see results *	50%	62%	64%	65%	64%	82%	56%	42%	64%	44%	55%	58%	38%	72%	62%
Census should only ask number of residents *	44%	57%	57%	57%	60%	77%	41%	37%	57%	43%	47%	54%	40%	67%	51%
Refusal is a form of government protest *	56%	67%	69%	67%	76%	85%	39%	62%	80%	57%	55%	66%	46%	80%	68%
Trust state more than Federal *	49%	59%	60%	54%	62%	66%	41%	37%	71%	57%	55%	53%	89%	61%	52%
Govt. has my best interests in mind	59%	50%	58%	49%	40%	52%	69%	13%	61%	51%	66%	45%	21%	48%	46%
Govt. keeps info safe	55%	54%	65%	58%	50%	62%	74%	18%	63%	52%	65%	49%	22%	59%	54%

	K-Means					LCA					Q-Factor				
Govt. should collect info.	89%	85%	94%	91%	88%	96%	96%	72%	88%	84%	93%	85%	35%	94%	91%
Govt. uses info responsibly	61%	58%	64%	60%	50%	66%	76%	17%	66%	53%	70%	53%	24%	58%	56%
Trust local more than Federal *	46%	57%	52%	48%	51%	56%	38%	27%	72%	54%	53%	49%	75%	50%	45%
Census more trustworthy	62%	49%	60%	55%	47%	55%	85%	42%	34%	49%	63%	50%	30%	56%	50%
Privacy well protected	51%	51%	55%	52%	50%	59%	63%	19%	59%	46%	56%	46%	16%	56%	52%
Govt. doesn't care about me *	30%	42%	48%	43%	46%	56%	34%	17%	53%	35%	41%	40%	23%	45%	41%
Lost control over information *	28%	34%	42%	37%	34%	44%	25%	12%	45%	36%	35%	35%	21%	38%	32%
Govt. knows too much *	35%	50%	45%	49%	50%	60%	32%	17%	66%	42%	43%	43%	26%	56%	41%
Businesses have too much info.	65%	45%	61%	55%	59%	55%	64%	78%	35%	56%	64%	50%	71%	57%	57%
Paperwork: Complete immediately	57%	87%	53%	65%	61%	59%	80%	61%	90%	50%	56%	76%	49%	60%	66%
Paperwork: Completing feels good	82%	90%	85%	91%	82%	89%	96%	78%	88%	78%	86%	85%	72%	88%	85%
Paperwork: Set aside time	62%	48%	56%	73%	50%	56%	88%	50%	55%	48%	64%	50%	53%	63%	61%
Paperwork: Put on stack *	13%	100%	15%	3%	5%	16%	18%	24%	63%	18%	10%	65%	12%	2%	3%
Paperwork: Miss deadlines *	42%	89%	48%	69%	73%	65%	53%	70%	96%	52%	42%	79%	59%	67%	68%
Paperwork: Start and stop *	9%	91%	13%	100%	100%	71%	53%	80%	99%	48%	7%	87%	69%	89%	81%
Paperwork: Wait to complete *	46%	89%	52%	67%	67%	65%	63%	64%	94%	49%	48%	79%	55%	63%	64%
Paperwork: Prioritize	80%	70%	83%	89%	85%	82%	92%	78%	80%	79%	83%	75%	77%	89%	86%
Census could benefit me	46%	42%	50%	50%	46%	61%	63%	22%	39%	32%	50%	42%	17%	54%	44%
Census could harm me	8%	9%	6%	7%	5%	3%	5%	12%	8%	10%	7%	9%	20%	5%	6%
Prefers to complete on internet	27%	34%	39%	33%	38%	44%	18%	34%	29%	34%	30%	33%	12%	40%	34%
Hospitals and healthcare	35%	30%	36%	23%	34%	29%	30%	23%	36%	36%	34%	24%	19%	15%	74%
Schools and the education system	63%	62%	36%	71%	38%	52%	58%	37%	69%	60%	59%	62%	51%	54%	39%
Daycare for children	23%	11%	1%	17%	1%	7%	16%	2%	14%	17%	18%	13%	13%	7%	6%
Mental health care	21%	13%	5%	12%	6%	9%	21%	7%	12%	12%	16%	11%	11%	8%	13%
Care for the elderly	43%	35%	12%	40%	21%	22%	41%	32%	36%	33%	32%	33%	42%	25%	38%
Job training programs	23%	20%	9%	37%	6%	18%	24%	14%	23%	22%	21%	24%	24%	25%	0%
Fire and police stations	21%	30%	42%	21%	54%	40%	27%	52%	23%	23%	25%	31%	25%	41%	37%
Political representation in Congress	3%	20%	49%	6%	55%	41%	11%	44%	13%	11%	15%	18%	13%	37%	37%
Roads and highways	5%	14%	30%	8%	25%	21%	10%	22%	9%	11%	13%	14%	8%	26%	5%
Public transportation	2%	6%	17%	4%	19%	13%	4%	14%	5%	6%	6%	6%	9%	15%	8%

*Reverse-coded

Table 38: Profiles of Six Mindset Solutions Produced Using Different Approaches

	K-Means						LCA						Q-Factor					
Size	18%	20%	14%	24%	10%	15%	14%	23%	18%	13%	9%	24%	25%	2%	32%	14%	23%	3%
Aware of Census	90%	97%	91%	93%	92%	92%	99%	100%	92%	91%	100%	81%	90%	86%	92%	95%	98%	76%
Replied to Census	77%	86%	78%	84%	78%	77%	88%	90%	83%	76%	84%	66%	78%	85%	76%	84%	89%	78%
Intent	58%	79%	58%	70%	52%	68%	92%	87%	74%	58%	51%	33%	59%	69%	61%	64%	82%	50%
Affinity	39%	50%	36%	40%	13%	41%	74%	52%	53%	30%	6%	11%	40%	53%	30%	35%	52%	15%
Importance	66%	80%	66%	77%	40%	73%	96%	90%	89%	67%	30%	37%	71%	74%	61%	67%	85%	43%
Familiarity	20%	34%	21%	24%	21%	27%	44%	33%	31%	19%	18%	9%	22%	25%	21%	24%	36%	20%
Use: Representation	73%	93%	81%	74%	82%	71%	86%	94%	84%	60%	87%	63%	76%	76%	75%	82%	88%	59%
Know: Law requires response	41%	47%	40%	43%	51%	39%	49%	45%	55%	33%	61%	29%	42%	36%	40%	47%	49%	35%
Know: Census is confidential	85%	88%	87%	87%	80%	86%	88%	89%	92%	83%	80%	81%	86%	85%	84%	90%	89%	69%
Use: Allocate funds	76%	82%	79%	81%	70%	79%	87%	92%	84%	69%	74%	64%	77%	77%	77%	77%	86%	61%
Use: Track change	87%	95%	87%	91%	89%	85%	97%	96%	92%	84%	86%	81%	87%	86%	89%	89%	95%	74%
Use: Plan for the future	87%	93%	91%	88%	75%	82%	95%	95%	90%	77%	77%	81%	88%	84%	83%	87%	94%	61%
Use: Count citizens and non-citizens	77%	68%	73%	77%	59%	77%	69%	63%	97%	73%	70%	67%	77%	74%	71%	75%	72%	50%
Use: Property tax	43%	27%	36%	36%	29%	35%	20%	20%	59%	36%	20%	43%	42%	37%	37%	31%	25%	33%
Use: Track lawbreakers	35%	11%	27%	22%	17%	22%	8%	10%	45%	21%	9%	31%	34%	21%	22%	18%	12%	28%
Use: Local illegal residents	41%	17%	31%	31%	24%	35%	12%	13%	54%	38%	15%	39%	39%	20%	32%	30%	18%	37%
Use: State income tax	51%	28%	37%	42%	30%	39%	24%	22%	65%	41%	25%	46%	47%	45%	40%	34%	30%	39%
Use: Measure unemployment	64%	48%	51%	54%	33%	52%	46%	39%	74%	53%	32%	58%	59%	50%	53%	56%	42%	47%
Invasion of privacy *	79%	92%	81%	89%	67%	87%	99%	94%	79%	89%	59%	76%	81%	80%	84%	83%	93%	58%
Important to be counted	97%	98%	94%	97%	81%	98%	99%	98%	99%	97%	86%	90%	95%	92%	95%	96%	97%	83%
Doesn't matter *	79%	93%	78%	85%	70%	86%	97%	95%	81%	85%	66%	70%	78%	75%	83%	82%	92%	68%
Civic responsibility	90%	97%	89%	93%	72%	93%	100%	97%	99%	90%	74%	78%	90%	92%	89%	92%	95%	75%
Let gov't know what community needs	87%	91%	84%	87%	55%	88%	97%	89%	95%	83%	56%	76%	89%	78%	83%	81%	89%	47%
Confidentiality can be trusted	82%	88%	78%	83%	48%	82%	96%	83%	92%	81%	46%	67%	84%	78%	74%	80%	86%	46%
Census shows pride	83%	80%	75%	81%	45%	83%	87%	79%	96%	77%	43%	67%	83%	90%	73%	77%	78%	56%
Concern for misuse *	72%	87%	71%	81%	54%	81%	95%	88%	71%	84%	42%	67%	73%	74%	76%	73%	86%	58%
Govt. already has info. *	74%	91%	74%	82%	58%	85%	95%	93%	76%	86%	50%	67%	74%	82%	79%	84%	87%	45%

	K-Means						LCA						Q-Factor					
Takes too long *	73%	90%	79%	86%	73%	88%	95%	92%	81%	89%	73%	66%	74%	71%	83%	84%	90%	78%
Never see results *	53%	74%	60%	64%	36%	66%	91%	74%	56%	63%	30%	44%	54%	56%	57%	64%	73%	40%
Census should only ask number of residents *	48%	67%	48%	58%	42%	56%	79%	68%	44%	57%	31%	43%	49%	56%	53%	51%	67%	38%
Refusal is a form of government protest *	56%	82%	63%	68%	59%	67%	89%	80%	39%	84%	54%	57%	55%	59%	66%	68%	83%	45%
Trust state more than Federal *	53%	68%	50%	54%	49%	61%	73%	59%	41%	67%	37%	57%	54%	1%	54%	52%	68%	84%
Govt. has my best interests in mind	65%	55%	53%	51%	5%	57%	73%	34%	69%	58%	5%	52%	67%	32%	45%	46%	48%	29%
Govt. keeps info safe	62%	67%	58%	57%	16%	58%	80%	42%	76%	60%	13%	54%	66%	44%	49%	54%	60%	27%
Govt. should collect info.	94%	98%	90%	95%	43%	92%	99%	92%	98%	88%	61%	84%	94%	90%	85%	91%	94%	41%
Govt. uses info responsibly	69%	69%	56%	59%	8%	65%	85%	45%	78%	65%	8%	54%	70%	60%	52%	56%	59%	27%
Trust local more than Federal *	46%	60%	46%	47%	38%	60%	70%	42%	39%	68%	27%	54%	52%	0%	50%	45%	54%	71%
Census more trustworthy	65%	53%	64%	55%	25%	54%	49%	62%	84%	32%	27%	50%	64%	87%	48%	52%	53%	37%
Privacy well protected	56%	64%	50%	51%	11%	57%	82%	38%	64%	56%	11%	48%	57%	54%	45%	53%	56%	22%
Govt. doesn't care about me *	38%	58%	31%	43%	18%	45%	78%	34%	36%	53%	10%	35%	41%	26%	40%	40%	47%	27%
Lost control over information *	30%	45%	32%	36%	21%	36%	61%	27%	26%	45%	8%	37%	35%	13%	34%	32%	40%	25%
Govt. knows too much *	37%	59%	40%	49%	24%	54%	77%	42%	34%	63%	11%	42%	42%	31%	44%	40%	59%	28%
Businesses have too much info.	65%	58%	59%	53%	69%	43%	43%	69%	62%	35%	80%	54%	63%	58%	51%	57%	58%	66%
Paperwork: Complete immediately	67%	63%	39%	69%	50%	91%	68%	52%	79%	89%	63%	51%	56%	78%	74%	67%	58%	59%
Paperwork: Completing feels good	86%	86%	83%	92%	65%	93%	91%	86%	97%	87%	73%	79%	86%	94%	85%	85%	87%	81%
Paperwork: Set aside time	66%	60%	50%	73%	37%	50%	62%	52%	87%	54%	49%	49%	64%	76%	51%	61%	62%	57%
Paperwork: Put on stack *	12%	6%	17%	2%	30%	100%	22%	13%	17%	60%	28%	19%	10%	0%	62%	3%	2%	7%
Paperwork: Miss deadlines *	50%	71%	33%	70%	69%	89%	68%	60%	55%	96%	73%	53%	41%	55%	78%	68%	68%	67%

	K-Means						LCA						Q-Factor					
Paperwork: Start and stop *	9%	87%	13%	100%	90%	91%	74%	67%	55%	99%	81%	48%	7%	93%	87%	81%	88%	81%
Paperwork: Wait to complete *	54%	69%	33%	69%	69%	89%	73%	57%	65%	94%	63%	49%	47%	73%	78%	63%	63%	60%
Paperwork: Prioritize	81%	89%	84%	90%	69%	72%	84%	79%	92%	79%	81%	80%	83%	93%	75%	86%	88%	82%
Census could benefit me	53%	52%	45%	52%	16%	47%	66%	53%	64%	38%	15%	33%	51%	61%	42%	45%	52%	19%
Census could harm me	8%	4%	7%	6%	14%	8%	2%	5%	5%	7%	15%	12%	7%	4%	9%	5%	5%	19%
Prefers to complete on internet	28%	46%	35%	32%	28%	31%	49%	38%	20%	31%	36%	32%	31%	17%	34%	33%	42%	11%
Hospitals and healthcare	56%	37%	12%	25%	18%	30%	28%	29%	30%	35%	21%	37%	34%	18%	24%	74%	14%	19%
Schools and the education system	53%	39%	62%	68%	38%	65%	52%	50%	59%	69%	37%	58%	60%	65%	62%	39%	51%	54%
Daycare for children	16%	1%	16%	17%	2%	13%	6%	7%	15%	14%	3%	17%	18%	13%	13%	6%	5%	13%
Mental health care	22%	4%	9%	14%	5%	15%	9%	10%	20%	13%	4%	11%	17%	18%	11%	12%	6%	13%
Care for the elderly	50%	11%	15%	43%	31%	35%	20%	28%	40%	35%	34%	32%	33%	51%	33%	37%	21%	47%
Job training programs	5%	6%	39%	32%	16%	22%	17%	17%	24%	24%	14%	22%	20%	29%	25%	0%	23%	27%
Fire and police stations	25%	50%	25%	25%	50%	28%	41%	44%	26%	25%	50%	21%	25%	23%	31%	39%	43%	26%
Political representation in Congress	11%	61%	18%	8%	43%	16%	43%	39%	12%	12%	46%	11%	13%	8%	18%	38%	43%	9%
Roads and highways	2%	29%	28%	5%	25%	11%	22%	18%	10%	9%	26%	11%	11%	1%	13%	6%	31%	6%
Public transportation	1%	24%	11%	3%	10%	4%	17%	10%	4%	6%	13%	7%	4%	0%	6%	9%	19%	7%

*Reverse-coded

APPENDIX C: PRE-NOTIFICATION LETTER—TELEPHONE



5/5/11

Dear Resident:

I am writing to ask for your help. The Census is a count of the population that is required by the United States Constitution. You may have heard about the recent Census. Now that it is over, ICF Macro, an independent public opinion research firm, is conducting a survey to learn people's opinions about the Census and finding the best ways to conduct the Census.

Your participation in this survey is voluntary, and we intend to protect your anonymity by not asking for your name, address, or other personal information that could easily identify you. Your answers to this survey will be combined in the reports of the results. You can validate that this survey is a legitimate Federally-approved information collection by asking the interviewer for the OMB control number.

The interviewer will ask one adult in your household to answer questions. The interview takes about 20 - 25 minutes. If the interviewer calls at a busy time, please let us know a better time to call back.

Each household in the nation had a chance of being chosen for this survey. Your phone number was selected at random by a computer. Even if you did not respond to the Census, your answers to this survey are very important.

We really appreciate the time you take to help us with this important evaluation effort. If you have any questions, please call our survey information line at 1-800-992-5186.

Sincerely,

A handwritten signature in black ink, appearing to read "James Dayton".

James Dayton
Senior Vice President
ICF Macro

APPENDIX D: NOTIFICATION LETTER—IN-PERSON



5/9/11

Dear Resident:

I am writing to ask for your help. The Census is a count of the population that is required by the United States Constitution. You may have heard about the recent Census. Now that it is over, ICF Macro, an independent public opinion research firm, is conducting a survey to learn people's opinions about the Census and finding the best ways to conduct the Census.

In the next few weeks, an interviewer will visit your home. Your participation in this survey is voluntary, and we intend to protect your anonymity by not asking for your name, address, or other personal information that could easily identify you. Your answers to this survey will be combined in the reports of the results. You can validate that this survey is a legitimate Federally-approved information collection by asking the interviewer for the OMB control number.

In appreciation of your time and effort, we will be offering a \$10 cash gift. This gift is yours to keep even if you are unable to complete the survey.

The interviewer will show identification and inform you that he or she is visiting on behalf of ICF Macro. The interviewer will ask one adult in your household to answer questions. The interview takes about 20 - 25 minutes. If the interviewer comes at a busy time, please let us know a better time to come back.

Each household in the nation had a chance of being chosen for this survey. Your address was selected at random by a computer. Even if you did not respond to the Census, your answers to this survey are very important.

We really appreciate the time you take to help us with this important evaluation effort. If you have any questions, please call our survey information line at 1-800-992-5186.

Sincerely,

A handwritten signature in black ink, appearing to read "James Dayton".

James Dayton
Senior Vice President
ICF Macro

APPENDIX E: TELEPHONE SCRIPT

APPENDIX F: IN-PERSON SURVEY SCRIPT

APPENDIX G: COGNITIVE INTERVIEWING SCRIPT

APPENDIX H: SORRY I MISSED YOU CARD

APPENDIX I: STRATUM 5, 6, 7 MARKETS

APPENDIX J: CALCULATING MINDSET PROBABILITIES

The steps for calculating mindset membership probabilities are detailed in the algorithm below. Using the maximum probability score to assign to a mindset will provide about 65% accuracy. This can be improved upon by using a k nearest neighbor discriminant analysis. This classifies a respondent into the same mindset as their k closest neighbors. The neighbors are the CBAMS II respondents. Based on a test data set with $k=3$ neighbors, the overall classification improved to 75% accuracy.

1. Calculate motivator scores

Survey Question	Issue List	Preference Score	Most Important (A)	Least Important (Not A or B)
MOT1	01 Daycare for children	ISSUE2	+1	-1
	02 Political representation in Congress	ISSUE7	+1	-1
	03 Schools and the education system	ISSUE10	+1	-1
MOT2	01 Care for the elderly	ISSUE1	+1	-1
	02 Daycare for children	ISSUE2	+1	-1
	03 Public transportation	ISSUE8	+1	-1
MOT3	01 Care for the elderly	ISSUE1	+1	-1
	02 Hospitals and healthcare	ISSUE4	+1	-1
	03 Job training programs	ISSUE5	+1	-1
MOT4	01 Hospitals and healthcare	ISSUE4	+1	-1
	02 Mental health care	ISSUE6	+1	-1
	03 Roads and highways	ISSUE9	+1	-1
MOT5	01 Care for the elderly	ISSUE1	+1	-1
	02 Political representation in Congress	ISSUE7	+1	-1
	03 Roads and highways	ISSUE9	+1	-1
MOT6	01 Fire and police stations	ISSUE3	+1	-1
	02 Hospitals and healthcare	ISSUE4	+1	-1
	03 Schools and the education system	ISSUE10	+1	-1
MOT7	01 Fire and police stations	ISSUE3	+1	-1
	02 Job training programs	ISSUE5	+1	-1
	03 Public transportation	ISSUE8	+1	-1
MOT8	01 Daycare for children	ISSUE2	+1	-1
	02 Fire and police stations	ISSUE3	+1	-1
	03 Roads and highways	ISSUE9	+1	-1
MOT9	01 Mental health care	ISSUE6	+1	-1
	02 Public transportation	ISSUE8	+1	-1
	03 Schools and the education system	ISSUE10	+1	-1
MOT10	01 Job training programs	ISSUE5	+1	-1
	02 Mental health care	ISSUE6	+1	-1
	03 Political representation in Congress	ISSUE7	+1	-1

2. Recode variables

Knowledge: C4gr, C4hr, C4jr, C4br

Questionnaire Response option	Recoded value
1 Yes	1
2 No	2
97 Don't Know	2
99 Refused	2

Beliefs: E1hr, E1ir, E1jr, BELIEF1

Questionnaire Response option	Recoded value
4 Strongly agree	5
3 Agree	4
2 Disagree	2
1 Strongly disagree	1
96 Neither agree nor disagree/No opinion	3

3. Calculate Recentering factors

Knowledge: $RCK = (AWARE + C4GR + C4BR + C4JR + C4HR) / 5$

Beliefs: $RCB = (E1IR + E1JR + E1HR + BELIEF1) / 4$

4. Recenter Variables

Knowledge	Beliefs
$RAWARE = AWARE - RCK$	$RE1hr = E1hr - RCB$
$RC4gr = C4gr - RCK$	$RE1ir = E1ir - RCB$
$RC4hr = C4hr - RCK$	$RE1jr = E1jr - RCB$
$RC4jr = C4jr - RCK$	$RBELIEF1 = BELIEF1 - RCB$
$RC4br = C4br - RCK$	

5. Dichotomize Variables

Step 1: Subtract Mean

$RAWARE - 0.34$
 $RC4gr - (-0.28)$
 $RC4hr - (-0.20)$
 $RC4jr - (-0.06)$
 $RC4br - 0.21$
 $RE1hr - 0.85$
 $RE1ir - 0.45$
 $RE1jr - (-0.94)$
 $RBELIEF1 - (-0.37)$
 $ISSUE1 - 4.44$

Step 2: Recode to 1,2

$SRAWARE$
 $SRC4gr$
 $SRC4hr$
 $SRC4jr$
 $SRC4br$
 $SRE1hr$
 $SRE1ir$
 $SRE1jr$
 $SRBELIEF1$
 $SISSUE1$

$$= \begin{cases} 1 & \text{if } \leq 0 \\ -1 & \text{if } > 0 \end{cases}$$

This page intentionally left blank.