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MEMORANDUM FOR The Distribution List

From: Burton Reist *[signed]*
Acting Chief, Decennial Management Division

Subject: 2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment

Attached is the revised final report, "*2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment*," for the 2010 Census Program for Evaluations and Experiments (CPEX). This revision accounts for an update to Appendix A.

If you have questions or comments about this report, please contact Joan Hill at (301) 763-4286 or Michael Bentley at (301) 763-4306.

Attachment

2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment

U.S. Census Bureau standards and quality process procedures were applied throughout the creation of this report.

FINAL REPORT

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Executive Summary

Study Overview

The 2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment (AQE) focused on improving the race and Hispanic origin questions by testing a number of different questionnaire design strategies. The primary research objectives were to design and test questionnaire strategies that would increase reporting in the U.S. Office of Management and Budget race and ethnic categories, lower item nonresponse, increase accuracy and reliability of the results, and elicit reporting of detailed race and ethnic groups.

The first component of the experiment was a Mailout/Mailback questionnaire that respondents received in lieu of the standard 2010 Census questionnaire. The second component of the experiment was a telephone reinterview of the mail respondents to assess the accuracy and the reliability of both the control and the alternative race and Hispanic origin questions. A third component was a series of focus groups, documented in a separate report (Rastogi et al. 2011; Carroll, et al. 2011), conducted to complement the quantitative analyses.

The 2010 Census AQE survey and reinterview is the largest quantitative effort ever to start off the decennial cycle for race and Hispanic origin research, and this important research is leading our efforts as U.S. Census Bureau looks toward the 2020 Census.

Panel Design

The AQE included a total of 17 different panels (i.e., questionnaires), with two control panels (XA and XB) and 15 experimental treatment panels across three research areas (i.e., families of panels).

The first research area (Example Modification panels X6 to X12) included several features: 1) testing the use of modified examples in the race and Hispanic origin questions; 2) testing the removal of the term "Negro" from the "Black, African Am., or Negro" checkbox response category; and 3) testing the use of a modified Hispanic origin question instruction that permits multiple responses.

The second research area (Combined Question panels X2 to X5) focused on several exploratory approaches to combining the race and Hispanic origin questions into one item. Note that panel X5 was designed as the alternative control in order to separate the effects of a combined race and Hispanic origin question from the effects of various layout changes tested in the other three panels in this research area.

The third research area (Spanner/Race Limitation panels X14 to X17) focused on: 1) ways to clarify that the detailed Asian checkbox groups and the detailed Native Hawaiian and Other Pacific Islander checkbox groups are part of two broader Office of Management and Budget race categories; and 2) ways to limit use of the term "race" in the race question. Additionally, two features from the first research area – testing removal of the term "Negro" and testing modified examples in the race question – were also tested in this research area.

The following table illustrates the high-level panel design.

Experimental Panels and Their Associated Treatments

	Control		Combined Questions				Separate Questions							Separate Questions			
							Example Modification							Spanner/Race Limitation			
Treatments	XA	XB	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X14	X15	X16	X17
2010 Census Mailback Questionnaire	x																
Without Overcount Question		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Includes examples for White, Black, and American Indian							x			x	x	x					
Modified Asian and Pacific Islander examples							x			x	x	x					
Modified Hispanic examples								x		x	x		x				
Deleting “Negro” from Black category								x		x	x		x				x
Alphabetize Asian examples									x				x	x			x
Allows multiple Hispanic responses									x	x		x	x				
Combined Race/Hispanic origin question			x	x	x	x											
Removes “race” from question stem																x	x
Removes “race” from Asian and Pacific Islander														x		x	x
Includes spanner for Asian and Pacific Islander														x	x		x

Sample Design

The complex sample design was developed to oversample race and ethnic groups of particular interest. Each census tract was assigned to one of four sampling strata: 1) Asian or Native Hawaiian and Other Pacific Islander; 2) Black or African American; 3) Hispanic or Latino; and 4) All other. The sample selection included a substantial oversampling of the first three strata, allowing for finer-scale analysis with these specific race and ethnic groups, and to ensure adequate sample sizes within each stratum. Almost 29,000 housing units were selected for the experiment in each panel, for a total mailout sample size of 488,604 housing units.

Mailing Strategy

The mailing strategy consisted of up to five separate mailings for each panel: 1) advance letter; 2) initial questionnaire package; 3) language assistance postcard providing the production Telephone Questionnaire Assistance number (only for housing units in some zip codes); 4) reminder postcard; and 5) a (targeted) replacement questionnaire for housing units whose response had not been received by a specified date. This strategy was the same as the 2010

Census production design except that all experimental housing units were automatically eligible for a targeted replacement mailing. In the production 2010 Census, housing units were placed into one of three strata for replacement mailings (targeted, blanket, or none) depending on the response propensity of their geographic area.

Reinterview

One in five of the experimental households that responded by mail were selected for the 2010 census AQE Reinterview, which was conducted by telephone in June and July 2010 (about three months after the 2010 Census mailout). The purpose of the reinterview questions was to ascertain the respondents' "true" self-identified race and ethnicity[1]. The reinterview was designed to probe more extensively than the AQE questionnaires by asking a series of questions about how people self-identify, as well as to collect more detailed information about their racial and ethnic background. The reinterview included questions about the census respondent and one other randomly selected person in the household. After data processing, the reinterview data were then name-matched to the mail response data using a computerized matching program, followed by a two-stage clerical review operation.

Results

The next sections provide high-level results for each of the analyses. These include: mail return rates, item nonresponse rates, race and Hispanic origin distributions, detailed race and origin reporting, treatment-level analyses, reinterview analysis, and focus group research findings.

Mail Return Rates

The overall mail return rates by panel ranged from a low of 78.2 percent to a high of 80.5 percent. The only significant difference for the overall mail return rates was between two similar panels in the Example Modification family, though investigators have no reason to have expected a difference in unit-level mail return rates and believe the result to be spurious.

Item Nonresponse Rates

The combined race and Hispanic origin question panels had considerably lower item nonresponse rates compared to the separate race and Hispanic origin questions. This was a major finding of the AQE research. Item nonresponse for the combined question panels was about 1 percent. On the other hand, item nonresponse for the separate Hispanic origin and race question panels were much higher, ranging from 4.1 percent to 5.4 percent and 3.5 percent to 5.7 percent, respectively. By combining the race and Hispanic origin questions into one item, people of Hispanic origin have less difficulty reporting their identity thus reducing item nonresponse. This finding was also echoed in the discussions of self-identification in the AQE focus groups (Rastogi, et al. 2011; Carroll, et al. 2011).

[1] The authors at times use the term "ethnicity" to refer to Hispanic origin and at other times use the term as a larger, umbrella term referring to write-ins from respondents, such as "Lebanese," "African," or "Fijian."

Panel X17, which removed "race" from the separate race question and includes the Asian and Native Hawaiian and Other Pacific Islander spanners, had significantly higher race nonresponse among Hispanics (32.8 percent) than all panels within the spanner and "race" term removal family. The instruction that "Hispanic origin is not a race" may have led Hispanic respondents to feel that they did not need to answer the race question and, further, the presence of the spanners may have made it more difficult to find their "race."

Race and Hispanic Origin Distributions

- The removal of the term "Negro" did not change the distribution of the Black population across the experimental questionnaires.

- For panels with a separate race question, the population reporting Some Other Race alone ranged from 5.6 percent to 7.1 percent, making it the third largest race group, after White alone and Black alone. However, when Hispanics have an option to choose Hispanic in a combined question format, the population reporting Some Other Race alone is reduced dramatically to about 0.2 percent across combined question panels. This was a major finding of the AQE research and is consistent with results from previous studies.

- The proportion of the population reporting White alone is lower for the combined question panels compared to the separate question panels (a drop of about 4 to 8 percentage points. Based on focus group research, this is a direct result of Hispanic respondents finding their identity in the combined questions.

- The population reporting Two or More Responses was significantly larger for three of the combined question panels compared to the separate question panels. Focus group research suggests that the combined question respondents may have been interpreting the question as asking for race *and* origin. It is possible that respondents were able to more clearly understand the opportunity to report more than one response in the combined format, thus increasing multiple-race reporting. Future research on this will help to illuminate the results.

- The non-Hispanic population reporting Two or More Responses is larger for the three combined question formats (3.5 percent to 3.6 percent) compared with the alternative control (X5) panel that more closely resembles the separate question approach (1.6 percent). Cognitive testing has shown that the Other Hispanic write-in boxes segment the question, making it difficult for some respondents to find the American Indian or Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Some Other Race checkbox categories, potentially reducing the number of responses that respondents mark on the questionnaire.

- The proportion of the Hispanic population to the total population was similar across all questionnaires, with no significant differences, ranging from 13.0 percent to 14.5 percent. Further, multiple Hispanic reporting (e.g., reporting "Mexican American" *and* "Salvadoran") is largely consistent across questionnaires despite the addition of the instruction to "Mark one or more" to the Hispanic origin question on some of the experimental treatments. The lack of impact from the inclusion of this instruction is also a major finding of the AQE research.

Detailed Race and Origin Reporting

Within both families of separate race and Hispanic origin question panels, there were no significant differences in the amount of detailed reporting for any of the race and origin groups when examples were added or modified.

The three experimental, combined-question panels (excluding the alternative combined control panel) provided respondents the opportunity to report specific ethnicities for each of the seven race and origin groups (including Some Other Race). Of all respondents who provided a response within the White response category, about 50 percent reported detail on the two streamlined panels (X2 and X3), and about 29 percent did so on the two-part combined question (X4). For all other questionnaires, only 1 percent to 2 percent of the White population reported a detailed origin. Similarly, of Black respondents, more than 76 percent reported detail on each of the experimental combined questionnaires. For all other questionnaires, only 3 percent to 6 percent of the Black population reported a detailed origin.

As expected, since combined question panels X3 and X4 only had checkboxes for the major groups (and not for each of the national origins[2], as on the other questionnaires) there were some differences in the detailed reporting for these panels. There were small, but significant, decreases in both detailed Asian and Hispanic origin reporting. Detailed Asian reporting is 97 percent or higher on all other panels, but just 94.5 percent and 92.6 percent in panels X3 and X4, respectively. Similarly, detailed Hispanic origin reporting is 92 percent or higher on all other panels, but was significantly lower on the combined panels. AQE focus group research has shown us that a respondent's literacy level and ability to read and understand English may affect how a respondent reports on questionnaires. More research on this pattern will be useful as we test new strategies of the questionnaire design.

Treatment-Level Analysis

Within the separate race and Hispanic origin question panels, there were a number of subtle changes made to the questionnaires including: different example groups, changing the order of examples, deleting "Negro" from the Black category, and allowing multiple Hispanic origin responses. Panels with a particular treatment were compared together against panels that did not have that treatment to determine if it was effective.

- There were no differences in White or Black checkbox only reporting when examples were added. This suggests that examples do not reorient groups who usually report within the Some Other Race write-in line with White and Black specific origins. Although the intention of these examples was to reduce the need for editing of some groups, these results showed this method was not successful.

[2] The authors use the term "national origins" primarily to refer to the national origin checkbox categories used on the control and other questionnaires. For example, "Mexican, Mexican Am., Chicano," "Puerto Rican," and "Cuban" are the national origin checkbox categories included in the Hispanic origin question and "Japanese," "Korean," and "Samoan" are some of the national origin checkbox categories used in the race question.

- Significant increase in overall American Indian or Alaska Native reporting, as well as increased reporting by Hispanic respondents, demonstrates that examples reorient many who identify with South and Central American Indian groups to report those identities. This follows the Office of Management and Budget conceptual definition of "American Indian and Alaska Native" as inclusive of all indigenous groups in the Americas.

- Reporting within Other Asian groups that were used as examples on the 2010 Census control panel was reduced when these examples were not used.

- There was no difference in overall Asian or Native Hawaiian and Pacific Islander reporting when examples were alphabetized.

- Modified Hispanic examples showed no effect on reporting of Hispanic origin example groups.

- Reporting of multiple Hispanic origins was not changed when respondents were given an instruction to "Mark one or more boxes."

- Panels without the term "Negro" had no reduction in respondents reporting "Black or African American." Additionally, removing the term showed a significant decrease in write-in responses of "Negro."

Reinterview Analysis

The purpose of the AQE reinterview questions was to ascertain the respondents' "true" self-identified racial and ethnic identities. We recognize that race and ethnicity are not quantifiable values. Rather, identity is a complex mix of one's family and social environment, historical or socio-political constructs, personal experience, context, and many other immeasurable factors.

Because this idea of "truth" is inherently difficult to define for self-identified race and Hispanic origin, we cannot expect to evaluate it with two questions (as done on the 2010 Census questionnaire). However, we were able to employ an extensive series of detailed questions and probes to aid in determining our "truth" measure for the reinterview. This was a tremendous addition to the AQE research, and yielded important results to help understand the data that were collected in the mail survey, as well as connections to the findings in the focus group research.

Reinterview measures were calculated for all responses within each group regardless of additional responses. While there were some statistically significant differences in the gross difference rates (used as a proxy for response variance) across the different panels and race groups, in general, responses between the 2010 Census mail returns and the reinterview "truth" were very consistent overall. In fact, all panels had at least 84 percent consistent race and origin reporting between the two measurements.

The combined race and Hispanic origin question family of panels tended to have significantly lower gross difference rates for White responses than the separate question panels. For instance,

three of the combined panels (excluding the alternative control panel) each had a gross difference rate for White of less than 4 percent, whereas the control panel had a gross difference rate of 6.6 percent. This means that respondents to the combined-question mail questionnaires were less likely to have a different response for the White category (i.e., White or not) in the reinterview. This is another major finding of the AQE research. There were no other significant differences within the combined question family.

Another portion of analysis from the reinterview was the evaluation of the net difference rates. The net difference rate measures the overall differences between the number reported within a specific group and the actual number of people within the group, as determined by the reinterview truth variable. Net difference rate shows tendency for populations to under- (negative values) or over-report (positive values) in the reinterview. Values close to 0 for a given race group suggest that a panel is an accurate measurement of the 2010 Census distribution. Indeed, the results indicate that the net difference rates for the combined race and Hispanic origin question panels were much closer to 0 than for the other panels. Each of the combined question panels had an absolute net difference rate for the White category of less than 1 percent, whereas the control panel had a net difference rate of -3.8 percent.

In summary, the main finding from the reinterview analysis is that the experimental combined race and Hispanic origin question panels had lower gross difference rates and net difference rates for the White response category. This appears to suggest that those combined question panels yielded better representations of the "true" identity for the White race group. The differences for other groups within the combined question family were within sampling error.

Thus, the AQE research demonstrates that a combined question on race and Hispanic origin has the overall impact of gaining success in both Hispanics and non-Hispanics alike finding a place to identify and report their race and/or origin. The validity of these responses was further confirmed through the AQE reinterview results, which showed that when asked a series of follow-up questions about respondent identification with any of the possible response categories, overall consistency between combined question responses and reinterview "truth" were much greater than separate question responses and reinterview "truth." The greater illustrator of this pattern was that "Hispanics" who reported they were "White" in the separate race question did not identify as "White" (only "Hispanic") in the reinterview; while "Hispanics" who identified as "White" and "Hispanic" in the combined question also confirmed this identity in the reinterview.

Focus Group Research

In addition to the mail out experiment and reinterview components of the 2010 Census AQE, a series of qualitative focus groups was commissioned to conduct research that would complement the quantitative AQE analyses. This research sought to engage a wide cross-section of the American public in a dialogue about self-identification and the reporting of race and ethnicity on census questionnaires. A total of 67 focus groups were conducted across the United States and in Puerto Rico with a sample of nearly 800 people.

The focus groups included a broad range of racial and ethnic communities within the Office of Management and Budget categories (White, Black, Hispanic, American Indian and Alaska

Native, Asian, Pacific Islander, and multiracial), including sessions with Middle Eastern and North African communities, Afro-Caribbean communities, and groups where ancestry is different from their place of birth (for example, Asian Indians in Trinidad). Participants in the focus groups varied in terms of age, sex, educational attainment, nativity, and ethnicity. The focus groups were also geographically diverse, with sessions conducted in 26 cities across the country from Boston to Miami, Los Angeles to Anchorage, Honolulu, and San Juan.

During the focus groups, respondents reported their race/ethnicity on questionnaires which were designed to examine different aspects of the race and ethnicity question format. Respondents were engaged in a dialogue about many different aspects of how they self-identified their race/ethnicity. Discussions included the reasons behind how they responded and why, different form terminology and instructions, how they perceived their racial/ethnic identity, when they first became aware of their racial/ethnic identity, and how/if this identity changed during their lives. All groups were asked to respond to different questionnaire design strategies, one with separate race and Hispanic origin questions, the other with a combined question on race and origin.

Overall, the focus group research provided great insights into racial and ethnic self-identification within various communities in the United States, understanding of common themes across these communities, and yielded important information about *how* and *why* different individuals report the way they do on alternative questionnaires (Rastogi et al. 2011; Carroll, et al. 2011).

The major findings from the AQE focus group research are detailed below.

- Across focus groups, participants commented that all race and ethnic groups were not treated equally. One concern consistently expressed was over the separate Hispanic origin question, which was seen as unfair and problematic. Some participants perceived this as potentially identifying Hispanics for discriminatory reasons while others felt that Hispanics were receiving special treatment.

- Participants also commented that on the separate question panels, Whites and Blacks were not provided a space to write in their specific ethnicity. Participants felt that all racial and ethnic groups should be treated fairly and equitably.

- Many Hispanics did not identify with the Office of Management and Budget race categories and felt the note stating that Hispanic origins were not races prevented them from self-identifying their race

- Many participants across focus groups felt that the inclusion of the examples of Egyptian and Lebanese with the White racial category was “wrong” or “inaccurate.” These comments were often connected to the recommendation that there be a separate racial category for those who would identify as Middle Eastern, North African, or Arab.

- Participants found the use of the term “Negro” in the Black or African American checkbox label to be offensive and outdated and recommended that the term be removed.

- For the combined question approach, participants were asked to report their "race or origin." The focus groups revealed that there was no consensus on the definitions of race and origin. Some participants felt these terms were the same while others felt that race was defined as skin color, ancestry, culture, etc. and origin was defined as where they or their parents were born. Participants recommended that these terms should be defined so respondents could better understand how to report.

Recommendations

Based on the results of the 2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment research, we recommend implementation of the following:

- **Further test combined race and Hispanic origin question refinements,** paying special attention to research in improving detailed Asian and detailed Hispanic reporting. This supports all four objectives by increasing reporting within standard Office of Management and Budget categories, decreasing item nonresponse, improving accuracy and reliability, and increasing detailed reporting for a number of groups. Some groups saw a decrease in detailed reporting, but the authors believe this can be remedied with additional design strategies that can be explored during the 2020 Census testing cycle.

- **Continue researching the optimal use of examples for each race and origin response categories.** There are mixed results that inclusion of examples aid in accuracy and detailed reporting for some groups, there was also evidence that this was decreased for other groups.

- If the Hispanic origin question is kept separate, **allow multiple responses to the Hispanic origin question by explicitly including the "mark one or more" instruction,** which would make it consistent with the race question. This supports the objective of improving accuracy and reliability by giving respondents the option to report their full self-identified origin.

- **Remove the term "Negro" from the "Black, African Am., or Negro" response category.** Though this study did not show that the term "Negro" negatively impacted any of the study objectives, there was also no benefit to retaining the term on the questionnaire. Due to the tremendous concern over this archaic term remaining on the questionnaire, there is no reason to continue to use it.

- **Do not include spanners for Asian and Native Hawaiian and Other Pacific Islander checkboxes.** This modification had a negative impact on the objective to improve item nonresponse.

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1. Introduction

The Census Bureau is committed to improving the accuracy and reliability of census results by expanding our understanding of how people self-identify their race and Hispanic origin. This commitment is reflected in numerous past Census Bureau studies that have been conducted on race and Hispanic origin reporting (Staff of the Special Population Statistics Population Division 1996, Sheppard et al. 2004, Alberti 2006, Fernández et al. 2009, and Childs et al. 2009).

In Census 2000, the Alternative Questionnaire Experiment (AQE) studied the census questionnaire effects on reporting of race and Hispanic origin, but did not include the testing of a combined question. The focus of that research experiment was to replicate a 1990-style short-form during Census 2000 and compare the results to data from Census 2000 short-form questionnaires in order to evaluate how the questionnaire changes affected reporting of race and Hispanic origin. The questionnaire changes introduced in Census 2000[3] included allowing the reporting of more than one race and reversing the sequence of the race and Hispanic origin items, as well as other changes in format, categories, and wording.

More recently the 2003 and 2005 National Census Tests looked into the use of examples and other instructions or wording changes to the separate race and Hispanic origin questions. The primary objectives of those tests were to improve the accuracy of race reporting and improve the reporting of detailed Hispanic origins within the Hispanic origin question. Again, the focus was on research within two separate questions, one on race, and the other on Hispanic origin.

The 2010 Census AQE continued this tradition of empirical research on ways to better understand and improve the reporting of race and Hispanic origin. The AQE focused on improving the race and Hispanic origin questions by testing a number of different questionnaire design strategies. The primary research objectives of the AQE were to design and test questionnaire strategies to increase reporting in the Office of Management and Budget (OMB) race and ethnic categories[4], elicit reporting of detailed race and ethnic groups, lower item nonresponse, and increase accuracy and reliability of the results (Humes 2009).

The ambitious efforts of the AQE represent the Census Bureau's commitment to improving the accuracy and reliability of census results by expanding our understanding of how people self-identify their race and Hispanic origin. In fact, the 2010 Census AQE and reinterview is the largest quantitative effort ever to start off the decennial cycle for race and Hispanic origin research. This critical research, coupled with important qualitative findings from the 2010

[3] Changes introduced in the 2010 Census included an addition of examples to "Other Hispanic, Latino, or Spanish," "Other Asian," and "Other Pacific Islander." Additionally, an instruction was added that Hispanic origins were not races and an instruction was removed that told respondents to indicate what the person considered himself or herself to be.

[4] U.S. federal government agencies must adhere to the 1997 Standards for the Classification of Federal Data on Race and Ethnicity issued by the U.S. Office of Management and Budget. The standards are available online at <www.whitehouse.gov/omb/fedreg/1997standards.html>.

Census AQE Focus Group research, is leading our efforts as we look toward the 2020 Census and the future design and collection of data on race and ethnicity[5] in the United States.

The first component of the AQE was a national survey involving Mailout/Mailback questionnaires, also referred to as panels. The AQE paper questionnaire treatments were divided amongst three families (i.e., sets of panels with similar research objectives and goals): a set that examined race and Hispanic origin Example Modifications, a set that evaluated four combined race and Hispanic origin questions, and a set that examined the spanner format and the limiting of the term "race" (see Table 1 in Section 3.1).

- The first family of research (research question B1 - Example Modifications) included several features:
    1) Testing the use of modified examples in the race and Hispanic origin questions;
    2) Testing the removal of the term "Negro" from the "Black, African Am., or Negro" checkbox response category; and
    3) Testing the use of a modified Hispanic origin question instruction that permitted multiple responses.

- The second research family (research question B2 - Combined Question) focused on several exploratory approaches to combining the separate race and Hispanic origin questions into one item. This research area also examined the addition of write-in lines for White and Black ethnic groups.

- The third research family (research question B4 - Spanner/Race Limitation) explored
    1) Ways to clarify that the detailed "Asian" and "Native Hawaiian and Other Pacific Islander" (NHPI) checkbox categories are part of the two broader OMB race groups and
    2) Ways to limit the use of the term "race" in the race question.

The features within these three research families are the treatments which made up the 17 panels within the 2010 Census Race and Hispanic Origin AQE.

The second component of the AQE was a telephone reinterview study. This research was used to assess the accuracy and the reliability of both the control and the alternative race and Hispanic origin treatments by exploring responses to a number of probing questions with a sample of AQE mail respondents.

The third component of the AQE was a series of qualitative focus groups that were conducted to complement the quantitative analyses. The focus groups sought to identify the source of response issues that emerged from the AQE survey, as well as to identify trends in race and Hispanic origin reporting, to give a better understanding of response patterns.

[5] The authors at times use the term "ethnicity" to refer to Hispanic origin and at other times use the term as a larger, umbrella term referring to write-ins from respondents, such as "Lebanese," "African," or "Fijian."

The results from the questionnaire treatments, the reinterview, and the focus groups need to be assessed in combination to determine the most successful strategies with which to move forward within the 2020 Census research program.

1.1 Purpose of Study

The main focus of the 2010 Census AQE was researching ways to improve the completeness and accuracy of race and Hispanic origin data. This experiment contained a total of 17 panels, 15 experimental treatment panels and two control panels, devoted to race and Hispanic origin research. An interdivisional team of representatives from the Population Division (POP), Decennial Management Division (DMD), Statistical Research Division (SRD), and Decennial Statistical Studies Division (DSSD) was formed to collaborate on this research.

The AQE was implemented primarily to test variations in the design of a census mail questionnaire in a decennial census environment. Testing in a decennial environment was crucial to obtaining a representative sample of population groups of interest such as Asian, Black or African American, and Hispanic. Previous studies conducted in the mid-decade testing cycle revealed that response rates are lower for these populations than during the decennial census. Therefore this experiment took advantage of higher response rates due to "census effect" from increased publicity during the 2010 Census.

The primary research objectives of the AQE are:

1. To design and test **different questionnaire design strategies** that will **increase reporting** in the standard race and ethnic categories established by OMB;

2. To **lower item nonresponse** to reduce the number of missing race and Hispanic origin responses;

3. To **improve the accuracy, completeness, and reliability** of the race and Hispanic origin questions and responses; and

4. To elicit the reporting of **detailed race and ethnic groups**, such as detailed Hispanic groups, detailed Asian groups, detailed Pacific Islander groups, and specific American Indian and Alaska Native tribes.[6]

1.2 Research Questions

1.2.1 B1 Research Questions (Example Modifications)

The race and Hispanic origin Example Modification family (described in Section 2.1) addressed the following research questions:

[6] The OMB standards permit the collection of more detailed information on race and ethnic groups to meet the needs of data users, provided the additional detail can be aggregated into the minimum OMB categories.

- Do the modified race and Hispanic origin examples reduce item nonresponse?

- Do the modified race and Hispanic origin examples increase specific reporting?

- Do the modified race examples reduce the reporting of detailed White, Black, and indigenous Central and South American Indian tribes on the "Some Other Race" write-in line?

- Does allowing for multiple responses to the Hispanic origin question elicit a greater proportion of multiple or mixed origins?

- Does removal of the term "Negro" affect reporting within the "Black, African Am., or Negro" category?

- Do the modifications made in this family interact in any way?

1.2.2 B2 Research Questions (Combined Question)

The Combined Question family (described in Section 2.2) evaluated the following research questions:

- Do any of the combined race and Hispanic origin questions increase reporting of OMB ethnic and racial groups and/or decrease "Some Other Race" reporting?

- Does any combined race and Hispanic origin question reduce item nonresponse?

- Do the combined race and Hispanic origin questions elicit more detailed reporting for all groups?

- Do White respondents and Black respondents provide more detailed information on their race or ethnicity when presented with a dedicated write-in response line and example groups?

1.2.3 B4 Research Questions (Spanner/Race Limitation)

The Spanner/Race Limitation family (described in Section 2.3) addressed the following research questions[7]:

- Do the "Asian" and "Native Hawaiian and Other Pacific Islander" spanners decrease item nonresponse?

[7] The spanner format and removal of "race" term (SRL) family also contained modifications from the Example Modification family. These panels were used to help answer the B1 research questions.

- Do the "Asian" and "Native Hawaiian and Other Pacific Islander" spanners increase specific race or origin reporting for respondents within these categories?

- Does limiting the term "race" impact response rates?

- Do the modifications made in this family interact in any way?

2. Background

The next three sections provide background information on the purpose and rationale of the specific treatment panels developed by DSSD and POP for the design of the AQE study. The discussion of the Example Modifications family is organized by treatment, as this is how the panels were designed. In contrast, the Combined Question and Spanner/Race Limitation families were analyzed on a per-panel basis, therefore the discussion is organized by panel. How these treatments were applied to each panel can be seen in Table 1 (also see Section 3.1). A more in depth description of the treatment panels is available in "2010 Census Alternative Questionnaire Experiment: Race and Hispanic Origin Treatments" by Karen Humes (2009). Images of experimental panels' race and Hispanic origin questions are found in Appendix C.

2.1 Example Modifications Family of Panels (B1)

The B1 Example Modification family was designed to evaluate several different modifications to the race and Hispanic origin questions. One goal of the AQE was to clarify response categories through the use of examples. Rates of reclassification of write-in responses in previous censuses showed that segments of the population have difficulty identifying within OMB race categories. Therefore, this family tested the use of examples for race categories that currently do not have examples ("White," "Black or African American," and "American Indian or Alaska Native") in the American Community Survey and the 2010 Census. The assumption was that the addition of examples for these categories would help clarify where on the questionnaire respondents should report according to OMB standards (Humes 2009). This family also tested modifications of examples for the "Other Hispanic," "Other Asian," and "Other Pacific Islander" categories. Additionally, removing the term "Negro" from the "Black, African Am., or Negro" category and modified Hispanic origin instructions were tested.

This family of treatments was developed as a full factorial design to test for any interaction that might have been present when combining individual treatments. Each treatment was applied exclusively to one panel and in all combinations with other treatments on additional panels. For all tables in this paper, the AQE questionnaires that evaluate this area of research are highlighted in dark blue (Panels X6 to X8) for individual modifications, and highlighted in light blue when modifications are tested together on one questionnaire (Panels X9 to X12).

2.1.1 Modified race examples treatment (B1b) [8]

One goal of the B1 Example Modification family was to evaluate whether the addition of examples for "White" and "Black, African Am., and Negro" help clarify these response categories, thereby increasing reporting in OMB categories and reducing misreporting in the "Some Other Race" category (Humes 2009). OMB defines "White" as a person having origins in any of the original peoples of Europe, the Middle East, or North Africa (OMB 1997). Evidence from Census 2000 suggested that the inclusion of Middle Eastern and North African groups in the "White" category may not be obvious to many respondents, resulting in increased reporting in the "Some Other Race" category (Humes 2009). Therefore, the B1 Example Modification family tested the strategy of adding the examples of "German, Irish, Lebanese, Egyptian" to "White" to elucidate the response category.[9]

Examples were also added to the "Black, African Am., and Negro" category, which OMB defines as a person having origins in any of the Black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American" (OMB 1997). There is a segment of the Afro-Caribbean and African population who do not identify with the term "African American," and therefore may not report in the "Black, African Am., or Negro" category. Evidence from Census 2000 suggested that Black ethnic groups such as Haitian and Kenyan responded in the "Some Other Race" write-in line (Humes 2009). Therefore, the examples of "African American, Haitian, and Nigerian" were evaluated to see if these examples would help orient those of Afro-Caribbean and African heritage to the "Black, African Am., or Negro" response category.

Similarly, this treatment panel included the use of examples for the "American Indian and Alaska Native" (AIAN) category. The purpose of adding examples for the AIAN category was two-fold. First, the examples "Navajo, Mayan, and Tlingit" were added to help elicit detailed responses in the AIAN write-in line. Another important purpose of adding AIAN examples was to clarify this response category for indigenous groups from Central and South America. The OMB defines "American Indian and Alaska Native" as a person having origins in any of the original peoples of North and South America (including Central America), and who maintain tribal affiliation or community attachment (OMB 1997). Census 2000 results suggested it may not be clear to respondents that the AIAN category encompasses indigenous Central and South American groups. Therefore, the example "Mayan" was added to help orient Central and South American indigenous groups to the AIAN category (Humes 2009).

The use of modified examples for the "Other Asian" and "Other Pacific Islander" categories was also tested in this treatment panel. The modified examples for the "Other Asian" category were "Cambodian, Pakistani, and Mongolian." These groups represent the three geographic areas defined in the OMB definition of Asian; the Far East, Southeast Asia, and the Indian

[8] B1a research treatment was removed after the initial development phase however the question numbers were kept to maintain consistency.

[9] A consistent approach was applied to the selection of examples for each race and ethnic category. The largest population groups in the U.S. that represented the geographic regions used in the OMB standards' definitions were selected. For more information on the selection of example groups, please see Humes 2009.

subcontinent and are the largest groups from these geographic areas residing in the United States. The modified examples for the "Other Pacific Islander" category are "Tongan, Fijian, and Marshallese" (see Figure C3). The addition of "Marshallese" brought balance to the list of examples by representing all three cultural groups, which represent the OMB definition of Pacific Islander – Polynesian (Tongan), Melanesian (Fijian), and Micronesian (Marshallese) (Humes 2009).

2.1.2 Modified Hispanic origin examples and removal of the term "Negro" treatment (B1c)

The B1c treatment panel tested the removal of the term "Negro" from the "Black, African Am., or Negro" category. Cognitive testing (Fernández et al. 2009) and feedback from American Community Survey respondents (Humes 2009) suggested that the term "Negro" often elicits a negative reaction from respondents. However, Census 2000 data revealed that the term is still relevant to some respondents, as evidenced by write-in responses of the term "Negro" on the Census 2000 questionnaire. Although the removal of the term "Negro" was found to increase response in the "Other" category by those who identify with this term in the 1985 Special Survey (McKenny et al. 1988), it was thought that the portion of the population to whom this term is relevant today continues to decline and there should not be an impact of removing the term (Humes 2009). Given these differences, we evaluated whether the removal of the term would affect response rates for the "Black, African Am., or Negro" category on the B1c treatment panel.

The B1c treatment panel also used modified examples for the "Yes, another Hispanic, Latino, or Spanish origin" category. The examples on the 2010 Census questionnaire for this category were "Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, and Spaniard." Using the same selection criteria as was used for the examples for the race categories (i.e., geographic area defined by OMB and population size within the United States) we evaluated the following modified examples for Hispanic origin: "Dominican, Salvadoran, Colombian, and Spaniard" (see Figure C4) (Humes 2009). This shorter list was hoped to reduce the number of respondents who believe the example list to be exhaustive (Childs et al. 2010, Fernandez et al. 2009).

2.1.3 Multiple Hispanic origin responses treatment (B1d)

A primary objective of the B1 Example Modification family was to evaluate whether adding an instruction to the Hispanic origin question indicating that respondents could "mark one or more boxes" would elicit multiple and mixed responses. In the absence of clear instructions in the current Hispanic origin question, two primary patterns of multiple origin reporting emerged from the review of recent census and survey data. First, some respondents provided "mixed" origins (e.g., reporting both "not Hispanic" and "Puerto Rican"). In many cases this was thought to represent those who wanted to report that one parent was of Hispanic origin and the other was not. Second, some respondents provided "multiple" origins (e.g., reporting both "Mexican American" and "Salvadoran") to reflect their diverse background (Ramirez 2005). The experimental instruction allowed evaluation of whether a significant proportion of the population would report multiple and/or mixed origins in the presence of the instruction (Humes 2009).

Testing a Hispanic origin question that accepts multiple responses in the 2010 Census AQE was our first opportunity to follow up on a research recommendation made in the 1997 OMB standards. It was expected that the tabulation of data from a Hispanic origin question that permits multiple responses would be similar to the tabulation of data from the current race question. Thus, general categories such as "Not Hispanic or Latino origin," "Hispanic or Latino origin," and "Mixed origins" could be used. Similarly, reporting patterns within the broader "Hispanic or Latino origin" category could be examined by tabulating the reporting of multiple Hispanic groups, creating categories such as "Puerto Rican alone" and "Puerto Rican alone or in combination" (Humes 2009).

We were also testing the alphabetization of the "Other Asian" and "Other Pacific Islander" categories. On the 2010 Census questionnaire, the examples for "Other Asian" were "Hmong, Laotian, Thai, Pakistani, and Cambodian." The examples for "Other Pacific Islander" were "Tongan and Fijian." The B1 Example Modification family evaluated whether alphabetizing the examples had an impact on reporting for these detailed groups (see Figure C5).

2.1.4 Race and Hispanic origin Example Modification interaction panels

The B1 Example Modification family of panels used a full factorial design such that four panels explored the interaction between combinations of the different treatments (see Figures C6 – C9). The use of interaction panels allowed us to determine whether the main effects of the treatments held in the presence of other experimental treatments. In addition, we could determine which combinations of treatments provide the least item nonresponse and the greatest specific race or origin reporting.

All treatments were implemented as a full factorial design with one exception, the alphabetized "Other Asian" examples modification. We could not include the alphabetized "Other Asian" example set on either the full interaction panel (see Figure C6) or on the panel combining modified race examples with the instruction for multiple Hispanic origin reporting (see Figure C8). It was not possible to incorporate both the standard 2010 Census examples in an alphabetized form and including the modified example set in the full factorial design. We chose to fully test the list of modified examples within the B1 Example Modification family and test the alphabetized list of examples on select panels within the B1 Example Modification and B4 Spanner/Race Limitation families (see Section 2.3).

2.2 Combined Question Family of Panels (B2)

Some respondents do not recognize the Federal government's separate concepts of race and ethnicity. Instead, they see race and ethnicity as a singular concept and report the same responses for both race and ethnicity (de la Puente 1995). For example, a Mexican respondent may not identify with any OMB race category and choose to write "Mexican" into one of the write-in lines. Because Hispanics may be of any race (as defined by OMB), Hispanic origin responses are not classified into one of the five OMB race categories. This results in a large portion of the Hispanic population being classified as "Some Other Race" alone. This was evidenced in Census 2000 and most recently in the 2010 Census, where 42 percent and 37 percent of Hispanic origin respondents, respectively, provided responses that were classified in

this category. This category is not an OMB defined race category and was created to be a small residual category. Concern with the growing number of respondents not identifying under the current OMB guidelines led to this exploration of an alternative means of collecting race with Hispanic origin (Humes 2009).

The experimental combined race and Hispanic origin questions all ask "What is this person's race or origin?" It was hypothesized that a combined question would result in lower item nonresponse, maintain or improve reporting of detailed information by Hispanic and non-Hispanic respondents, and significantly reduce "Some Other Race" reporting. Census 2000 data show that "Some Other Race" was the third largest classification, when the intent was to use this as a residual category. With the projected continued growth of the Hispanic population, it is possible that "Some Other Race" will become the second largest category in the future (Humes 2009).

The purpose of the Combined Question family of panels was to test variations of a combined race and Hispanic origin question. The experimental panels within the second area of research are highlighted in green on the tables in this paper (Panels X2 to X5). Three experimental panels were developed to test different combined question layout techniques. The fourth panel is an alternative control meant to provide a better baseline than any separate format question could provide.

2.2.1 "Detailed" race and Hispanic origin combined question panel (B2a)

The "detailed" race and Hispanic origin combined question panel combined the two separate questions, has write-in lines for each OMB category and "Some other race or origin," and retains all of the original checkbox groups from the 2010 Census questionnaire (see Figure C10). This version brings equity to all OMB race/ethnic groups by providing write-in lines for each major response category, an issue for which many groups lobbied the Census Bureau and Congress prior to the 2010 Census. The same examples discussed earlier for "White," "Black," and "American Indian or Alaska Native" were included in this panel. A simple instruction was used to denote that respondents may "mark one or more boxes" and should write in a specific race or origin. The terms "race" and "origin" were used to represent both OMB concepts. As such, the category "Some Other Race" was modified to read "Some other race or origin," which was appropriate for a combined approach. Additionally, "Another Hispanic, Latino or Spanish origin" was modified to be on par with the categories "Other Asian" and "Other Pacific Islander" (Humes 2009).

2.2.2 "Streamlined" race and Hispanic origin combined question panel (B2b)

The "streamlined" combined race and Hispanic origin question panel also gave equity to all OMB race/ethnic groups by providing write-in lines for each major response category. This approach removed all national origin[10] checkboxes (e.g., "Japanese," "Puerto Rican," "Samoan"), which simplified and streamlined the combined question (see Figure C11). All of the groups that are national origin checkboxes on the 2010 Census questionnaire were added as examples (Humes 2009). The expectation was that this would offset any decrease in the reporting of these detailed groups. A simple instruction was used that instructed respondents to "mark one or more boxes" and to write in a specific race or origin. The use of "race" and "origin" was implemented to ensure representation of both OMB concepts. As such, the race category "Some Other Race" was modified to read "Some other race or origin," which was appropriate for this combined approach.

2.2.3 "Very streamlined" race and Hispanic origin combined question panel (B2c)

The "very streamlined" combined race and Hispanic origin question panel included only check boxes for the OMB categories and the category "Some other race or origin." This approach removed all national origin check boxes, which simplified and streamlined the question (see Figure C12). A two-part approach was used: Question 8 used checkboxes to collect information on the respondent's OMB group(s) and/or "Some other race or origin," and Question 9 used write-in lines to collect information on the individual's detailed race or ethnic groups. This panel brought equity to all OMB race/ethnic groups by providing one shared area for all detailed race and ethnic responses. A question to elicit specific race(s) or origin(s) for all race respondents was not a new idea. This format is reminiscent of the ancestry question on the Census 2000 long-form questionnaire and on the American Community Survey questionnaire (Humes 2009).

It is important to point out that this panel intentionally did not include examples next to the categories in order to avoid associating the categories with specific countries. We recognize international migration is diversifying many countries in the world. Therefore, to list examples that make assumptions about a person's race or ethnicity based on national origin can sometimes be presumptuous. For instance, there are people who would self-identify their origin as Europe – but are not "White" (e.g., "Africans" living in England). Similarly, there are those who would say their origin is in the Pacific Islands – but is not Pacific Islander (e.g., "Chinese" living in the Marshall Islands). Instead, a list of examples was added to Question 9. The examples were selected to represent each major OMB race or ethnic category by choosing the largest and smallest group within each category. The groups were also listed alphabetically, which was a way to equitably present the groups (Humes 2009).

Like panels B2a and B2b, the race category "Some Other Race" was modified to read "Some other race or origin." While this approach is initially reminiscent of the three-question approach

[10] The authors use the term "national origins" primarily to refer to the national origin checkbox categories used on the control and other questionnaires. For example, "Mexican, Mexican Am., Chicano," "Puerto Rican," and "Cuban" are the national origin checkbox categories included in the Hispanic origin question and "Japanese," "Korean," and "Samoan" are some of the national origin checkbox categories used in the race question.

tested in the 2005 National Census Test, there are several important differences and improvements. For one, it was expected that this approach would not confuse respondents by seemingly asking for the same information three times (i.e., a person reporting "Mexican" for the Hispanic origin question, the race question, and the ancestry question (Humes 2009)). Further, this approach did not use the term "ancestry" to capture detailed race and ethnic groups, since previous studies have determined that respondents do not differentiate between the three concepts (race, origin, and ancestry) (de la Puente and McKay 1995).

Additionally, a special note was added above the question stem, which directs respondents to complete both Questions 8 and 9. It was expected that this visual cue would connect the marking of a major race/ethnic checkbox with the request for critical detailed information. This panel also instructed respondents that they could "mark one or more boxes" (Question 8) and asked respondents to write in specific race(s), origin(s), or tribe(s) (Question 9) (Humes 2009).

2.2.4 Alternative control race and Hispanic origin combined question panel (B2d)

The B2a, B2b, and B2c experimental panels represented a substantial departure from the 2010 Census questionnaire, which served as the control panel. Given the large conceptual difference, an additional panel was added to serve as a "bridge" between the control and the combined question approach (see Figure C13). This alternative control was used to reduce confounding effects when analyzing results. This panel was used to separate the effects of a combined question from the effects of the various layout changes in the other three combined panels.

The alternative control panel combined the 2010 Census questions of Hispanic origin and race while maintaining all checkboxes and write-in lines for race and Hispanic origin. Again, the race category "Some Other Race" was modified to read "Some other race or origin." Additionally, "Other Hispanic" was used to be on par with the race categories "Other Asian" and "Other Pacific Islander." The design of this question combined race and Hispanic origin into one item removing the separation between the two items and retaining most features exactly the same as the 2010 Census control panel (Humes 2009).

2.3 Spanner/Race Limitation Family of Panels (B4)

The final four experimental panels were designed to test a spanner format and the removal of the term "race" from parts of the race question. This family contained modifications that were grouped into treatments. The panels for the third area of research are highlighted in purple on the tables in this paper (Panels X14 to X17).

2.3.1 Removal of the term "race" from the question stem

The use of the term "race" could cause confusion for respondents in the presence of national origin checkboxes for both the "Asian" and NHPI OMB categories, a request for tribal affiliation in the AIAN category or other specific origin details within the "Some Other Race" category. Additionally, cognitive testing has shown that respondents still understand the intention of the question without the term "race" (Fernandez et al. 2009). Limiting use of the term "race" within the race question could elucidate the desire for more detailed origin information from respondents with complex backgrounds (Compton et al. 2010). The first treatment removed the term "race" from the instruction for the race question.

2.3.2 Removal of the term "race" from write-in instructions

The second treatment removed the term "race" from the write-in instructions to print "Other Asian" and "Other Pacific Islander" groups. This treatment continues the intention of the first treatment by more comprehensively limiting the term "race." Because these write-in lines were meant to elicit specific or national origin reporting, this terminology may be misleading (Compton et al. 2010). The only use of the term "race" on the questionnaire when both treatments are implemented was in the category "Some Other Race" which is required by OMB standards.

2.3.3 "Asian" and "Native Hawaiian and Other Pacific Islander" spanners

The third treatment tested the use of a "spanner" over each set of national origin groups ("Asian" and "Native Hawaiian and Other Pacific Islander") stating the official OMB race categories (Humes 2009). Additional rationale to include spanners came from cognitive testing which showed that many respondents scan for more general terms before looking in the immediate area for their specific checkbox (Fernández et al. 2009), making the spanner a useful tool.

2.3.4 Treatment combinations and Example Modification family

The motivation behind testing both the "spanner" and the removal of the term "race" in the question stem and other parts of the question was based on the notion that origin groups are not technically "race" groups. The spanner format and limiting of the term "race" family of panels tested four combinations of these treatments and included two modifications from the B1 Example Modification family of panels. The inclusion of alphabetized "Asian" examples on two panels increased sample size for a modification that otherwise is underrepresented within its family. One Spanner/Race Limitation panel also removed the term "Negro."

The first panel (B4a) combined the last two treatments by removing "race" from the write-in instructions and included a "spanner" (see Figure C14). This panel also included alphabetization of the Asian examples. The second panel (B4b) was a clean test of the "spanner" for "Asian" and "Native Hawaiian and Other Pacific Islander" checkbox response categories as a means to clarify races and national origins (see Figure C15). This panel did not include any other experimental modifications so the effect of the spanner was clearly separated from other treatment effects. The third panel (B4c) was a clean test of limiting of the term "race" from the

race question. This panel removed the term "race" from the question stem and the write-in instructions for "Other Asian" and "Other Pacific Islander" (see Figure C16). The fourth panel (B4d) combined all the treatments by removing "race" from both the question and write-in instructions, including the "spanner," and alphabetizing the Asian examples (see Figure C17). This panel also removed the term "Negro" from the "Black, African Am., or Negro" race category.

3. Methodology

The race and Hispanic origin component of the 2010 Census AQE was by far the most methodologically complex experiment performed in the 2010 Census. Each of the three families of panels dealt with different challenges in the existing questions on race and Hispanic origin.

This section provides details on the methodology of the panel design (Section 3.1), the sample design (Section 3.2), and the mailing strategy (Section 3.3) for the 17 experimental panels. Next, we provide a summary of the AQE reinterview data collection (Section 3.4) and the race and Hispanic origin editing procedures (Section 3.5). Finally, data analysis (Section 3.6) and variance estimation (Section 3.7) are discussed along with the criteria for evaluating the performance of the experimental panels (Section 3.8).

Because of the breadth and depth of the changes being tested, it was discussed and expected in advance that no single recommendation could be made about a single "best" panel. Instead, the research sought to develop important insights about the success of different research strategies for improving race and ethnic reporting, and the analysis attempted to determine which treatments or strategies were successful and should be further explored in tests during the decade leading up to the 2020 Census.

3.1 Panel Design

Table 1 presents the experimental treatments and the panels in which they were tested. This table illustrates how the panels differed, as well as where various treatments were combined. Treatments are grouped by their associated families. Images of each panel can be seen in Appendix C, Figures C1 through C17.

Table 1. Experimental Panels and Their Associated Treatments

		Control						Alternatives										
				Combined				Example Modification							Spanner/limit "race"			
	Treatments	XA	XB	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X14	X15	X16	X17
	Standard 2010 Census Questionnaire	x																
	Without Overcount Question		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
B1b	Includes examples for White, Black, and American Indian							x			x	x	x					
B1b	Modified Asian and Pacific Islander examples							x			x	x	x					
B1c	Modified Hispanic examples								x		x	x		x				
B1c	Deleting "Negro" from Black category								x		x	x		x				x
B1d	Alphabetize Asian examples									x				x	x			x
B1d	Allows multiple Hispanic responses									x	x		x	x				
B2	Combined Race/Hispanic origin question			x	x	x	x											
B4	Removes "race" from question stem																x	x
B4	Removes "race" from Asian and Pacific Islander														x		x	x
B4	Includes spanner for Asian and Pacific Islander														x	x		x

NOTE: Panel X1 (Census 2000 questionnaire replication panel) and panel X13 (coverage overcount panel) do not test race or Hispanic origin reporting and are therefore not included in this table.

In the remainder of section 3.1 we describe each of the specific changes that were made to each questionnaire.

3.1.1 Control Panels

XA and **XB**: The control panel was split as two questionnaires. The first (XA) included an overcount question and mimicked the 2010 Census Mailout/Mailback questionnaire (Figure C1). The second (XB) removed the overcount question to be more comparable to the experimental panels, which could not include the overcount question due to space constraints on the questionnaire (Figure C2). This was done to serve as a bridge between the 2010 Census Mailout/Mailback questionnaire and the race and Hispanic origin panels that also excluded the overcount question. The overcount question indicated that a person in that household could have been counted more than once in the census. Depending on the response to the overcount question, a household could be flagged for the Coverage Followup (CFU) operation. We did not

expect the exclusion of the overcount question on panel XB to impact responses to race and Hispanic origin. The panel was included as a safeguard and to confirm this expectation.

As stated above, the households in the first control panel received a questionnaire that mimicked the 2010 Census Mailout/Mailback questionnaire. The primary motivation for designating a separate control panel (rather than using responses from all housing units in the Mailout/Mailback universe receiving the 2010 Census questionnaire) stemmed from the differences between the targeted AQE replacement questionnaire mailing strategy and the stratified mailing strategy employed for the 2010 Census (see Section 3.3 for more details).

3.1.2 Race and Hispanic origin Example Modification family of panels (B1)

X6 (Figure C3): This panel introduced "German, Irish, Lebanese, Egyptian" examples for White; "African American, Haitian, Nigerian" examples for Black or African American; and "Navajo, Mayan, Tlingit" examples for AIAN. "Hmong, Laotian, Thai" were dropped from the "Other Asian" examples while "Mongolian" was added. Lastly, "Marshallese" was added to the "Other Pacific Islander" examples (B1b).

X7 (Figure C4): This panel removed the term "Negro" from the "Black, African Am., or Negro" race category as well as "Argentinean" and "Nicaraguan" from the "Another Hispanic, Latino, or Spanish origin" examples (B1c).

X8 (Figure C5): This panel alphabetized the "Other Asian" examples and provided an instruction for multiple Hispanic origin reporting (B1d).

X9 (Figure C6): This panel introduced "German, Irish, Lebanese, Egyptian" examples for White; "African American, Haitian, Nigerian" examples for Black or African American; and "Navajo, Mayan, Tlingit" examples for AIAN. "Hmong, Laotian, Thai" were dropped from the "Other Asian" examples while "Mongolian" was added. "Marshallese" was added to the "Other Pacific Islander" examples (B1b). The term "Negro" was removed from the "Black, African Am., or Negro" race category and "Argentinean" and "Nicaraguan" were removed from the "Another Hispanic, Latino, or Spanish origin" examples (B1c). This panel also provided an instruction for multiple Hispanic origin reporting (B1d).

X10 (Figure C7): This panel introduced "German, Irish, Lebanese, Egyptian" examples for White; "African American, Haitian, Nigerian" examples for Black or African American; and "Navajo, Mayan, Tlingit" examples for AIAN. "Hmong, Laotian, Thai" were dropped from the "Other Asian" examples while "Mongolian" was added. "Marshallese" was added to the "Other Pacific Islander" examples (B1b). The term "Negro" was removed from the "Black, African Am., or Negro" race category and "Argentinean" and "Nicaraguan" were removed from the "Another Hispanic, Latino, or Spanish origin" examples (B1c).

X11 (Figure C8): This panel introduced "German, Irish, Lebanese, Egyptian" examples for White, "African American, Haitian, Nigerian" examples for Black or African American; and "Navajo, Mayan, Tlingit" examples for AIAN. "Hmong, Laotian, Thai" were dropped from the "Other Asian" examples while "Mongolian" was added. "Marshallese" was added to the "Other

Pacific Islander" examples (B1b). This panel also provided an instruction for multiple Hispanic origin reporting (B1d).

X12 (Figure C9): This panel removes the term "Negro" from the "Black, African Am., or Negro" race category as well as removing "Argentinean" and "Nicaraguan" from the "Another Hispanic, Latino, or Spanish origin" examples (B1c). Asian examples are alphabetized and there is an instruction for multiple Hispanic origins reporting (B1d).

3.1.3 Combined race and Hispanic origin family of panels (B2)

X2 (Figure C10): This panel (B2a) included examples and write-in lines for all OMB race and origin categories and maintained all original race and Hispanic origin checkboxes.

X3 (Figure C11): This panel (B2b) included examples, checkboxes, and write-in lines for all OMB race and origin categories and removed specific origin checkboxes.

X4 (Figure C12): This panel (B2c) provided checkboxes for only each OMB category as well as "Some Other Race or origin" and a separate write-in question that included three write-in lines for specific races, origins, or tribes.

X5 (Figure C13): This panel (B2d) served as an alternative control for the combined race and Hispanic origin family. It maintained the 2010 Census race and origin questions write-ins and checkboxes but in a single question format (comparable to the control panel). Hispanic origin checkboxes and write-in line were placed between the "Black, African Am., or Negro" and "American Indian or Alaska Native" checkboxes.

3.1.4 Spanner format and limiting term "race" family of panels (B4)

X14 (Figure C14): This panel (B4a) included a spanner over the Asian national origin checkboxes[11] and the Native Hawaiian and Other Pacific Islander national origin checkboxes[12]. In addition, the term "race" was removed from the "Print race…" instruction associated with the write-in boxes.

X15 (Figure C15): This panel (B4b) included a spanner over the Asian national origin checkboxes and the Native Hawaiian and Other Pacific Islander national origin checkboxes.

X16 (Figure C16): This panel (B4c) removed the term "race" from the instruction associated with the write-in boxes and the question stem. The Asian examples were alphabetized.

X17 (Figure C17): This panel (B4d) included a spanner over the Asian national origin checkboxes and the Native Hawaiian and Other Pacific Islander national origin checkboxes. The term "race" was removed from the instruction associated with the write-in boxes and the

[11] 'Asian Indian', 'Chinese', 'Filipino', 'Japanese', 'Korean', 'Vietnamese', and 'Other Asian'
[12] 'Native Hawaiian', 'Guamanian or Chamorro', 'Samoan', and 'Other Pacific Islander'

question stem. This panel also removed the term "Negro" from the "Black, African Am., or Negro" race category and alphabetized the Asian examples.

3.2 Sample Design

The experimental panels for the 2010 Census AQE were not expected to have the same impact on all racial and ethnic groups as the tests aimed at improving specific reporting issues in groups traditionally underrepresented by simple sample designs. The complex sample design was developed to oversample race and ethnic groups of particular interest. Each census tract was assigned to one of four sampling strata based on estimates from the 2005-2007 American Community Survey data: 1) Asian or Native Hawaiian and Other Pacific Islander; 2) Black or African American; 3) Hispanic or Latino; and 4) All other. The sample selection included a substantial oversampling of the first three strata, allowing for finer-scale analysis with these specific race and ethnic groups, and to ensure adequate sample sizes within each stratum. In order to optimize the sampling process we used a hierarchical tract[13] selection, in which highest priority was given to the smallest subpopulations to ensure that an adequate number of tracts were included in the corresponding stratum. The hierarchy is detailed as follows:

1) Tracts with 15 percent or more Asian, Native Hawaiian, or Other Pacific Islander people
2) Tracts with 25 percent or more Black or African American people
3) Tracts with 40 percent or more Hispanic or Latino people
4) All other tracts

The sample was selected only from housing units in Mailout/Mailback enumeration areas in the 50 states and the District of Columbia. Group quarters and housing units in Puerto Rico or other island areas or in any other type of enumeration area (e.g. Update/Leave, Update/Enumerate) were excluded from the sampling frame. A total of 488,604 housing units were selected for the AQE race and Hispanic origin experiment. For more information on the sample design, see Bentley (2009). See Table 2 for the mailout sample size in each panel and stratum (Compton 2009).

[13] A census tract is a small, relatively permanent statistical subdivision of a county or statistically equivalent entity, designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time they are established (http://www.census.gov/dmd/www/glossary.html#C).

Table 2. Final Mailout Sample Size for Each Panel and Stratum (Number of Housing Units).

	Stratum				
Panel	Asian/ Pacific Islander	Black	Hispanic	All Other	Total
XA	9,014	8,526	8,439	2,763	28,742
XB	9,015	8,523	8,439	2,763	28,740
X2	9,014	8,523	8,439	2,763	28,739
X3	9,014	8,523	8,440	2,763	28,740
X4	9,014	8,524	8,440	2,763	28,741
X5	9,014	8,524	8,440	2,763	28,741
X6	9,014	8,524	8,440	2,763	28,741
X7	9,013	8,525	8,440	2,763	28,741
X8	9,013	8,525	8,440	2,763	28,741
X9	9,014	8,525	8,440	2,763	28,742
X10	9,014	8,525	8,439	2,763	28,741
X11	9,014	8,525	8,440	2,763	28,742
X12	9,014	8,526	8,440	2,763	28,743
X14	9,014	8,526	8,440	2,763	28,743
X15	9,014	8,526	8,440	2,763	28,743
X16	9,014	8,526	8,439	2,763	28,742
X17	9,014	8,526	8,439	2,763	28,742
Total	153,237	144,922	143,474	46,971	488,604

Source: 2010 CPEX Sample File

3.3 Mailing Strategy

The mailing strategy consisted of up to five separate mailings for each panel.

- All sample housing units were sent an advance letter informing them that they would soon be receiving a 2010 Census questionnaire (in home delivery March 8-10).
- An initial questionnaire package was sent containing the paper questionnaire, a cover letter, and a postage-paid return envelope (March 15-17).
- Some ZIP codes received a language assistance postcard providing the production Telephone Questionnaire Assistance (TQA) number for those who needed help in a language other than English (March 18-20).
- A reminder postcard was sent reminding respondents to return their questionnaire if they had not yet done so (March 22-24).
- Finally, those housing units from which no questionnaire had been received by a specified date were sent a targeted replacement questionnaire (April 6-10).

This strategy was the same as the 2010 Census production design, except that all AQE housing units were automatically eligible for a targeted replacement (as opposed to the 2010 production design in which the replacement strategy was divided into three groups: no replacement, targeted replacement, or blanket replacement to all housing units).

3.4 Reinterview Evaluation

3.4.1 Overview of Reinterview

The second major component of the 2010 Census AQE was a telephone reinterview study conducted with a sample of the AQE mail survey respondents. This reinterview research aimed to assess the accuracy and the reliability of both the control and the alternative race and Hispanic origin questionnaires by exploring responses to a number of probing questions.

In addition to the 17 AQE panels devoted to race and Hispanic origin research, we collected data from a subset of AQE respondents via a followup telephone reinterview that focused solely on the race and Hispanic origin questions. The purpose of the AQE reinterview questions was to ascertain the respondents' "true" self-identified racial and ethnic identities. We recognize that race and ethnicity are not quantifiable values. Rather, identity is a complex mix of one's family and social environment, historical or socio-political constructs, personal experience, context, and many other immeasurable factors.

Because this idea of "truth" is inherently difficult to define for self-identified race and Hispanic origin, we cannot expect to evaluate it with two questions (as was done on the Census questionnaire). However, we were able to employ an extensive series of detailed questions and probes to aid in determining our "truth" measure for the reinterview. This was a substantial addition to the AQE research, and it yielded important results to help understand the data that were collected in the mail survey, as well as connections to the findings in the focus groups research.

The reinterview was designed to probe more extensively than the census questionnaire by asking three series of questions about how respondents self-identify, as well as collect more detailed information about respondents' racial and ethnic background. The first question was an open-ended question that asked the respondent to identify their race or origin. The second set of questions was a series of yes/no questions meant to probe into the respondent's complete racial and ethnic background. The third question was an open-ended question that asked the respondent to report as they would usually respond to someone when asked about their race or origin. Additional clarification questions were included later in the interview including race and ethnicity of the parents and how the respondent is perceived by others. The selected question series underwent extensive cognitive testing, which resulted in the questions being revised extensively before being finalized (Childs et al. 2009). The race and origin reinterview questions are provided in Appendix B. The full reinterview instrument specifications are provided in Dusch (2011).

The data obtained in the reinterview were used to estimate and compare two statistics important to a well-defined and stable measurement process. The first statistic is the bias in estimates of

group membership that may occur if the responses are not an accurate reflection of the "true" self-identified group membership status due to imperfections in the design of the paper questionnaire. This statistic is called the "response" bias. The second statistic is the reliability of the measurement process over repeated measures (i.e., the paper questionnaire response and the reinterview response). This statistic is called the gross difference rate (GDR), which is used as a proxy for simple response variance. These measures will be explained in more detail in section 3.6.6.

3.4.2 Reinterview Sample Design

The AQE reinterview sample design was a systematic random sample of one in five of the preselected housing units from the 17 AQE panels. There was no further oversampling of the preselected reinterview cases beyond the oversampling present in the mailout sample. Those households for which we received a paper AQE questionnaire before completion of the reinterview were included in the reinterview workload. Those households who were included in the Nonresponse Followup (NRFU) universe or who submitted their 2010 Census responses by a method other than the AQE questionnaire (Be Counted questionnaires, language fulfillment questionnaires, TQA, etc.) were excluded from the reinterview workload.

Thus, about 6,000 housing units were preselected for the AQE reinterview in each of the 17 panels (i.e., one-fifth of 30,000). The final reinterview workload, which included only those households who returned their AQE census questionnaire by June 14, was 60,085 cases. After removing ineligible cases[14], the final reinterview response rate across all panels was 62.8 percent, the breakoff and refusal rate was 15.2 percent, and the other-noninterview rate was 22.0 percent. Results by panel and stratum are provided in Table 3.

[14] Cases with a non-working phone number or the listed phone number reached the wrong household.

Table 3. AQE Reinterview Response Rates by Panel and Stratum.

Panel	Stratum				Overall
	Asian/Pacific Islander	Black	Hispanic	Other	
XA	66.6 (1.36)	59.8 (1.61)	54.3 (1.63)	71.3 (2.33)	62.0 (0.83)
XB	67.6 (1.36)	62.3 (1.58)	58.5 (1.53)	71.6 (2.41)	63.9 (0.81)
X2	65.1 (1.36)	58.6 (1.58)	55.1 (1.60)	69.0 (2.46)	61.0 (0.82)
X3	65.5 (1.37)	61.5 (1.58)	57.1 (1.57)	70.6 (2.32)	62.6 (0.82)
X4	65.1 (1.37)	59.4 (1.60)	58.8 (1.57)	66.7 (2.45)	62.0 (0.82)
X5	67.2 (1.36)	62.7 (1.58)	55.6 (1.60)	70.7 (2.33)	63.2 (0.82)
X6	66.3 (1.37)	61.9 (1.54)	60.9 (1.58)	73.6 (2.31)	64.3 (0.81)
X7	67.9 (1.34)	60.4 (1.58)	57.3 (1.59)	67.2 (2.52)	62.8 (0.82)
X8	67.5 (1.35)	59.7 (1.57)	55.4 (1.63)	69.2 (2.41)	62.2 (0.82)
X9	66.3 (1.35)	59.2 (1.59)	59.9 (1.57)	66.6 (2.42)	62.7 (0.81)
X10	66.4 (1.35)	61.6 (1.57)	57.5 (1.56)	66.7 (2.49)	62.6 (0.81)
X11	65.0 (1.39)	60.2 (1.58)	56.4 (1.60)	75.0 (2.28)	62.3 (0.82)
X12	67.7 (1.37)	60.4 (1.57)	57.5 (1.59)	66.4 (2.52)	62.7 (0.82)
X14	68.4 (1.35)	63.4 (1.54)	55.4 (1.62)	71.2 (2.37)	63.8 (0.82)
X15	68.3 (1.34)	58.2 (1.57)	59.5 (1.58)	70.1 (2.42)	63.3 (0.81)
X16	65.5 (1.37)	63.9 (1.57)	56.6 (1.61)	68.8 (2.37)	63.0 (0.82)
X17	64.5 (1.38)	61.6 (1.55)	59.9 (1.60)	70.8 (2.40)	63.1 (0.82)

Source: 2010 CPEX Sample and AQE Reinterview Files. Note: Estimates are weighted with standard errors in parentheses.

3.4.3 Reinterview Operational Details

Due to time constraints, all cases were sent to a telephone number lookup operation. Cases for which we received a response to the 2010 Census as of June 14, 2010, and had valid phone numbers, were included in the reinterview workload. The selected cases were sent to the reinterview operation in two waves, first in early May 2010 and second in late June 2010. The reinterview period began on June 1, 2010 and ended on July 31, 2010. During the Computer Assisted Telephone Interviewing reinterview, all efforts were made to contact the person who filled out the initial questionnaire in order to reduce variability due to respondent differences[15]. If we were unable to reach the person who filled out the questionnaire, we asked to speak with another knowledgeable adult, ideally one who was living at the residence on April 1, 2010. Overall, 87 percent of the reinterview respondents in each panel indicated that they were the same person who completed the 2010 Census questionnaire.

The reinterview included questions about the census respondent and one other randomly selected person in the household[16]. The interview included basic demographic questions and detailed

[15] In order to provide comprehensive estimates of response variance and bias, one would also include results for cases where respondents were different between the original interview and the reinterview, as well as cases where the respondent was the same. In repeated trials of the survey within the super-population, there would be an effort to measure total response variability and bias. However, for our application, which focuses on question reliability and bias for one survey trial, we held the respondent constant in order to isolate the error due to question quality. We are not attempting to produce error estimates across different trials of the survey (i.e., different respondents).

[16] If there was only one person in the household, questions were asked only about that individual.

questions on race and Hispanic origin. Operationally, the AQE reinterview was conducted in conjunction with the 2010 Content Reinterview Study, which was designed to measure response variance for items on the 2010 Census questionnaire administered within different modes. For more information on the 2010 Content Reinterview, see Dusch and Meier (2012).

3.5 Data Processing

3.5.1 Data Editing

Data collected from both the mail and reinterview components of the AQE were coded and pre-edited using a simplified version of the 2010 Census procedures.[17] Preceding the implementation of any edit procedures, all write-in responses to the race and Hispanic origin questions were coded. Up to six codes were generated per write-in line as a means to gain a complete understanding of respondents' race and origin.[18] The OMB race and ethnicity standards were reflected in the coding procedures.

Both the AQE mail and reinterview data underwent comparable edits by applying a simplified version of the race and Hispanic origin pre-edits used in the 2010 Census production. The purpose of these pre-edits was to standardize the Hispanic and race group classifications across all experimental panels. Missing data were not imputed or allocated as they were in the 2010 Census production operation. That is the data used for analysis were limited to pre-edited data. The AQE pre-editing procedures included:

- Converting checkbox responses to three-digit codes;
- Ensuring that codes assigned to write-in responses during the coding operation were valid;
- Eliminating duplicate codes; and
- Removing general codes when specific codes were provided (for example, if the code for the AIAN checkbox and a code for a tribe were present, the code for the checkbox was eliminated).

3.5.2 Name Matching

After the AQE reinterview data were prepared for analysis, the persons from the completed reinterview cases were matched to the 2010 Census persons within corresponding households. The name matching process used a computerized matching program and any residual records that were not computer-matched underwent a two-stage clerical review operation. The process was very successful, resulting in an overall match rate of 98.9 percent for the reinterview respondents and 97.2 percent for the reinterview randomly selected persons (Compton and Bentley 2011).

[17] For more information on the 2010 Census race and Hispanic origin editing and imputation procedures, please see Humes (2008).
[18] For the 2010 Census, up to two responses were coded per write-in line.

3.5.3 Reinterview "Truth"

The AQE reinterview consisted of three different sets of questions intended to explore the respondents' racial and ethnic background (Appendix B). Each respondent's "true" self-identified racial and ethnic identity was determined through a combination of responses provided on the reinterview. The complete list of categories was as follows:

- White
- Black
- Mexican, Mexican American, Chicano
- Puerto Rican
- Cuban
- Other Hispanic or Latino (General or Other Specific)
- American Indian or Alaska Native
- Asian Indian
- Chinese
- Japanese
- Filipino
- Korean
- Vietnamese
- Other Asian (General or Other Specific)
- Native Hawaiian
- Guamanian or Chamorro
- Samoan
- Other Pacific Islander (General or Other Specific)
- Some Other Race.

This list represents each of the unique checkbox categories on the 2010 Census Mailout/Mailback questionnaire. For example, Irish was categorized as White, Chinese was retained as Chinese, and Colombian was categorized as Other Hispanic. In addition, it is important to note that multiple responses were retained.

The initial step of determining a respondent's "true" self-identified race and origin was through an automated match program, which was applied to the coded reinterview responses. Each question or set of questions was coded independently. Responses were determined as "truth" for cases where all three sets of questions had the same response, where two out of the three had the same response(s), and where only one response was provided. Additionally, if the responses for the first question and second set of questions together were equivalent to the response for the third question, then the third question was considered "truth" (e.g., respondent reported as White to the first question, Black to the second set of questions, and then White and Black to the third question). The program also allowed for differing levels of specificity, such as a general response followed by a more specific response. For example, a respondent who reported White and Hispanic to the first question and German and Puerto Rican to the second set of questions was categorized as White and Puerto Rican.

Cases that did not meet any of the above criteria were sent to clerical matching, which had a workload of over 2,000 cases. Four analysts from the Census Bureau's AQE research team were chosen to independently study these special cases and decide on a final "truth" for each situation. If three of four clerical coders agreed, then the case was considered a match and was resolved. Otherwise, unresolved cases were sent to a panel review consisting of additional Census Bureau experts from the AQE research team for final resolution. Exactly 172 cases were sent to panel review, which consisted of an inter-divisional team of six analysts. The team had extensive discussions about the individual cases and worked together to determine final "truth" using both coded and text-based responses to the three sets of race and origin questions, including the race and Hispanic origins of respondents' parents. At all steps of the process, OMB standards were used to guide final decisions on "truth."

3.6 Data Analysis

The performance of the experimental treatments was measured in two ways. First, we evaluated the results of the paper mailback questionnaires for each experimental panel. Second, we analyzed findings from the AQE reinterview.

The first step in the analysis was to compare mail response rates for the different panels. Since the treatments for this test focused on two content items on the paper questionnaires, we hypothesized that the treatments would not affect mail response rates.

The Mailout/Mailback questionnaires will be evaluated by analyzing a number of descriptive statistics. One of the major AQE goals is to lower item nonresponse to reduce the number of missing race and Hispanic origin responses, as item nonresponse is an important indicator of data quality. Race and Hispanic origin estimates can be adversely affected when item nonresponse is high, since race and Hispanic origin allocation and imputation methods are applied to non-respondents and bias can be introduced if characteristics of non-respondents are different from those of respondents (Ramirez and Ennis 2010). Lowering item nonresponse is one of the major AQE goals, and is related to improving the accuracy, completeness, and reliability of the race and Hispanic origin questions and responses. Therefore, an important quality indicator evaluated in this report is item nonresponse for the separate race and Hispanic origin questions and for the combined question.

Another major AQE goal is to design and test different questionnaire design strategies that will increase reporting in the standard race and ethnic categories established by OMB. The two OMB categories on ethnicity are Hispanic or Latino and Not Hispanic or Latino. The five OMB race categories are White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian and Other Pacific Islander. The Census Bureau is also permitted to use Some Other Race for respondents who do not identify with the OMB race categories. This category has been growing since 1980 and was the third largest race group in Census 2000 and The 2010 Census after the "White alone" and "Black alone" populations. This is problematic when one of the Census Bureau's goals is to increase reporting in the OMB race and ethnic categories. The combined panels explore combining the concepts of race and Hispanic origin in order to reduce reporting within the Some Other Race category.

Reducing the classification of race responses within the Some Other Race category is also related to the major goals of improving the accuracy, completeness, and reliability of the race and Hispanic origin questions and responses. To evaluate strategies that will increase reporting in the standard race and ethnic categories established by OMB, this paper analyzes race and ethnicity distributions across questionnaires.

We examine detailed race and origin reporting (e.g., Mexican, Chinese, Fijian, Rosebud Sioux) as it pertains to the major AQE goals of eliciting the reporting of detailed race and ethnic groups, such as detailed Hispanic groups, detailed Asian groups, detailed Pacific Islander groups, and detailed American Indian and Alaska Native tribes; and improving the accuracy, completeness, and reliability of the race and Hispanic origin questions and responses. In addition, various treatment-specific and family-specific analyses were used to further evaluate the effectiveness of each experimental panel.

Analysis was performed for each panel by stratum and overall for all strata. Analysis for the B1 Example Modification family was performed at the treatment level, whereas analysis for the B4 Spanner/Race Limitation family was at the panel level. These differences made comparison between the two families difficult. Comparison between families was based on a panel or treatment in both families performing better than the standard control (panel XB). Few comparisons were made between B2 Combined Question panels and individual panels with race and Hispanic origin asked in separate questions. The reinterview focused on estimating bias for each treatment or combination of treatments but also provided indirect estimates of response variance.

The following sections provide a summary of the data analysis for this experiment. Section 3.6.1 through Section 3.6.5 explain the analysis of the paper mailback questionnaires and Section 3.6.6 focuses on the reinterview analysis.

3.6.1 Control panels

With the elimination of the overcount question from the experimental panels, we included both a control panel (the 2010 Census Mailout/Mailback questionnaire) with the overcount question and a second control panel without the overcount question. We compared the two control panels to determine if there were any differences between panels in the various response measures. The control panel without the overcount question (questionnaire XB) was designed to serve as the control for all comparisons with the experimental panels in the event that the two control panels yielded different results. Differences were found between the control panels so panel XB was selected as the control (see beginning of Section 5 for more information).

3.6.2 Race and Hispanic origin Example Modification family analysis (B1)

The B1 Example Modification family of panels in the race and Hispanic origin AQE was designed similar to a full factorial experiment. This design lends itself well to analysis using a form of linear model. Several different models were used and were specific to the measure and

treatment being explored. Linear contrasts allowed us to isolate specific treatment effects and determine the best possible panel within the family.

The deviations from a standard full factorial design come from three aspects. The first was designed into the experiment. To reduce the total number of panels in the study, modifications were paired together (see Table 1). Modifications were combined to minimize interaction by pairing those that focused on issues for different race groups. Exceptions were possible in the case of multiracial and multiethnic respondents, but these groups were sufficiently small that effects were assumed to be negligible.

The second deviation is a byproduct of the modifications themselves. For example, the experiment tested more than one change to the "Other Asian" examples. These were on separate panels, but were not compatible such that both modifications could occur on the same panel at the same time. This was dealt with by consistently applying the same modification in the instance of an interaction panel containing both treatments. Analysis of the excluded modification was still possible by modifying the linear contrast to only compare the panels with the modification and those comparable panels without the modification.

The third deviation was the inclusion of modifications on experimental panels outside of the full factorial design. Panel X14 and panel X17 within the B4 Spanner/Race Limitation family both contained modifications being tested in the B1 Example Modification family analysis. It was optimal to include these panels in the analysis. It was decided to include these panels only if it could first be shown that the other changes made on these panels either had no effect or had comparable effects that could be balanced properly in the contrast.

3.6.3 Combined race and Hispanic origin family analysis (B2)

The B2 Combined Question family tested three different variations of combining the race question with the Hispanic origin question, as well as an alternative control that maintains the features of the two-question format in a single question. The alternative control panel was created as a "bridge" between the standard two-question format and the combined question designs. The alternative control, which tested the effect of the combined strategy while holding most question layout elements constant, was compared to the control panel without the overcount question (panel XB). The only difference in the alternative control combined question and the two separate questions was the placement of the Hispanic origin checkboxes and write-in between "Black, African Am., or Negro" and "American Indian or Alaska Native."

Comparisons were also made between each of the individual B2 Combined Question family panels in order to compare the various combined question layouts. Due to the larger disparity between the treatment panels and the standard two-question format, no comparison between each of the combined panels and the standard control was performed.

3.6.4 Spanner format and limiting of term "race" family analysis (B4)

Since the design of the B4 Spanner/Race Limitation family of panels was an incomplete factorial design, we were unable to definitively analyze the effects of each of the specific experimental

treatments. The effects of including a spanner were isolated on a single panel. The effects of removing the term "race" from the question stem with removing the term "race" from the instructions were indistinguishable. Instead, these panels and the control panel XB were compared using ten simple pairwise comparisons. A multiple comparison correction was used to maintain a high level of confidence in the family of comparisons.

3.6.5 Analysis of cross-family modifications

Two treatment modifications from the B1 Example Modification family of panels had been incorporated into some of the B4 Spanner/Race Limitation family panels. "Other Asian" examples were in alphabetic order on two panels, one of which also removed the word "Negro" from the "Black, African Am., or Negro" checkbox category. These treatment effects were analyzed within linear contrasts combining panels from both the B1 and B4 families.

3.6.6 Use of reinterview to estimate measurement error statistics

We also evaluated a number of measures for the AQE race and Hispanic origin reinterview. The primary purpose of the reinterview was to match information to the paper questionnaires to determine how well each of the panels was able to capture the self-identified "truth" of the respondents' racial and ethnic identities (e.g., net difference rates between the paper questionnaire and the reinterview).

The reinterview results were compared back to the panel group results creating the evaluation measures. The following measures were investigated:

1) Net difference rate

2) Gross difference rate (GDR) (proxy for response variance)

3) Consistency scores (percentage of race codes or origin codes reported identically on both the paper questionnaire and the reinterview)

4) Race and Hispanic origin distribution for reinterview respondents, randomly selected household members, and all individuals combined

To illustrate the estimation process, both bias and simple response variance (as GDR) could be calculated for a particular race/origin question category from a two-by-two table of the percentages of sample respondents in the interview/reinterview (see Table 4).

Table 4. Sample Counts of Interview and Reinterview Responses for a Single Race /Origin Group (Hispanic is used as an example).

Reinterview Response	Paper Response		Total
	Hispanic	Not Hispanic	
Hispanic	n_{11}	n_{12}	$n_{1\bullet}$
Not Hispanic	n_{21}	n_{22}	$n_{2\bullet}$
Total	$n_{\bullet 1}$	$n_{\bullet 2}$	n

The sample cell estimated percentages are denoted by:

$\hat{\pi}_{11} = n_{11} / n$
$\hat{\pi}_{12} = n_{12} / n$
$\hat{\pi}_{21} = n_{21} / n$
$\hat{\pi}_{22} = n_{22} / n$

A measure of response bias can be estimated using the net difference rate (NDR). This is the percentage of those who responded as being part of the group on the Mailout/Mailback questionnaire minus the percentage of those who responded as being part of the group in the reinterview. If there is no significant difference in the responses from the reinterview due to the panel design, the NDR is calculated using the following formula:

$$NDR = (\hat{\pi}_{11} + \hat{\pi}_{21}) - (\hat{\pi}_{11} + \hat{\pi}_{12}) = \hat{\pi}_{21} - \hat{\pi}_{12}$$

Simple response variance can be estimated by the GDR or the percentage of the sample persons in the off-diagonal cells.

$$GDR = (\hat{\pi}_{12} + \hat{\pi}_{21})$$

These statistics may not be "unbiased" estimates of response bias and simple response variance due to the theoretical conditions that must be satisfied by the reinterview measurement process. In this report, the GDR is used to assess response consistency as a measure of quality. A discussion of these issues was beyond the scope of this document. Woltman and Bentley (2011) addressed this, as well as comparisons of the statistics between panels.

A portion of the AQE paper questionnaire households did not respond to the phone reinterview, either by choice or due to unavailable phone numbers. We recognize that reinterview non-respondents may have different characteristics compared to reinterview respondents. The degree to which these characteristics are related to how they respond to demographic survey questions could result in bias within our response variance estimates due to nonresponse.

We attempted to assess the magnitude of the nonresponse bias of our estimates by comparing demographic characteristics of reinterview respondents and nonrespondents based on data from the AQE paper questionnaire responses.

3.7 Variance Estimation

To account for the complex sample design of the experiment, we used stratified jackknife replication estimation. Due to software and processing limitations, we used a random group's method to create the replicates. In this method, housing units were sorted in the order they were selected and reassigned to one of 250 different groups, or replicates.

To help ensure the validity of statistical inference when making multiple panel comparisons, when applicable, multiple comparison corrections were used to maintain the familywise error rate at $\alpha = 0.10$. Dunn's procedure was performed to adjust for the increased possibility of erroneous conclusions when multiple comparisons adjustment procedures were analyzed for a set of panels. The panel-level multiple comparisons reduced the possibility of identifying false-positive differences and ensured that we did not cloud our ability to form inferential conclusions.

3.8 Decision Criteria and Making Conclusions

The AQE panels were designed to test a wide variety of modifications to the questions on race and Hispanic origin. These modifications affected many different aspects of reporting, including item nonresponse and distributions. All of these aspects need to be considered when making panel recommendations. The inherent complexity of this experiment and its many complex analyses required that decision criteria be developed for each family as a means to determine a "successful" panel design and as a basis of comparison between panels.

Because of the diversity in approaches, there were few direct comparisons between families. Instead the results supported within-family recommendations for new question strategies that, along with focus group results, will be used to inform the future research as the Census Bureau progresses through the decade and prepares for the 2020 Census.

The decision criteria for the race and Hispanic origin Example Modification family of panels (B1) consisted of return rates, item nonresponse rates, race and Hispanic origin distributions, reinterview measures, and a large number of treatment-specific criteria that examined the benefits and drawbacks of the various treatments. These included, but were not restricted to, specific reporting in each of the race categories or ethnic groups and over-reporting of example ethnicities. For example, an increase in write-in reporting of Latin American indigenous groups on a panel with "Mayan" as an example would be considered a success. On the other hand, a decrease in respondents reporting as Black to a panel lacking the term "Negro" would show that the removal of the term was problematic.

The decision criteria for the combined race and Hispanic origin family of panels (B2) predominantly focused on the major criteria of return rates, item nonresponse, combined race and origin distribution, reinterview measures, and specific race and origin reporting.

The decision criteria for the spanner format and limiting of the term "race" family of panels (B4) consisted predominantly of return rates, item nonresponse, combined race and origin distribution,

and reinterview measures. Other responses of interest included specific reporting of Asian and Native Hawaiian and Other Pacific Islander groups.

One of the major AQE goals is to lower item nonresponse to reduce the number of missing race and Hispanic origin responses, as item nonresponse is an important indicator of data quality. Race and Hispanic origin estimates can be adversely affected when item nonresponse is high, since race and Hispanic origin allocation and imputation methods are applied to non-respondents and bias can be introduced if characteristics of non-respondents are different from those of respondents. Lowering item nonresponse is one of the major AQE goals, and helps to improve the accuracy, completeness, and reliability of the race and Hispanic origin questions and responses

Another major AQE goal is to design and test different questionnaire design strategies that will increase reporting in the standard race and ethnic categories established by OMB. Currently Some Other Race is the third largest category, when it was intended to be an extraneous category for small populations that do not fit into a major OMB category. This is also related to another major goal of improving the accuracy, completeness, and reliability of the race and Hispanic origin questions and responses.

4. Limitations

4.1 Mailout/Mailback Universe

For operational reasons, the experimental questionnaires were only sent to the Mailout/Mailback universe. This excluded those populations found in Update/Leave and Update/Enumerate areas (e.g., Puerto Rico and Island Areas, American Indians living on reservations, and Alaska Natives living in remote Alaska). The impact of this coverage limitation depends, in part, on how different the response behavior is for those not included in the sampling frame. It is difficult to estimate the expected effects of this limitation for the key statistics since it is a function of both the proportion not covered by the frame and the difference in the survey statistics between those covered and those not covered.

Noting these limitations, the Census Bureau recognized the importance of adding a complementary series of focus group research efforts to the AQE quantitative design. The AQE focus groups research was designed to engage participants from a wide variety of population groups across the nation, which supplemented the quantitative results obtained from this experiment. The focus groups seek to identify the source of response issues that emerged from the AQE mail questionnaires, as well as to identify trends in race and Hispanic origin reporting, giving us a better understanding of response patterns. The focus groups were a significant addition to the research, especially with respect to engaging communities that were not as well represented in the Mailout/Mailback universe (e.g., focus groups were conducted in Puerto Rico, with American Indians living on reservations, Alaska Natives living in remote Alaska, and with indigenous central and South American groups).

4.2 Nonresponse Bias

The research did not include respondents in the NRFU universe. Those included in NRFU often have relatively high item nonresponse and imputation rates. Racial and ethnic minority group respondents who were in the NRFU workload are of high interest, given the focus of the experimental treatments, but were not included in the sampling frame. The race and origin distribution for the AQE census paper mailback respondents and nonrespondents provided an indication of the magnitude of nonresponse bias for the analysis (see results in Section 5.7). Large differences in the demographic characteristics from the nonresponse analysis may indicate substantial bias in the key estimates for the experiment and reduce the ability to generalize to the population of interest. Although some of the differences are significant, we do not believe they harm the results, based on item nonresponse rates, gross difference rates, net difference rates, or other distributions, because they are relatively small. During mid-decade decennial census testing, questionnaire content research is expected to include the personal visit mode, given appropriate resources.

4.3 Questionnaires in English Only

The experimental questionnaires were provided in English only. An optimal design would include Spanish/English bilingual questionnaires, as well as questionnaires in other languages since the treatments may differentially affect those respondents who might need language assistance. Due to timing and resource constraints, the Census Bureau could not include experimental questionnaires in languages other than English. However, we do not believe that this will fatally bias the results of the experiment. Additional cognitive testing and focus groups in Spanish were conducted. Note, though, that the AQE reinterview was conducted in additional languages other than English[19].

4.4 Race and Ethnic "Truth"

A limitation to the AQE reinterview is in the concept of racial and ethnic "truth." Unlike information such as age, education, or other easily quantifiable concepts, racial and ethnic identity is a fluid and mutable self-identified construct, which can change across time, experience, context, and other factors. While it may not be possible to definitively determine self-identified "true" racial and ethnic identity for all respondents, we strongly believe the reinterview design presents the best attempt to measure this complex phenomenon. We believe the reinterview successfully employed an extensive series of detailed questions and probes to aid in determining our "truth" measure. Again, this was a substantial addition to the AQE research and yielded important results to help understand the data that were collected in the mail survey, as well as connections to the findings in the focus group research. For more information on the specific operational details of the reinterview refer to Section 3.4.

[19] Overall 93.5 percent of reinterviews were conducted in English, 4.9 percent were in Spanish, and 1.6 percent were in another language.

4.5 Possible Conditioning Effects in Reinterview

Conditioning effects may have limited the reliability of our "truth" measure in the reinterview. Because the reinterview occurred so close to respondents receiving the 2010 Census questionnaire, there is a possibility for a respondent's reinterview responses to be influenced by the recall of the paper questionnaire responses. We believe the multiple questions in the reinterview reduced this effect. Mode effects may have altered responses between the paper questionnaire and the phone reinterview. Both reinterview effect and simply altering the question may have altered how respondents report their race or Hispanic origin. All of these factors may have affected the variability associated with the race and Hispanic origin responses and the magnitude of the estimates. However, since we were comparing across panels and assume these effects were uniform across panels, these factors presumably have no net effect for the within-family comparisons.

4.6 Removal of Overcount Question

In order to accommodate the increased space on the questionnaire necessitated by some of the experimental panels, the overcount question ("Does [Person 1 / this person] sometimes live or stay somewhere else?") was removed from each of the AQE race and Hispanic origin panels. As such, two control panels were used: one with, and one without, the overcount question (see Section 3.1.1). Though this analysis draws conclusions across the experimental panels, each of which have the overcount question removed, if any of the alternative questionnaires are implemented in the future then consideration will need to be given to the increased questionnaire space required.

4.7 Telephone Questionnaire Assistance Callers

AQE respondents who called TQA and provided their information over the phone were asked the 2010 Census questions, thus removing them from our analysis, assuming they provided a valid Census ID that could be linked to the sample file. Those not linked to an ID would appear to be nonrespondents, assuming they did not return a paper questionnaire. In order to determine if households in any of the experimental panels were more likely to call the TQA number (indicating a possible problem or red flag with the experimental questionnaire), we compared the percentage of 2010 Census Program for Evaluations and Experiments (CPEX) TQA callers by panel. Overall, just 0.1 percent or fewer of the sample households in each panel called the 2010 CPEX TQA number.

The AQE households may also have called the regular 2010 Census TQA number instead of the 2010 CPEX-specific number. The regular TQA number was widely available given that it was used in some advertising and promotion, and was also used on the direct mail postcard sent to some of the sample. Given that this affected all panels equally, the overall impact on the analysis is assumed to be minimal.

4.8 Small Sample for Small Population Groups

Specific treatment effects explored for specific small population groups, such as American Indian and Alaska Native, and Native Hawaiian and Other Pacific Islander people, or various ethnic subgroups were minimal. Selection of a sample sufficiently large to capture variability among some smaller ethnic groups was not cost-effective for this study. Future research should include all enumeration areas.

Again, the addition of focus groups for American Indians and Alaska Natives, Native Hawaiians and Other Pacific Islanders, and other small population groups was an important part of the AQE's overall efforts to understand more about the reporting of communities that were not as well represented in the Mailout/Mailback universe.

4.9 Focus Group Research

The qualitative data collected from the AQE focus groups cannot be generalized to the total population or to the specific racial and ethnic groups as a whole. This is due to the relatively small number of participants in the study and because findings may be unique to those participants included in the research. Therefore, results from the AQE focus groups presented in this report are only meant to provide insights into the quantitative AQE data.

5. Results

Before we present the full results of the analysis, it is important to note that we did find several statistically significant differences between control panel XA and panel XB. Recall that, due to space constraints, the overcount question had to be removed on the experimental panels. For this reason, a control without the overcount question (panel XB) was used for comparison (see Section 3.1.1 and Section 3.6.1). These control panels yielded some differences in the results. Although the overall mail return rate did not differ, stratum-level mail return rates were significantly higher for panel XB in the Asian and Hispanic strata. Also, proportions of the White and Two or More responses differed between the two panels (Section 5.3). Hispanic origin reporting showed a higher incidence of multiple reporting on the XB panel (Section 5.3). Other differences included specific reporting within Asian origins (Section 5.4). Due to these differences, all experimental comparisons were made against the XB panel only, which was more comparable in format to the experimental panels.

The mail return rates are shown in Section 5.1, item nonresponse rates in Section 5.2, race and Hispanic origin distributions in section 5.3, analysis of specific race and origin reporting in Section 5.4, results of treatment level comparisons in section 5.5, AQE reinterview measures in Section 5.6, and nonresponse analysis comparing AQE reinterview respondents and nonrespondents in Section 5.7.

5.1 Mail Return Rates

Comparison of mail return rates, which are one measure of cooperation in the decennial census, indicate if respondents in one panel are more (or less) likely to respond than those in another

panel. Return rates were calculated for the initial questionnaires and the replacement questionnaires, as well as overall for all returns. The initial questionnaire was sent out to all experimental cases in the initial mailing. For each experimental case, a replacement questionnaire was sent if no response was received from the initial mailing by a predetermined cutoff date.

The following formula was used to calculate the mail return rates:

$$\textit{Mail Return Rate} = \frac{\textit{Unduplicated Nonblank Experimental Mail Returns (Initial or Replacement)}}{\textit{Occupied Housing Units in Universe}^{20}} * 100$$

Table 5 shows the final mail return rates for each of the 17 panels, overall and by stratum. The overall mail return rates ranged from a low of 78.2 percent in panel X14 to a high of 80.5 percent in panel X9.

Table 5. Final Mail Return Rates for the Race and Hispanic Origin Panels by Stratum.

Panel	Stratum				
	Asian/Pacific Islander	Black	Hispanic	All Other	Overall
XA	76.6 (0.48)	70.6 (0.53)	67.6 (0.54)	81.8 (0.77)	78.7 (0.55)
XB	78.1 (0.41)	71.4 (0.56)	71.6 (0.53)	82.6 (0.82)	79.8 (0.58)
X2	77.9 (0.43)	72.7 (0.51)	70.3 (0.55)	81.4 (0.78)	79.0 (0.56)
X3	78.0 (0.47)	72.0 (0.52)	71.2 (0.51)	80.9 (0.80)	78.6 (0.57)
X4	78.2 (0.46)	71.3 (0.55)	71.4 (0.51)	81.1 (0.73)	78.7 (0.53)
X5	79.2 (0.46)	72.6 (0.51)	70.4 (0.52)	82.0 (0.79)	79.5 (0.57)
X6	78.1 (0.45)	71.8 (0.53)	70.3 (0.52)	82.3 (0.75)	79.5 (0.53)
X7	78.6 (0.43)	72.8 (0.52)	70.5 (0.54)	81.1 (0.77)	78.9 (0.55)
X8	78.2 (0.45)	71.9 (0.56)	69.9 (0.55)	81.5 (0.75)	78.9 (0.53)
X9	78.8 (0.44)	71.9 (0.53)	70.5 (0.51)	83.6 (0.72)	80.5 (0.51)
X10	78.7 (0.47)	72.1 (0.51)	70.8 (0.57)	81.2 (0.74)	78.8 (0.52)
X11	77.8 (0.46)	72.1 (0.53)	70.3 (0.57)	82.9 (0.77)	79.9 (0.55)
X12	78.0 (0.43)	72.6 (0.51)	70.3 (0.51)	80.5 (0.83)	78.3 (0.58)
X14	78.1 (0.44)	72.3 (0.51)	71.2 (0.55)	80.2 (0.79)	78.2 (0.56)
X15	78.6 (0.46)	71.8 (0.50)	70.6 (0.49)	81.2 (0.85)	78.8 (0.60)
X16	78.1 (0.45)	71.6 (0.50)	70.7 (0.51)	81.5 (0.77)	78.9 (0.54)
X17	78.5 (0.45)	72.4 (0.56)	70.8 (0.50)	81.8 (0.74)	79.3 (0.53)

Source: 2010 CPEX Sample and Response. Note: Estimates are weighted with standard errors in parentheses.

[20] Occupied Housing Unit status, used in the denominator of the return rate formula, was based on the final occupancy status on the Census Unedited File (variable *final_status*). Note that the mail return rate formula used in the Final Report of the Mail Response/Return Rates Assessment for the 2010 Census differed from the formula used for this experiment since the former had additional comparability requirements with previous decennial census rates (Letourneau 2012).

Major Findings

The major findings regarding mail return rates show that within the B1 Combined Question family of panels (X2 to X5), there were no significant differences overall. Similarly, there were no significant differences within the B4 Spanner/Race Limitation family of panels (X14 to X17).

There was an overall difference within the B1 Example Modification family of panels (X6 to X12). The mail return rate for panel X9 (80.5 percent) was found to be significantly higher than that for panel X12 (78.3 percent). We do not have any hypothesis-driven explanations for this result, as there were only a couple minor differences between panels X9 and X12. Panel X9 included examples for three additional checkbox categories (White, Black, and American Indian or Alaska Native) and also included a modified set of examples for the Other Asian and Other Pacific Islander checkbox categories, neither of which would seem to induce any differences in unit-level nonresponse. Upon further study, though, we note that the only stratum-level difference between X9 and X12 was in the All Other stratum, a significant difference of 3.1 percentage points. Since there were no differences within the other strata for these two panels, the finding may be spurious and attributable to random error.

Additional Findings

In general, at the stratum-level, there was more variability from panel to panel. In addition to the difference noted above between X9 and X12 in the Other stratum, the mail return rate for XB was significantly higher than the rates for XA in the Asian/Pacific Islander stratum (difference of 1.5 percentage points) and in the Hispanic stratum (difference of 4.0 percentage points). It is possible that the removal of the overcount question in XB created a less cluttered look on the questionnaire and may have had a small impact on response. However, the difference between XA and XB in the overall mail return rate (78.7 percent for XA and 79.8 percent for XB) was not statistically significant.

Conclusion

The overall mail return rates by panel ranged from a low of 78.2 percent to a high of 80.5 percent. The only significant difference for the overall mail return rates was between two similar panels in the Example Modification family, though investigators have no reason to have expected a difference in unit-level mail return rates and believe the result to be spurious. Though some small differences were found between panels, none of these appear to have been a result from the modifications under examination.

5.2 Item Nonresponse Rates

Item nonresponse is an important indicator of data quality. Table 6 shows item nonresponse to the race question by Hispanic origin for the panels that have separate race and Hispanic origin questions. Table 7 shows item nonresponse for the separate race and Hispanic origin questions and the combined question for all AQE questionnaires. These results provide the proportion of items left completely blank, with no checkboxes marked or write-ins provided. For this analysis,

any response is counted as non-blank, including invalid or uncodable write-ins.[21] Thus, this is an indication of people who simply did not respond to the question.

Table 6. Race Question Item Nonresponse by Hispanic Origin.

	Race Question	
Panel	Hispanic	Not Hispanic
XA	19.9 (1.63)	0.5 (0.08)
XB	20.0 (1.61)	0.8 (0.15)
X6	25.5 (1.63)	1.0 (0.19)
X7	19.7 (1.47)	0.6 (0.11)
X8	19.2 (1.38)	0.6 (0.11)
X9	22.2 (1.36)	0.7 (0.13)
X10	23.3 (1.43)	0.7 (0.12)
X11	23.1 (1.42)	0.8 (0.14)
X12	19.9 (1.45)	1.0 (0.18)
X14	19.9 (1.42)	1.1 (0.18)
X15	22.7 (1.60)	0.9 (0.14)
X16	24.8 (1.46)	0.6 (0.12)
X17	32.8 (1.86)	0.6 (0.11)

Source: 2010 Census AQE Auxiliary Data Files.
Note: Estimates are weighted with standard errors in parentheses.

Major Findings

The major findings regarding item nonresponse rates echo what previous research has shown. Census Bureau studies have demonstrated over the past couple decades (Alberti 2006; Martin 2007; U.S. Census Bureau 1997) that when presented with separate race and Hispanic origin questions, Hispanics have great difficulty responding to the race question. The 2010 Census AQE confirmed these results, showing that on separate race and Hispanic origin questions Hispanics overwhelmingly had more difficulty responding to the race question compared with non-Hispanics. Earlier qualitative research found that many Hispanics leave the race question blank because they do not identify with the OMB race categories (Gerber and Crowley 2005). The 2010 Census AQE Focus Group research echoed these results, as many Hispanic respondents advised that they did not find a category that described their identity in the separate question format, but when presented with a combined question format they easily found that they identify as "Hispanic" and provide detailed responses. For Hispanics, item nonresponse to the separate AQE race question ranged from 19.2 percent to 32.8 percent. In stark contrast, item nonresponse to the race question by non-Hispanic respondents was about 1 percent.

[21] Invalid and uncodeable responses are typically deleted in the edit process. The inclusion of these responses in this analysis slightly overstates acceptable responses across all of the questionnaires, but this does not have an impact on the overall response levels. The range of invalid and uncodeable responses across questionnaires was from 0.2 percent to 0.6 percent of the total population.

For most of the questionnaires, item nonresponse to the race question was below 25.5 percent for Hispanics; however X17 appears to be an outlier and had significantly higher nonresponse than all panels within the B4 Spanner/Race Limitation family. While we cannot statistically differentiate what may be causing this difference, a hypothesis is that an interaction between the absence of having an instruction indicating that Hispanic origin is not a race and the presence of Asian and Native Hawaiian and Other Pacific Islander spanners may increase item nonresponse for this questionnaire.

The instruction that "For this census, Hispanic origins are not races" was intended to improve race reporting by Hispanic respondents (Martin et al. 2004). This note was not included on panel X17, which may have caused respondents of Hispanic origin to look for a "Hispanic or Latino" or "Some Other Race" category. The use of spanners to clarify the "Asian" and "Pacific Islander" checkboxes may have made it even more difficult for respondents of Hispanic origin to find their "race" because of the cumbersome design of the response category layout. For example, cognitive testing and focus group findings indicate that some respondents interpret the race question that included the "Asian" and "Pacific Islander" spanners as two separate questions. This seemed to result in respondents experiencing difficulties finding their race, as well as missing the option to report their identity in the "Some Other Race" write-in line which was pushed to the very bottom of the question layout, well beyond the "Asian" and "Pacific Islander" spanners and the series of response checkboxes (Fernandez et al. 2009; Rastogi et al. 2011; Carroll, et al. 2011). Within the B1 Example Modification family, nonresponse to the race question by Hispanics is higher on panel X6 than on panel X8. Response to the race question by non-Hispanic respondents is higher on panel X14 than on either Panel X16 or Panel X17.

Table 7. Item Nonresponse for the Separate Race and Hispanic Origin Questions and the Combined Question.

Panel	Separate Questions: Hispanic Origin Question	Separate Questions: Race Question	Separate Questions: Nonresponse to Both Questions	Combined Question
XA	4.3 (0.32)	3.5 (0.28)	0.8 (0.12)	-
XB	4.9 (0.31)	4.0 (0.30)	1.1 (0.11)	-
X2	-	-	-	0.7 (0.11)
X3	-	-	-	0.8 (0.15)
X4	-	-	-	0.6 (0.13)
X5	-	-	-	1.2 (0.14)
X6	5.1 (0.30)	5.2 (0.34)	1.5 (0.15)	-
X7	4.9 (0.33)	4.0 (0.27)	1.0 (0.10)	-
X8	5.2 (0.35)	3.7 (0.25)	1.1 (0.13)	-
X9	4.5 (0.29)	4.5 (0.27)	1.3 (0.12)	-
X10	4.7 (0.30)	4.5 (0.28)	1.2 (0.12)	-
X11	4.9 (0.33)	4.5 (0.26)	1.2 (0.10)	-
X12	4.7 (0.28)	4.1 (0.29)	1.4 (0.10)	-
X14	5.4 (0.33)	4.3 (0.30)	1.4 (0.10)	-
X15	5.0 (0.32)	4.4 (0.30)	1.1 (0.08)	-
X16	4.1 (0.29)	4.3 (0.27)	0.9 (0.08)	-
X17	4.1 (0.29)	5.7 (0.34)	1.0 (0.12)	-

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses. Responses on X4 represent people who responded to either the checkbox question or the write-in question.

The combined questions (panels X2-X5) have considerably lower item nonresponse rates compared to the separate race and Hispanic origin questions. Item nonresponse for the combined questions was about 1 percent as shown in Table 7. Item nonresponse for the Hispanic origin and race questions ranged from 4.1 percent to 5.4 percent and 3.5 percent to 5.7 percent, respectively.

As previous research has shown, many non-Hispanic respondents skip the Hispanic origin question thinking that the question does not apply to them or that the question is redundant (Martin and Gerber 2004). This contributes to high item nonresponse to the Hispanic origin question, but the rate is reduced when the race and Hispanic origin questions are combined into one item.

As noted in Table 6, Hispanics have higher item nonresponse rates to the race question, contributing appreciably to the much higher race item nonresponse rates for the separate questions relative to the combined questions. By combining the race and Hispanic origin questions into one item, people of Hispanic origin have less difficulty reporting their identity, considerably reducing item nonresponse to the combined questions.

Nonresponse rates for those who did not respond to either the race or Hispanic origin questions ranged between 0.8 percent to 1.5 percent, with 11 of 13 panels experiencing nonresponse rates of 1 percent or more. In contrast, the three experimental combined question panels had an item nonresponse rate that was less than 1 percent. Combined race and Hispanic origin questions panel X2 and panel X4 showed significantly lower item nonresponse than the alternative control panel X5, which does not differ greatly from the standard control panel XB. Overall, this showed that the combined question item nonresponse rate point estimates tended to be generally lower than the item nonresponse rates for both the race and Hispanic origin questions.

It should be noted that, although panel X4 has low item nonresponse overall, this combined format is a combination of two questions with differing response rates. The first question is a checkbox only question with the five OMB race categories, Hispanic, and Some Other Race. This question had an item nonresponse rate of 1.2 percent. The second question contained a set of three write-in lines for specific origins which had an item nonresponse rate of 20.0 percent. Though the overall nonresponse rate of 0.6 percent for panel X4 appears beneficial when compared against the other treatments, this question is considerably different in design.

However, the high nonresponse to the second question in X4 is expected, as many respondents who report that they are "White" or "Black" in part one, may not have found it necessary to report an additional detailed response about their race or ethnicity. For example, while many "White" respondents choose to report that they are "Irish," "German," "Lebanese," etc., many others simply report that they are "White" and feel that they have sufficiently answered the question. In similar fashion, many "Black" respondents choose to report that they are "Haitian," "Nigerian," "African American," etc., and many others simply report that they are "Black." These types of response patterns were discussed in the "White" and "Black" AQE focus groups research, and also are demonstrated in the "ancestry" question reporting patterns among "White" and "Black" respondents on the American Community Survey. Furthermore, the intent of the two-part combined question is to elicit detailed responses from all groups however it was more successful at obtaining detailed responses from American Indian and Alaska Native, Asian, Hispanic, and Native Hawaiian and Other Pacific Islander respondents, than from "White" respondents, as expected. All in all, however, the two-part design provides all respondents with the opportunity to report one or more detailed responses if they wish to do so, and that is the ultimate goal.

Additional Findings

Race nonresponse for the B1 Example Modification family of panels ranged from 3.7 percent on panel X8 to 5.2 percent on panel X6, which were significantly different from each other but not from the other panels within the family. Results from Table 6 show this difference to be caused predominantly by Hispanic respondents not reporting on the race question. Panel X6 contained additional and modified examples to groups within the race question. Panel X8 alphabetized Asian examples and included an instruction for multiple reporting of Hispanic origins. Further investigation into the results at a treatment level showed that, overall, panels with added and modified examples have slightly higher nonresponse than other panels. It is possible that Hispanic respondents do not see any examples that represent the Hispanic population. Hispanic

origin nonresponse ranged from 4.7 percent to 5.2 percent within the B1 Example Modification family and was not significantly different across panels.

The B4 Spanner/Race Limitation family ranged from 4.1 percent to 5.4 percent nonresponse to the Hispanic origin question and 4.3 percent to 5.7 percent nonresponse to the race question. Panel X17 had significantly higher race nonresponse than all other panels within the B4 Spanner/Race Limitation family and the control (panel XB). As was mentioned previously, Table 6 shows this to be a result of predominantly Hispanic respondents leaving the race question blank. Panel X17 contained spanners for Asian and Native Hawaiian and Other Pacific Islander national origin groups, as well as having the term "race" removed from the question stem and write-in instructions. Unfortunately, the design of the B4 Spanner/Race Limitation family does not allow us to definitively test what aspect of the X17 panel specifically caused respondents to avoid this question.

Panel X14 shows significantly lower nonresponse to the Hispanic origin question than panel X17 or panel X16. Table 6 also showed a higher nonresponse to the race question by respondents reporting as Not Hispanic, which could suggest non-Hispanic respondents reporting on the Hispanic origin question who would otherwise leave both questions blank. Panel X14, panel X16, and panel X17 had the term "race" removed from the Other Asian and Other Pacific Islander write-in instructions, though panel X14 did not have the term "race" removed from the question stem as the others did. However these panels did not contain modifications to the Hispanic origin question so it is unlikely this was a result of any experimental modification.

Conclusion

The results shown in Table 6 and Table 7 suggest that the combined question approach is a promising strategy to reduce race and Hispanic origin question item nonresponse and subsequently to improve data quality. In summary, this research demonstrates that the strategy to combine the race and Hispanic origin questions into one item resulted in dramatically lower item nonresponse compared to the separate questions race and Hispanic origin panels. Item nonresponse for the combined questions was about 1 percent, whereas item nonresponse in the separate race and Hispanic origin questions ranged from 3.5 percent to 5.7 percent for the race question, and 4.1 percent to 5.4 percent for the Hispanic origin question.

Thus, the AQE research demonstrates that a combined question on race and Hispanic origin has the impact of gaining overall success in both Hispanics and non-Hispanics alike finding a place to identify and report their race and/or origin. The validity of these responses was further confirmed through the AQE reinterview results (please see Section 5.6 for reinterview analysis), which showed that when asked a series of follow-up questions about respondent identification with any of the possible response categories, overall matches between combined question responses and reinterview "truth" were much greater than separate question responses and reinterview "truth." The greater illustrator of this pattern was that "Hispanics" who reported they were "White" in the separate race question did not identify as "White" (only as "Hispanic") in the reinterview; while "Hispanics" who did identify as "White" and "Hispanic" in the combined question also confirmed this identity in the reinterview.

5.3 Overall Race and Origin Distributions

5.3.1 Distribution for All AQE Panels

The results in Table 8 show weighted distributions for all questionnaires after pre-edits were applied.[22] Categories include the five OMB race categories, Some Other Race, Two or More Responses, and Hispanic alone (for the combined question).[23]

[22] Refer to Section 3.5.1 for more information on data editing.

[23] For the separate questions forms, the Two or More Responses population is equivalent to the Two or More Races population. The Two or More Races population is comprised of individuals who choose more than 1 of the 6 race categories: White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Some Other Race. For the combined question forms, the Two or More Responses population represents people who reported either Two or More Races (e.g., White ***and*** Black) or people who reported a Hispanic origin and one or more races (e.g., Mexican ***and*** White ***and*** Black).

Table 8. Weighted Distributions for All Panels.

Panel	White Alone	Black Alone	American Indian and Alaska Native Alone	Asian Alone	Native Hawaiian and Other Pacific Islander Alone	Some Other Race Alone	Two or More Responses	Hispanic Alone	Invalid Response Alone
XA	72.8 (0.67)	10.8 (0.41)	0.6 (0.11)	4.9 (0.29)	0.1 (0.02)	5.7 (0.34)	3.8 (0.26)	NA	0.4 (0.12)
XB	70.7 (0.62)	11.3 (0.38)	0.5 (0.11)	5.3 (0.36)	0.1 (0.02)	5.8 (0.32)	4.5 (0.30)	NA	0.6 (0.16)
X2	64.7 (0.66)	10.5 (0.38)	0.5 (0.12)	4.8 (0.28)	0.1 (0.02)	0.1 (0.05)	6.8 (0.38)	11.3 (0.42)	0.5 (0.13)
X3	64.5 (0.77)	10.9 (0.42)	0.3 (0.07)	5.1 (0.32)	0.1 (0.01)	0.2 (0.05)	5.8 (0.32)	11.8 (0.46)	0.6 (0.16)
X4	64.8 (0.76)	10.8 (0.41)	0.3 (0.10)	4.7 (0.30)	0.1 (0.02)	0.2 (0.06)	6.3 (0.37)	11.6 (0.49)	0.6 (0.18)
X5	66.3 (0.73)	10.9 (0.39)	0.3 (0.10)	5.2 (0.32)	0.1 (0.09)	0.1 (0.02)	3.9 (0.26)	11.5 (0.43)	0.5 (0.14)
X6	70.2 (0.72)	11.0 (0.42)	0.5 (0.07)	5.1 (0.32)	0.1 (0.02)	7.1 (0.37)	4.3 (0.32)	NA	0.3 (0.07)
X7	71.1 (0.70)	11.3 (0.42)	0.6 (0.13)	5.2 (0.34)	0.1 (0.05)	6.2 (0.34)	4.2 (0.29)	NA	0.4 (0.11)
X8	71.6 (0.67)	11.1 (0.42)	0.4 (0.11)	5.2 (0.34)	0.1 (0.04)	5.7 (0.31)	4.6 (0.30)	NA	0.3 (0.10)
X9	70.3 (0.74)	11.1 (0.44)	0.4 (0.08)	4.8 (0.29)	0.2 (0.08)	6.8 (0.35)	4.8 (0.35)	NA	0.4 (0.12)
X10	70.6 (0.71)	11.0 (0.40)	0.6 (0.10)	5.3 (0.34)	0.1 (0.02)	6.8 (0.36)	3.8 (0.24)	NA	0.6 (0.15)
X11	70.0 (0.69)	11.4 (0.43)	0.8 (0.15)	5.1 (0.32)	0.2 (0.06)	7.1 (0.34)	3.8 (0.27)	NA	0.5 (0.12)
X12	71.6 (0.68)	11.4 (0.41)	0.6 (0.12)	4.8 (0.29)	0.1 (0.02)	5.8 (0.35)	4.0 (0.26)	NA	0.4 (0.10)
X14	70.9 (0.70)	10.8 (0.39)	0.8 (0.15)	5.4 (0.33)	0.1 (0.03)	5.7 (0.33)	4.7 (0.35)	NA	0.3 (0.12)
X15	71.3 (0.71)	11.2 (0.43)	0.6 (0.14)	5.2 (0.33)	0.1 (0.02)	6.3 (0.37)	4.1 (0.26)	NA	0.2 (0.04)
X16	70.4 (0.74)	11.5 (0.45)	0.4 (0.09)	5.9 (0.37)	0.2 (0.09)	6.6 (0.34)	3.8 (0.26)	NA	0.3 (0.08)
X17	70.4 (0.67)	11.6 (0.43)	0.6 (0.12)	4.7 (0.28)	0.1 (0.02)	7.0 (0.37)	4.3 (0.28)	NA	0.4 (0.10)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses. Responses come from both the race and Hispanic origin questions. The sample included only a small proportion of Native Hawaiian and Pacific Islanders making inferences on these groups difficult. A value of NA was given in categories which did not have a response option. The no response column has been removed so percentages in table are not 100 percent.

Major Findings

The major findings regarding overall race and origin distributions show important differences between the separate questions approach and the combined question approach, with respect to the reporting of "Some Other Race." For the separate questions panels, the Some Other Race alone population ranged from 5.7 percent to 7.1 percent. Thus, similar to results from Census 2000 and the 2010 Census, across all AQE questionnaires that have separate race and Hispanic

origin questions, Some Other Race alone is the third largest category, after White alone and Black alone. As mentioned previously, many Hispanics do not identify with the OMB race categories and self-identify their race as "Latino," "Mexican," or other national origins or ethnicities. Hispanic origin responses to the race question were classified as Some Other Race. In Census 2000 and the 2010 Census, 97 percent of those who were classified as Some Other Race alone were of Hispanic origin (Guzman 2001; Humes et al. 2011).

However, when Hispanics have an option to choose Hispanic as their identity in the combined question, the Some Other Race alone population is reduced dramatically to about 0.2 percent across combined question panels. This is demonstrated by a significant decrease in Some Other Race reporting on the X5 combined alternative control panel compared to the standard control panel XB.

The B1 Example Modification family panel X8, which featured alphabetized Asian examples and an instruction for reporting of multiple Hispanic origins, had a lower proportion of respondents reporting Some Other Race than panels X6 and X11. Panel X6 contained additional and modified examples along with panel X11, which combined treatments from both panel X6 and panel X8.

The proportion of the White alone population is lower for the combined question panels compared to the separate questions panels. The White alone population size ranged from 70.2 percent to 72.8 percent across the separate questions panels. For the combined question panels, the range was 64.5 percent to 66.3 percent. Specifically, the combined control panel X5 showed a significantly lower proportion of White alone than that on the separate question control panel XB. This is in line with 2010 Census data, where the proportion of the non-Hispanic White alone population was 64 percent (Humes et al. 2011).[24] The difference is that, for this study, this column includes both Hispanic and non-Hispanic White responses for all panels and demonstrates that many Hispanics do not actually identify as White, but will mark this in the absence of alternative options.

Moreover, AQE focus group research indicates that a number of Hispanics report their race as White to the separate race question because they do not see themselves represented in the race question and feel forced to choose a race category (Rastogi et al 2011; Carroll, et al. 2011). Therefore, the reduction in size of the White alone population for the combined question panels was likely a result of Hispanic respondents finding their identity in the combined questions.

The Two or More Responses population is significantly larger for the three experimental combined question panels compared to the separate question panels and alternative control panel. The Two or More Responses population was 5.8 percent to 6.8 percent for the panel X2, panel X3, and panel X4 panels and 3.9 percent for the X5 panel. All combined question experimental panels had a significantly greater proportion of Two or More Responses than the alternative

[24] Please note that the 2010 Census AQE results are based on mail returns only, while the 2010 Census results are based on data collected via both mail and enumerators. The characteristics of respondents whose data are collected by enumerators may be different from those of mail respondents.

control X5 panel, which was not significantly different from the standard control panel XB. The Two or More Responses population ranged from 3.8 percent to 4.8 percent for the separate questions. Focus group research suggests that one reason we observe an increase in the Two or More Responses population for panel X2, panel X3, and panel X4 was that respondents have been interpreting the question as asking for race and origin, thus increasing multiracial reporting on these panels (Rastogi et al. 2011; Carroll, et al. 2011).

The Two or More Responses population is lower for the X5 panel relative to the other combined panels. Although we cannot statistically determine the reason for this difference, we hypothesize that the Other Hispanic write-in boxes segment the question, making it difficult for some respondents to find the AIAN, Asian, NHPI, and Some Other Race checkbox categories, potentially reducing the number of responses that respondents mark on the questionnaire. Cognitive testing has shown that some respondents view the combined question on the X5 panel as two questions making it difficult for them to find their racial category and "resulted in them getting 'stuck' in the upper part of the question" (Fernandez et al. 2009).

The significant increase in respondents reporting Two or More Responses is an interesting discovery. It was important to determine if this was an accurate representation of the sample population or merely an effect of the question design. Additional exploration of responses to the reinterview questions reveals that the proportion of respondents reporting multiple responses are fairly high across the entire reinterview ranging from 4.2 percent to 6.3 percent for the final truth variable (see Table A9 in Appendix A). In light of these results, it appears that the separate questions are discouraging respondents from reporting their full self-identified race and origin.

While the distributions for White alone, Some Other Race alone, and Two or More Responses populations changed between the separate and combined questions, distributions for other groups remained comparable. Specifically, the Black, American Indian or Alaska Native, Asian, and Native Hawaiian and Other Pacific Islander population distributions did not change significantly across questionnaires.

Additional Findings

Within the B4 Spanner/Race Limitation family, panel X17 had a lower proportion of Asian respondents than did panel X16. The only difference between these two panels is the presence of an Asian spanner and a Pacific Islander spanner on panel X17. This modification was intended to help direct respondents who were confused by the abundance of specific origin checkboxes for Asian and Pacific Islander races. However, these results imply an opposite effect within the Asian population.

As hypothesized, the removal of the term “Negro” from select questionnaires did not significantly change the distribution of the Black population across panels. Across the majority of AQE focus groups, which consisted of a variety of race and ethnic groups, many participants voiced concern and stated that they were offended that the term “Negro” was still being used on the Census questionnaire (Rastogi et al 2011; Carroll, et al. 2011). Some participants said they would go so far as to not answer the Census because the term was on the questionnaire (Rastogi et al 2011; Carroll, et al. 2011).

Conclusion

An important finding of the AQE was that the combined question strategy increased reporting within OMB categories. This is demonstrated through the tremendous reduction in the reporting of Some Other Race alone on the combined question panels relative to the separate question panels. When Hispanics have an opportunity to choose Hispanic in the combined question, the Some Other Race alone population was reduced dramatically from the third largest category to an almost non-existent 0.2 percent across combined question panels.

5.3.2 Race and Hispanic Origin Distributions for Combined Panels

The results in Table 9 show the weighted non-Hispanic race and Hispanic origin distributions for the combined question panels.

Table 9. Weighted Combined Distribution.

	Non-Hispanic							Hispanic		
	White Alone	Black Alone	American Indian or Alaska Native Alone	Asian Alone	Native Hawaiian or Pacific Islander	Some Other Race	Two or More Responses	Alone	Two or More Responses	Invalid Response Alone
X2	64.7	10.5	0.5	4.8	0.1	0.1	3.6	11.3	3.2	0.5
	(0.66)	(0.38)	(0.12)	(0.28)	(0.02)	(0.05)	(0.27)	(0.42)	(0.29)	(0.13)
X3	64.5	10.9	0.3	5.1	0.1	0.2	3.5	11.8	2.3	0.6
	(0.77)	(0.42)	(0.07)	(0.32)	(0.01)	(0.05)	(0.27)	(0.46)	(0.21)	(0.16)
X4	64.8	10.8	0.3	4.7	0.1	0.2	3.5	11.6	2.8	0.6
	(0.76)	(0.41)	(0.10)	(0.30)	(0.02)	(0.06)	(0.28)	(0.49)	(0.21)	(0.18)
X5	66.3	10.9	0.3	5.2	0.1	0.1	1.6	11.5	2.3	0.5
	(0.73)	(0.39)	(0.10)	(0.32)	(0.09)	(0.02)	(0.17)	(0.43)	(0.20)	(0.14)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses.
Two or More Responses for the non-Hispanic population represent those who reported more than 1 of the 6 race groups (e.g., White ***and*** Black). Two or More Responses for the Hispanic population represent those who reported a Hispanic origin with one or more races (e.g., Mexican ***and*** White).

Table 9 shows that the non-Hispanic Two or More Responses population is larger for the three experimental combined question formats (3.5 percent to 3.6 percent) compared with the X5 panel (1.6 percent). Cognitive testing has shown that the Other Hispanic write-in boxes segment the question, making it difficult for some respondents to find the American Indian or Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Some Other Race checkbox categories, potentially reducing the number of responses that respondents mark on the questionnaire (Fernandez et al. 2009).

For the combined questions, about 12 percent of people reported Hispanic alone and only 2.3 percent to 3.2 percent of people reported Hispanic with one or more races. Panel X2 had the highest Hispanic Two or More Responses and was significantly higher than both panel X5 and panel X3. Both non-Hispanic respondents and Hispanic respondents contribute to the increase in the Two or More Responses population for the combined question panels.

5.3.3 Hispanic Origin Distribution

Table 10 shows the Hispanic origin distribution by questionnaire. The total Hispanic population (shown in the far left column of the table) is further subset into the percent reporting in each of the three 2010 Census checkbox response categories ("Mexican, Mexican Am., Chicano;" "Cuban;" and "Puerto Rican"), other specific Hispanic responses (e.g., Dominican and Salvadoran), general Hispanic responses (e.g., Hispanic, Latino, and Spanish), multiple Hispanic responses (e.g., Dominican ***and*** Mexican), and mixed Hispanic and non-Hispanic reporting (e.g., Not Hispanic ***and*** Colombian).

The percentages within the 2010 Census checkbox response categories include both checkbox responses and write-in responses within these groups (e.g., marking the "Mexican, Mexican Am., Chicano" checkbox or writing "Mexican-American").

Table 10. Hispanic Origin Weighted Distribution.

Panel	Hispanic, Latino, or Spanish	*Mexican, Mexican Am., Chicano*	*Puerto Rican*	*Cuban*	*Other Specific*	General		*Multiple Hispanic*	*Mixed Hispanic and Non-Hispanic*	Not Hispanic
						Write-In	*Checkbox Only*			
XA	13.0	*8.1*	*1.1*	*0.5*	*2.3*	*0.3*	*0.4*	*0.2*	*0.2*	82.2
	(0.52)	*(0.43)*	*(0.14)*	*(0.08)*	*(0.18)*	*(0.05)*	*(0.08)*	*(0.02)*	*(0.05)*	(0.60)
XB	13.8	*8.2*	*1.2*	*0.8*	*2.3*	*0.4*	*0.4*	*0.5*	*0.2*	81.0
	(0.55)	*(0.39)*	*(0.16)*	*(0.15)*	*(0.20)*	*(0.08)*	*(0.08)*	*(0.11)*	*(0.03)*	(0.59)
X2	14.5	*7.8*	*1.6*	*0.5*	*2.6*	*0.9*	*0.7*	*0.5*	*NA*	84.7
	(0.52)	*(0.37)*	*(0.19)*	*(0.07)*	*(0.20)*	*(0.13)*	*(0.10)*	*(0.10)*		(0.53)
X3	14.1	*6.4*	*1.1*	*0.6*	*2.7*	*1.2*	*2.0*	*0.2*	*NA*	85.1
	(0.51)	*(0.35)*	*(0.16)*	*(0.11)*	*(0.22)*	*(0.14)*	*(0.21)*	*(0.02)*		(0.54)
X4	14.3	*7.3*	*1.1*	*0.6*	*2.3*	*1.4*	*1.5*	*0.3*	*NA*	85.1
	(0.52)	*(0.39)*	*(0.16)*	*(0.10)*	*(0.21)*	*(0.15)*	*(0.15)*	*(0.06)*		(0.53)
X5	13.8	*7.4*	*1.7*	*0.5*	*2.2*	*0.5*	*1.4*	*0.2*	*NA*	85.0
	(0.49)	*(0.36)*	*(0.22)*	*(0.06)*	*(0.18)*	*(0.12)*	*(0.15)*	*(0.02)*		(0.51)
X6	13.8	*8.0*	*1.4*	*0.6*	*2.7*	*0.3*	*0.5*	*0.4*	*0.3*	80.6
	(0.53)	*(0.39)*	*(0.17)*	*(0.10)*	*(0.25)*	*(0.06)*	*(0.10)*	*(0.07)*	*(0.09)*	(0.63)
X7	14.5	*8.4*	*1.7*	*0.7*	*2.6*	*0.4*	*0.3*	*0.5*	*0.3*	80.2
	(0.54)	*(0.40)*	*(0.20)*	*(0.12)*	*(0.22)*	*(0.06)*	*(0.06)*	*(0.12)*	*(0.08)*	(0.61)
X8	13.4	*7.5*	*1.3*	*0.6*	*2.5*	*0.4*	*0.5*	*0.6*	*0.3*	80.8
	(0.49)	*(0.36)*	*(0.14)*	*(0.10)*	*(0.21)*	*(0.10)*	*(0.08)*	*(0.11)*	*(0.06)*	(0.57)
X9	13.9	*8.0*	*1.2*	*0.5*	*2.8*	*0.5*	*0.5*	*0.4*	*0.2*	81.0
	(0.51)	*(0.37)*	*(0.13)*	*(0.05)*	*(0.27)*	*(0.08)*	*(0.09)*	*(0.07)*	*(0.05)*	(0.60)
X10	13.2	*7.6*	*1.2*	*0.7*	*2.6*	*0.4*	*0.4*	*0.4*	*0.3*	81.6
	(0.50)	*(0.35)*	*(0.14)*	*(0.10)*	*(0.22)*	*(0.12)*	*(0.08)*	*(0.07)*	*(0.06)*	(0.57)
X11	14.0	*8.0*	*1.4*	*0.7*	*2.4*	*0.4*	*0.5*	*0.6*	*0.3*	80.6
	(0.49)	*(0.38)*	*(0.16)*	*(0.09)*	*(0.20)*	*(0.09)*	*(0.09)*	*(0.11)*	*(0.07)*	(0.59)
X12	13.3	*7.3*	*1.6*	*0.7*	*2.5*	*0.4*	*0.5*	*0.4*	*0.2*	81.5
	(0.52)	*(0.36)*	*(0.21)*	*(0.12)*	*(0.20)*	*(0.05)*	*(0.08)*	*(0.07)*	*(0.06)*	(0.61)
X14	14.2	*8.4*	*1.3*	*0.5*	*2.5*	*0.4*	*0.7*	*0.4*	*0.2*	80.0
	(0.53)	*(0.43)*	*(0.15)*	*(0.04)*	*(0.20)*	*(0.06)*	*(0.15)*	*(0.08)*	*(0.04)*	(0.62)
X15	14.1	*8.7*	*1.3*	*0.6*	*2.4*	*0.3*	*0.4*	*0.4*	*0.2*	80.5
	(0.51)	*(0.43)*	*(0.16)*	*(0.10)*	*(0.19)*	*(0.04)*	*(0.06)*	*(0.10)*	*(0.06)*	(0.59)
X16	13.4	*7.9*	*1.2*	*0.7*	*2.5*	*0.3*	*0.6*	*0.3*	*0.4*	81.8
	(0.50)	*(0.37)*	*(0.17)*	*(0.09)*	*(0.21)*	*(0.04)*	*(0.12)*	*(0.04)*	*(0.11)*	(0.57)
X17	14.0	*8.1*	*1.2*	*0.6*	*3.0*	*0.2*	*0.6*	*0.4*	*0.2*	81.4
	(0.50)	*(0.41)*	*(0.14)*	*(0.07)*	*(0.24)*	*(0.03)*	*(0.12)*	*(0.08)*	*(0.04)*	(0.56)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses. "General Write-in" refers to write-in terms such as "Hispanic," "Latino," or "Spanish." "Checkbox Only" refers to marking the "Yes, another Hispanic, Latino, or Spanish" checkbox on the separate question panels, panel X2, or panel X5; or the "Hispanic, Latino, or Spanish" checkbox on panel X3 and panel X4, without providing a write-in.

The proportion of the total population that is Hispanic is relatively similar across all panels. For the separate question panels, the proportion of the Hispanic population ranges from 13.0 percent to 14.5 percent. For the combined question panels, the range was from 13.8 percent to 14.5 percent. These percentages are similar to 2010 Census results (including both self-enumeration

and interviewer-assisted enumeration) which show that 16 percent of the total population reported as Hispanic (Ennis et al. 2011). This is an important finding since it is critical to move forward with strategies that do not substantially increase or decrease the proportion of any race or ethnic group. One exception to this is for the White population. The proportion of the White alone population is lower for the combined question panels compared to the separate questions panels. This result was expected as many Hispanics feel forced to identify as White in the absence of better alternatives. The reduction in the White alone population for the combined panels was likely a result of Hispanic respondents finding their identity. These findings are supported by the focus groups and reinterview results.

Overall, the proportions of people reporting Mexican, Puerto Rican, Cuban, and other specific Hispanic origins are comparable across the questionnaires, suggesting that most design strategies continue to elicit detailed reporting among Hispanics. On panel X3, we observe a lower proportion of Mexicans (6.4 percent) relative to other panels, though it was significantly lower than only panel X2 within the combined question panels. Upon first inspection, one may conclude that the lack of a Mexican checkbox response category may be causing this decline, however this same phenomenon is not observed with the X4 panel, which also excludes a checkbox response category for Mexican. Since several formatted content changes are made within each composite experimental question, it is not possible to differentiate specific causal factors within this test.

In general, on many of the combined question panels, we observe a slightly higher proportion of general responses than on the separate question panels. Panel X2, panel X3, and panel X4 had significantly higher proportions of general Hispanic write-ins than the combined alternative control panel X5. The proportion of Hispanics that reported a general write-in ranged from 0.5 percent to 1.4 percent and the proportion that only marked the checkbox ranged from 0.7 percent to 2.0 percent. Panel X5 had a significantly higher occurrence of respondents simply checking the Other Hispanic checkbox than the standard control panel XB. This was similar across all combined panels with the exception of panel X2, which was significantly different from other combined panels and had a checkbox only response rate closer to that of the separate panels. It may be that the question stem to report race or origin on many of the combined panels was eliciting more generalized responses, where people were searching back for a heritage that was not recent. More causal qualitative research is necessary to understand this reporting pattern.

Multiple Hispanic reporting (e.g., reporting “Mexican American” ***and*** “Salvadoran”) and mixed reporting (e.g., "Not Hispanic" ***and*** "Cuban") is largely consistent across questionnaires within the B1 Example Modification family, despite the addition of the instruction to “mark one or more” to the Hispanic origin question on panel X8, panel X9, panel X11, and panel X12. This result was supported by a linear contrast analysis, which found no difference in multiple Hispanic reporting (see Table 14 of Section 5.5).

Panel X2 had the highest proportion of multiple Hispanic reporting (0.5 percent) amongst the combined panels, which was significant when compared to both panel X3 and panel X5 (0.2 percent). However, this does not appear to be indicative of a trend between combined and separate question panels, since panel X5 was also significantly lower than control panel XB. It is unknown what may be causing these differences.

5.4 Detailed Race and Origin Reporting

One of the research objectives of the AQE is to elicit reporting of detailed race and ethnic groups. For example, a general or nonspecific response would be to mark the "Other Asian" checkbox but not to provide a more detailed origin in the write-in field. A specific, or detailed, response would be to check one of the national origin checkboxes (e.g., "Japanese") or check the "Other Asian" checkbox and then write a specific group such as "Cambodian" in the write-in field. Table 11 shows the percentage of detailed responses of the total responses for each group. For more information on detailed reporting, specific groups by race are in Appendix A (Tables A1 through A6).

Table 11. Detailed Reporting for Select Race Groups and Hispanic Origin.

	White	Black/ African American	Hispanic, Latino, or Spanish	American Indian/ Alaska Native	Asian	Native Hawaiian/ Pacific Islander	Some Other Race
XA	1.4 (0.25)	4.2 (0.42)	94.0 (0.74)	65.8 (7.16)	99.0 (0.17)	69.3 (10.47)	86.4 (4.56)
XB	1.4 (0.23)	5.1 (0.70)	93.8 (0.82)	54.1 (6.81)	98.0 (0.57)	81.5 (4.75)	80.0 (6.67)
X2	48.3 (1.03)	76.8 (1.34)	88.9 (1.02)	70.3 (4.93)	96.6 (1.38)	85.8 (6.45)	92.7 (6.07)
X3	50.4 (1.13)	76.6 (1.59)	77.7 (1.64)	64.5 (5.21)	94.5 (1.08)	81.9 (5.25)	95.9 (1.84)
X4	29.4 (1.00)	87.6 (1.27)	80.0 (1.30)	60.3 (4.91)	92.6 (1.31)	48.1 (6.01)	74.5 (8.37)
X5	1.8 (0.26)	2.9 (0.50)	86.4 (1.28)	73.3 (6.13)	97.4 (0.75)	46.6 (22.39)	98.0 (1.09)
X6	1.3 (0.22)	4.0 (0.55)	93.8 (0.81)	66.6 (5.93)	98.5 (0.39)	76.6 (9.66)	86.2 (4.58)
X7	1.7 (0.23)	3.4 (0.35)	94.0 (0.72)	63.4 (7.68)	97.2 (1.21)	67.4 (13.36)	83.5 (6.26)
X8	1.5 (0.19)	5.0 (0.93)	92.6 (0.95)	68.6 (5.29)	97.4 (0.70)	83.7 (5.93)	75.0 (7.65)
X9	1.9 (0.31)	4.6 (0.57)	92.5 (0.82)	64.0 (6.44)	97.2 (1.25)	70.7 (15.85)	88.5 (4.47)
X10	1.5 (0.22)	5.7 (0.78)	93.2 (1.09)	58.1 (6.34)	97.4 (0.64)	77.4 (7.05)	83.4 (6.86)
X11	1.4 (0.19)	4.2 (0.61)	92.9 (0.89)	75.1 (4.58)	98.6 (0.38)	76.7 (10.73)	86.6 (6.05)
X12	2.0 (0.31)	4.1 (0.61)	92.7 (0.76)	68.7 (5.65)	96.6 (0.77)	82.6 (4.66)	80.7 (11.21)
X14	1.5 (0.24)	4.7 (0.80)	92.3 (1.09)	69.2 (6.16)	98.6 (0.36)	87.7 (4.87)	80.0 (8.35)
X15	1.3 (0.17)	3.5 (0.46)	94.7 (0.52)	65.7 (5.82)	97.5 (1.02)	84.7 (5.30)	83.4 (8.46)
X16	1.8 (0.30)	4.5 (0.57)	92.0 (1.04)	63.6 (6.34)	97.5 (1.06)	51.2 (19.16)	85.3 (7.81)
X17	1.7 (0.25)	3.8 (0.50)	93.8 (0.85)	74.2 (5.68)	97.0 (0.83)	89.0 (4.25)	85.3 (5.88)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses.

Major Findings

The major findings regarding detailed race and origin reporting provide insight to the ways in which the design and layout of different question panels affected respondent reporting. As expected, questionnaires (panel X2, panel X3, and panel X4) that gave White ethnic groups and Black ethnic groups the opportunity to report their specific origin have a much higher percentage of White detailed responses and Black detailed responses, compared with questionnaires that did not provide this opportunity. Of all respondents who provided a White response (e.g., "English," "Egyptian"), about half reported a detailed response on the X2 panel and panel X3. This figure

is significantly lower for panel X4 (29.4 percent) though still significantly higher than the control panel X5. This reduction of response to panel X4 may be because there was not a dedicated White write-in line for White respondents to report their detailed origin. In addition, the example of Egyptian may not have been readily recognizable as a White example, so only recognizing German may not have elicited European White responses. For all other questionnaires, only 1 percent to 2 percent of the White population reported detailed responses.

For the Black population, about 77 percent of Black respondents provided detailed responses (e.g., “African American,” "Haitian”) on panel X2 and panel X3, which was significantly higher than panel X5. The percentage was significantly higher for panel X4, where 87.6 percent of Blacks reported detailed responses. This increase in Blacks who reported their detailed responses on the X4 panel may have been a function of African American being the first example in a long list of race and origin examples. Further exploration shows that the majority of Black specific reporting is respondents who are reporting “African American.” Table A3 shows that around 67 percent of respondents on panel X2 and panel X3 reported this, while 77.6 percent of the respondents on panel X4 reported as “African American.” For all other questionnaires, only 3 percent to 6 percent of the Black population reported detailed responses. Panel X5 had a significantly lower proportion of respondents who reported a specific Black origin than the separate control panel XB. There were no significant differences between any of the separate question panels. The percentage of respondents reporting specific black origins on the separate questions were significantly lower than the X2 panel, X3 panel, and X4 panel.

There is a significant general decrease in detailed Hispanic origin reporting in the combined panels. Of all respondents who reported as Hispanic to the combined questions, 77.7 percent to 88.9 percent provided a detailed response (e.g., “Mexican,” “Peruvian”). For the separate question panels, this percentage ranged from 92.0 percent to 94.7 percent. The alternative combined control panel X5 showed a significantly lower proportion of Hispanics providing detailed responses than the standard separate question control panel XB. Panel X3 and panel X4 showed significantly lower detailed Hispanic reporting than panel X2 and panel X5. AQE focus group research has shown us that a respondent’s English literacy level may affect how a respondent reports to questionnaires. More research on this pattern is necessary. In addition, these findings suggest that additional strategies will need to be tested to elicit detailed reporting for Hispanics on the combined questions, including testing questionnaires in Spanish.

Detailed response reporting for American Indian or Alaska Native respondents (e.g., “Navajo,” “Athabascan”) and Native Hawaiian and Other Pacific Islander respondents (e.g., “Hawaiian,” “Fijian”), as well as Some Other Race respondents (e.g., “Bermudan,” “Cape Verdean”), demonstrated large variations across panels. This variation is likely due to the small sample sizes for these populations.

Within the B1 Example Modification family, 58.1 percent to 75.1 percent of the American Indian or Alaska Native population provided detailed responses. Within the B4 Spanner Race/Limitation family 63.6 percent to 74.2 percent of the American Indian or Alaska Native population provided a detailed response. The lowest percentage was for the control panel XB, one of the control panels (54.1 percent). The combined questions were similar with 60.3 percent to 73.3 percent of the American Indian or Alaska Native population providing detailed

responses. Panels showed no significant differences in reporting of detailed American Indian and Alaska Native responses. Due to the smaller samples for these population groups, variability is large.

Across all questionnaires 46.6 percent to 89.0 percent of the Native Hawaiian and Other Pacific Islander population provided detailed responses. Only one panel showed significant differences within this group. Detailed reporting for Panel X4 (48.1 percent) was significantly lower than panel X2 and panel X3 (85.8 percent and 81.9 percent respectively), however none of these panels was significantly different from panel X5 (46.6 percent). This variability is likely a result of a small sample size for this population group.

For the Asian population, 97.2 percent to 98.6 percent of respondents in the B1 Example Modification family and 97.0 percent to 98.6 percent of respondents within the B4 Spanner/Race Limitation family provided detailed responses (e.g., "Chinese," "Pakistani"). Within the B2 Combined Question family, 92.6 percent to 97.4 percent of the Asian population provided detailed responses. There were no significant differences within the B1 or B4 families; however panel X3 and panel X4 showed significantly lower detailed reporting than the alternative combined control panel X5. It is likely that the lack of specific origin checkboxes was responsible for this reduction in specific reporting.

Additional Findings

The B1 Example Modification family panels were combined to analyze reporting of specific detailed responses for each race group at the treatment level. White detailed reporting, Black detailed reporting, American Indian and Alaska Native detailed reporting, Asian detailed reporting, Native Hawaiian and Other Pacific Islander detailed reporting, and Some Other Race detailed reporting all showed no differences when examples were added or modified. Percent detailed Hispanic reporting also was not affected by modification of Hispanic examples. In order to more fully understand how the treatments affected reporting, more specific measures are explored in Section 5.5. Comparisons were made between panels with and without specific modifications and selected measures related directly to treatment expectations or concerns.

Conclusion

Results were mixed on whether the combined panels elicited more detailed ethnic reporting. The experimental combined question panels all showed an increase in detailed ethnic reporting for White respondents, Black respondents, and respondents of Some Other Race. There were no noticeable differences in specific detailed reporting for American Indian and Alaska Native, Asian, or Native Hawaiian and Other Pacific Islander groups, though these groups had much variability across measures due to small sample size. All panels showed a significant decrease in reporting of specific Hispanic origin, though much of this may have stemmed from the lack of specific origin checkboxes.

5.5 Treatment-Level Analysis

The B1 Example Modification family of panels was designed with three treatment groups (B1b, B1c, and B1d), each of which contained elements that should have had no interaction being paired with other treatment groups on questionnaires. This allowed comparison of treatment results utilizing effects from all panels where a specific treatment was included using linear contrasts.

Major Findings

The major findings from the treatment-level analysis provide details on the interaction within different designs of the race and Hispanic origin questions. The B1b treatment introduced examples to the White, Black, and American Indian and Alaska Native response categories. Other Asian and Other Pacific Islander examples were modified to incorporate a more diverse representation of origins (Table 12). An increase in write-ins for White and Black groups, which did not have their own write-in spaces, was used to detect if respondents did not identify within these treatment categories. As shown in Table 12, there were no differences in White or Black checkbox reporting when examples were added. This suggests that examples do not reorient groups who usually report within the Some Other Race write-in line with White and Black specific origins. Although the intention of these examples was to reduce the need for editing of some groups, these results showed this method was not successful.

Table 12. Estimated Differences of Treatment-Level Comparisons of the Modified Race Example Treatment.

Treatment	Contrast	Estimate of Differences	Standard Error	p-value
Addition of Examples to All Race Groups	Non-Checkbox White Reporting	-0.07	0.75	0.928
	Non-Checkbox Black Reporting	-0.69	1.89	0.717
	American Indian Example Groups	4.60	6.96	0.509
	Overall American Indian or Alaska Native Reporting	*0.96	0.47	0.040
	Hispanic Reporting as American Indian	*5.20	1.64	0.002
Modified Asian and Other Pacific Islander Examples	Standard Asian Examples	*-8.84	4.04	0.029
	Modified Asian Examples	-6.76	5.83	0.247
	Specific Reporting for Non-Checkbox Asian Groups	0.87	2.50	0.729
	Overall Asian Reporting	-0.41	1.06	0.701
	Standard Other Pacific Islander Example Groups	1.85	21.27	0.931
	Modified Other Pacific Islander Example Groups	-9.32	6.37	0.144
	Overall Pacific Islander Reporting	0.08	0.20	0.701

Source: 2010 Census AQE Auxiliary Data Files. Note: Non-Checkbox includes all write-in responses within a certain checkbox category. Standard examples are those found on the 2010 Census production panel. The * indicate significant differences at α=0.1.

Because the American Indian and Alaska Natives category had a write-in line, the presence of specific tribes and origins is not a good indicator of the success of the provided examples. Instead, the effect of including “Mayan” as an example was explored using the percent of

Hispanics reporting an American Indian group. This was based on South and Central American Indians originating in predominantly Hispanic countries. There was a significant increase in Hispanic respondents reporting an American Indian response on questionnaires with "Mayan" as an example. Evidence from Table A4 showed an increase in the overall number of respondents who wrote in South and Central American Indian origins. This follows the Office of Management and Budget conceptual definition of "American Indian and Alaska Native" as inclusive of all indigenous groups in the Americas. Additionally, many of these were origins other than Mayan, which suggests that the inclusion of this example was an effective trigger to help orient respondents.

Also, the percent of American Indians and Alaska Natives reporting within the example groups was explored to ensure that example groups were not being over-reported. There was no increase in reporting of example groups. There was however an overall increase in reporting as American Indian and Alaska Native.

In analyzing the effects of modifying both the Other Asian and Other Pacific Islander examples, frequencies of both groups of examples were compared to ensure that reporting within example groups was not decreased when certain groups were not specifically listed. There was a decrease in reporting of the standard 2010 Census Asian example groups on questionnaires in which examples were modified. There was no change in the modified Asian example groups. There was also no change in either of the Other Pacific Islander example groups.

The B1c treatment introduced modifications to the list of Hispanic origin examples on the Hispanic origin question. Comparisons, which are shown in Table 13, were made between panels with the same Hispanic origin examples found on the standard 2010 census questionnaire and a more concise selection of examples. There were no significant changes in reporting of standard example groups when Hispanic examples were modified. There was also no change in the reporting of the modified example groups in the presence or absence of the modification.

Table 13. Estimated Differences of Treatment-Level Comparisons of the Modified Hispanic Examples and Removal of term "Negro" treatment.

Treatment	Contrast	Estimate of Differences	Standard Error	p-value
Removal of the term "Negro"	Reporting as "Negro"	*-0.90	0.36	0.012
	Non-Checkbox Black Reporting	0.40	1.85	0.828
	Overall Hispanic Reporting	-0.14	1.51	0.926
Modified Hispanic Examples	2010 Census Questionnaire Other Hispanic Examples	-1.78	3.41	0.602
	Modified Other Hispanic Examples	-2.59	3.32	0.435

Source: 2010 Census AQE Auxiliary Data Files. Note: Non-Checkbox includes all write-in responses within a certain checkbox category (e.g., "Haitian"). The * indicate significant differences at α=0.1.

As shown in Table 13, removal of the term "Negro" from the "Black, African American, or Negro" category was tested on a number of panels, including panels in the B4 Spanner/Race Limitation family. Measures of interest for this modification included both write-ins of the term "Negro," regardless of other race or origin reporting, and reporting within the checkbox group as "Black or African American" or "Black, African American, or Negro." Additionally, it was

considered that Hispanic respondents may identify with the term "Negro" so Hispanic reporting was explored as well.

Interestingly, there was a significant decrease in respondents writing in "Negro" when the term was not provided on the questionnaire. Alternatively, there was no decrease in reporting within the checkbox group when the term was not included in the list, which was the largest concern with removal. It appears that respondents are not identifying with this term unless prompted. Reporting of the term "Negro" was not associated with Hispanic respondents in almost all cases. Additionally, we looked at the respondents reporting "Negro" who reported being Hispanic as compared with not Hispanic and found only a small fraction were of Hispanic origin. Results from the focus groups support this finding. Across focus groups, which were conducted with many race and ethnic communities, participants felt the use of the term "Negro" was offensive and outdated, and recommended that the term be removed from the questionnaires (Rastogi et al. 2011; Carroll, et al. 2011).

The B1d treatment was split across panels because it was not possible to pair two modifications of the Asian examples on the same questionnaire at the same time. Instead, alphabetizing of the Asian examples was performed on two of the B4 Spanner/Race Limitation panels. Inclusion of an instruction for respondents to "mark one or more boxes" for the Hispanic origin question was applied using the factorial design.[25]

Table 14. Estimated Differences of Treatment-Level Comparisons of the Multiple Hispanic Origin Response Treatment.

Treatment	Contrast	Estimate of Differences	Standard Error	p-value
Instruction for	Multiple Hispanic Reporting	1.85	1.71	0.279
Alphabetization of Other Asian Examples	Cambodian Reporting	-0.56	2.21	0.800
	Hmong Reporting	2.60	1.64	0.113
	Laotian Reporting	-3.94	2.79	0.158
	Pakistani Reporting	2.88	3.34	0.389
	Thai Reporting	*-4.89	2.47	0.048
	Specific Reporting for Non-Checkbox Asian	1.93	3.17	0.544
	Overall Asian Reporting	-1.61	1.00	0.107
	Overall Pacific Islander Reporting	0.03	0.24	0.895

Source: 2010 Census AQE Auxiliary Data Files. Note: The * indicate significant differences at α=0.1.

Though not all questionnaires contained an instruction to "Mark one or more boxes," every panel saw some level of multiple reporting for the Hispanic origin question. Though current tabulation standards do not account for multiple responses to the Hispanic origin question, researchers explored the potential for reporting multiple Hispanic origins. However, there were no differences in the percentage of Hispanic respondents reporting multiple Hispanic origins when an instruction to report one or more origins was explicitly provided.

[25] All possible combinations of treatments occur within the designed B1 panels.

Since changing the order of examples could have had an effect on what groups are reported on a write-in question percentages of specific example groups were evaluated to determine if there was an effect from alphabetizing the Asian examples. There were no significant differences in the percentages of Cambodian, Hmong, Laotian, or Pakistani reports; however there was a significant decrease in reporting of Thai. On the standard questionnaire layout Thai appears fairly prominently at the end of the second row. When placed in alphabetic order, Thai appears in the center of the third line and is less noticeable. However, the small sample size and multiple comparison corrections may have influenced this result and more investigation would be necessary to draw conclusions.

Conclusion

Within the separate race and Hispanic origin question panels, there were a number of subtle changes made to the questionnaires including: different example groups, changing the order of examples, deleting "Negro" from the Black category, and allowing multiple Hispanic responses. Panels with a particular treatment were compared together against panels that did not have that treatment to determine if it was effective.

Most of the direct tests of treatment impact showed no effect. There were no differences in White or Black checkbox reporting when examples were added. This suggests that examples do not reorient groups who usually report within the Some Other Race write-in line with White and Black specific origins. There was no difference in overall Asian or Native Hawaiian and Pacific Islander reporting when examples were alphabetized. Modified Hispanic examples showed no effect on reporting of Hispanic origins. Reporting of multiple Hispanic origins was not changed when respondents were given an instruction to "Mark one or more boxes."

There were a few modifications that showed some effect on respondent reporting. Significant increase in overall American Indian or Alaska Native reporting, as well as increased reporting by Hispanic respondents, demonstrates that examples reorient many who identify with South and Central American Indian groups to report those identities. Reporting within Other Asian groups that were used as examples on the 2010 Census control panel was reduced when these examples were not used.

The most important treatment level finding was over removal of the term "Negro." Panels without the term "Negro" had no reduction in respondents reporting "Black or African American." Additionally, removing the term showed a significant decrease in write-in responses of "Negro."

5.6 Reinterview Analysis

The reinterview was created to obtain a more accurate measure of respondents' self-identified race and origin which could then be used to compare how individuals reported their race and origin on the experimental paper questionnaires in order to evaluate the consistency of responses. This provided an opportunity to evaluate consistency of response. Respondents for the AQE Reinterview were asked a series of three questions related to the race and origin of the respondent and a randomly selected person in the household. These questions were later

consolidated through a process (see Section 3.5.3) to define the individual's self-identified "true" race and origin identity[26].

Analyses included percent overall consistency, gross difference rates (GDR), net differences rates (NDR), and appropriate panel-level comparisons were made within each questionnaire family. Table A9 and Table A10 in the appendix contain race and Hispanic origin distributions of each race and origin question, the reinterview truth, and the response provided on the paper questionnaire for all name-matched persons. The "truth" as determined by the series of reinterview questions was more similar to the paper distribution than any of the three individual reinterview questions.

5.6.1 Percent consistency

The first measure we present from the AQE Reinterview results is the percent consistency between a respondent's 2010 Census Mailout/Mailback response and the reinterview "truth" (see Section 3.5.3 for more information on the "truth" criteria). Consistency scores were calculated by totaling the number of cases in which an individual's complete racial identity, as determined by the reinterview, was accurately reflected on their paper questionnaire response. As might be expected, Table 15 shows the consistency was higher for cases in which the reinterview respondent reported having been the individual who responded to the Mailout/Mailback questionnaire compared to cases that the reinterview respondent was not the same as the Mailout/Mailback questionnaire respondent. In general, overall consistency was high with more than eight in ten cases indicating the same responses at both points in time.

[26] Note that self-identified race and Hispanic origin can change over circumstances and time; it does not have an absolute 'truth.' However, the conceptual goal of the reinterview is to get closer to how a respondent would typically self-identify his/her race or origin.

Table 15. Percent Consistency between Reinterview Truth and Mailout/Mailback Response.

Panel	Census Respondent	Not Census Respondent	Overall
XA	89.6 (1.28)	77.6 (3.52)	88.3 (1.21)
XB	86.9 (1.35)	78.1 (3.06)	85.6 (1.22)
X2	88.0 (1.33)	75.8 (3.89)	86.4 (1.30)
X3	88.2 (1.33)	83.4 (3.28)	87.6 (1.25)
X4	89.9 (1.21)	86.2 (2.61)	89.4 (1.15)
X5	89.6 (1.19)	88.6 (2.19)	89.5 (1.14)
X6	84.7 (1.41)	77.7 (3.29)	83.8 (1.37)
X7	84.6 (1.49)	80.8 (3.02)	84.0 (1.41)
X8	86.1 (1.41)	86.0 (2.20)	86.1 (1.31)
X9	87.7 (1.33)	78.7 (3.73)	86.5 (1.32)
X10	86.5 (1.41)	82.2 (3.01)	86.0 (1.34)
X11	88.9 (1.24)	82.9 (3.02)	88.1 (1.22)
X12	87.4 (1.34)	81.9 (2.85)	86.7 (1.24)
X14	88.5 (1.16)	81.0 (3.17)	87.6 (1.11)
X15	88.9 (1.14)	80.2 (3.11)	87.7 (1.13)
X16	89.9 (1.06)	77.3 (3.48)	88.3 (1.11)
X17	87.0 (1.33)	84.5 (2.45)	86.7 (1.20)

Source: 2010 Census AQE Reinterview File. Note: Estimates are weighted with standard errors in parentheses.

Overall consistency for the B1 Example Modification family ranged from 83.8 percent to 88.1 percent, the B4 Spanner/Race Limitation family ranged from 86.7 percent to 88.3 percent, and the B2 Combined Question family ranged from 86.4 percent to 89.5 percent. The B1 Example Modification family of panels tended to have lower consistency than the B2 Combined Question or B4 Spanner/Race Limitation panels. The higher consistency within the B2 Combined Question family may demonstrate respondents tending to think of their origin and race together in a combined fashion. There were no significant differences in consistency between panels.

We take a closer look at the consistency for each of the unique race and origin groups in Table 16. This provides a means of making relative comparisons between large and small groups. The measure was defined as the percentage of respondents that reported a certain race or origin, alone or in combination, in the 2010 Census who also reported the same group in the reinterview. For instance, 50.9 percent of respondents in panel X2 who self-identified as Mexican in the Census also identified as Mexican in the reinterview. Note that many of the estimates for the smaller groups are lower than for the largest categories (White and Black). For Asian or Hispanic respondents, than can partly be attributed to people who give a generic response at one point (e.g., “Hispanic”) and providing a more specific response at the other point (e.g., “Mexican”). In addition, the estimates for smaller race and origin groups are subject to more volatility with higher standard errors, making inferences harder.

Table 16. Percentage of Consistent Responses Between Reinterview Truth and Mailout/Mailback Response by Race and Origin Group.

Panel	White	Black	American Indian or Alaska Native	General, Multiple or Other Hispanic	Mexican	Puerto Rican	Cuban	General, Multiple or Other Asian	Asian Indian	Chinese	Japanese	Filipino	Korean	Vietnamese	General, Multiple or Other Pacific Islander	Native Hawaiian	Guamanian or Chamorro	Samoan	Some Other Race
XA	94.6 (0.87)	95.5 (1.72)	83.6 (9.66)	89.6 (3.36)	51.9 (5.70)	65.0 (7.67)	17.3 (14.5)	46.4 (18.63)	87.3 (6.42)	36.8 (14.55)	94.2 (4.13)	76.1 (5.36)	84.6 (11.56)	78.9 (14.83)	0.0 (0.00)	59.2 (12.13)	50.0 (70.57)	Ø	35.4 (27.41)
XB	93.5 (0.96)	94.3 (2.19)	57.1 (18.25)	72.4 (12.24)	42.8 (6.45)	74.4 (14.3)	84.6 (18.86)	78.4 (10.83)	54.7 (32.65)	55.2 (7.41)	87.7 (9.60)	62.7 (11.06)	75.0 (29.66)	90.7 (10.21)	11.4 (19.19)	16.8 (13.27)	100.0 (0.00)	Ø	28.4 (10.69)
X2	97.9 (0.61)	97.9 (0.54)	54.4 (16.19)	78.1 (6.49)	50.9 (6.98)	75.4 (18.12)	34.1 (22.43)	88.9 (7.72)	63.6 (23.07)	32.0 (13.05)	93.2 (10.83)	77.5 (4.56)	62.8 (30.76)	53.4 (11.55)	29.0 (18.42)	36.4 (8.72)	81.6 (24.39)	Ø	3.7 (2.44)
X3	97.7 (0.73)	97.2 (0.69)	75.7 (12.68)	65.8 (8.15)	48.9 (6.81)	64.2 (19.07)	78.9 (15.20)	65.8 (17.2)	69.7 (7.23)	65.9 (18.87)	69.9 (9.29)	81.6 (11.94)	78.4 (9.43)	74.6 (18.61)	51.0 (17.33)	80.0 (25.01)	100.0 (0.00)	Ø	9.5 (15.99)
X4	98.0 (0.54)	96.1 (0.87)	54.7 (15.48)	60.1 (8.37)	60.0 (5.32)	85.6 (7.45)	39.3 (26.11)	72.0 (15.8)	63.2 (33.93)	65.7 (8.85)	73.7 (22.16)	73.2 (6.45)	92.3 (8.00)	94.3 (6.10)	76.5 (16.71)	35.6 (19.17)	100.0 (0.00)	Ø	60.2 (46.22)
X5	96.9 (0.86)	98.4 (0.45)	80.6 (10.60)	76.8 (7.88)	53.6 (5.71)	77.7 (13.24)	74.8 (17.03)	89.7 (7.21)	75.0 (17.45)	78.9 (8.81)	93.3 (5.58)	66.2 (20.02)	84.9 (15.94)	82.8 (6.70)	74.6 (43.40)	41.7 (17.91)	97.0 (30.45)	Ø	39.5 (19.49)
X6	94.2 (0.99)	96.0 (0.86)	47.0 (19.64)	80.9 (6.84)	47.2 (6.46)	47.6 (6.88)	66.6 (15.98)	75.8 (10.63)	68.3 (23.94)	73.5 (16.76)	92.8 (7.84)	84.0 (7.02)	40.9 (20.10)	46.7 (24.43)	29.9 (27.39)	46.6 (20.74)	Ø	Ø	17.4 (17.61)
X7	91.4 (1.29)	94.1 (1.87)	52.8 (26.14)	84.6 (5.81)	56.5 (7.09)	49.5 (18.29)	42.3 (10.04)	92.0 (4.45)	82.4 (14.85)	83.1 (5.53)	62.5 (31.70)	51.0 (17.80)	70.0 (8.78)	70.9 (19.83)	20.3 (11.93)	91.8 (41.95)	50.0 (26.51)	Ø	9.7 (11.35)
X8	94.8 (0.78)	93.4 (2.46)	71.8 (7.04)	83.6 (9.32)	62.4 (6.49)	58.1 (7.00)	50.2 (3.85)	58.1 (24.71)	64.6 (17.19)	68.6 (9.03)	94.2 (4.07)	83.3 (9.99)	49.2 (25.76)	82.3 (15.54)	42.5 (19.25)	74.1 (14.15)	100.0 (0.00)	Ø	5.4 (11.51)
X9	92.8 (1.12)	97.3 (0.58)	76.3 (10.20)	86.7 (5.29)	71.4 (5.13)	91.1 (6.04)	55.1 (8.98)	89.7 (5.24)	53.0 (38.42)	84.6 (6.22)	80.3 (12.65)	88.6 (5.52)	90.4 (19.59)	89.7 (5.27)	3.6 (35.14)	38.2 (14.15)	100.0 (0.00)	Ø	40.2 (32.93)
X10	93.2 (1.03)	93.8 (2.37)	65.9 (15.64)	79.3 (11.90)	54.6 (7.64)	60.7 (18.51)	66.3 (22.61)	85.8 (11.05)	94.1 (3.32)	67.6 (13.99)	76.3 (7.24)	85.5 (6.23)	89.4 (13.40)	77.2 (10.46)	55.2 (52.72)	57.6 (25.49)	50.0 (70.57)	Ø	10.0 (9.46)
X11	94.7 (0.92)	93.1 (2.54)	83.5 (10.79)	76.0 (7.81)	68.4 (4.81)	80.6 (9.81)	55.1 (6.72)	68.1 (6.72)	76.7 (6.00)	75.7 (4.65)	94.9 (5.06)	47.9 (27.00)	55.2 (11.54)	85.6 (12.33)	6.3 (12.47)	40.2 (21.44)	100.0 (0.00)	Ø	23.9 (29.05)
X12	93.0 (1.03)	93.6 (3.20)	61.1 (24.01)	87.0 (5.80)	58.7 (7.12)	88.8 (4.59)	28.8 (14.79)	84.8 (5.22)	76.7 (18.29)	90.2 (4.76)	71.6 (7.80)	83.4 (14.16)	76.1 (8.00)	82.9 (7.88)	25.0 (21.50)	35.0 (18.19)	100.0 (0.00)	Ø	44.8 (40.70)
X14	96.0 (0.61)	96.1 (0.86)	84.9 (7.61)	66.8 (9.53)	49.0 (4.91)	76.3 (8.69)	28.1 (16.03)	64.6 (11.05)	87.5 (8.01)	39.0 (17.29)	79.3 (6.52)	58.0 (17.22)	87.5 (15.60)	64.9 (11.29)	0.0 (0.00)	53.4 (21.14)	Ø	Ø	30.6 (44.49)
X15	93.9 (0.83)	94.0 (1.72)	47.8 (23.01)	88.3 (5.79)	65.9 (4.57)	80.4 (10.66)	45.1 (13.71)	91.5 (6.56)	84.3 (12.06)	74.9 (6.90)	89.0 (8.18)	90.9 (3.48)	73.5 (9.43)	77.8 (8.96)	83.9 (84.10)	40.0 (21.62)	Ø	Ø	45.2 (19.05)
X16	94.9 (0.84)	95.4 (1.57)	84.7 (12.87)	77.5 (13.09)	53.5 (6.85)	68.0 (12.07)	41.7 (19.43)	88.8 (7.78)	84.7 (5.88)	79.3 (8.61)	84.8 (9.04)	74.7 (14.64)	94.0 (8.69)	54.0 (44.51)	64.0 (17.44)	60.0 (35.44)	Ø	Ø	13.8 (22.97)
X17	95.3 (0.67)	93.1 (3.28)	73.4 (14.35)	85.2 (8.92)	53.2 (4.47)	80.9 (8.79)	78.4 (11.09)	65.9 (7.87)	88.0 (8.24)	82.2 (6.81)	73.7 (8.64)	80.9 (7.66)	74.7 (7.23)	79.6 (8.57)	63.1 (28.72)	100.0 (0.00)	Ø	Ø	33.6 (10.54)

Source: 2010 Census AQE Reinterview File. Note: Estimates are weighted with standard errors in parentheses. Ø represents columns with no respondents.

There are a few significant findings in the results found in Table 17. Overall, the combined question formats yielded better consistency for both White and Black respondents compared to the B1 Example Modification and B4 Spanner/Race Limitation families. About 98 percent of both White and Black respondents from the combined question panels provided the same response in the reinterview.

The consistency of Mexican identification tended to have the most variability from one panel to another, particularly within the B1 Example Modification Family. Panel X9, which contained all the modifications, had higher consistency than panel X6 and the control panel XB. Panel X11, which contained modified examples and allowed multiple Hispanic reporting, also had higher consistency than the control panel. There were a few other items of minor significance, but we caution that the sampling errors are volatile and susceptible to random error effects.

5.6.2 Gross difference rates

Next, GDRs were calculated between the paper questionnaire response and the reinterview truth. The GDRs are a measure of the percent of people with a different race and origin response between the AQE Mailout/Mailback questionnaire and the AQE Reinterview. However, for each of these results, the source of the difference could be random, systematic, or perhaps not a true error but instead the result of an actual or perceived change over time. For more information on modeling measurement error using the reinterview, see Woltman and Bentley (2011). The GDR can be used to demonstrate the accuracy of respondents within a race or origin group's tabulation for a specific panel, assuming the reinterview response to be "truth." Though these GDRs are varied amongst the different groups, these results are in line with the 2010 Census content reinterview study (Dusch and Meier 2012). The GDRs for each race and origin group panel are presented in Table 17.

Table 17. Gross Difference Rate Between the Mailout/Mailback Questionnaires and Telephone Reinterview.

Panel	White	Black	American Indian or Alaska Native	General, Multiple or Other Hispanic	Mexican	Puerto Rican	Cuban	General, Multiple or Other Asian	Asian Indian	Chinese	Japanese	Filipino	Korean	Vietnamese	General, Multiple or Other Pacific Islander	Native Hawaiian	Guamanian or Chamorro	Samoan	Some Other Race
XA	5.8 (0.85)	0.6 (0.18)	2.0 (0.73)	3.7 (0.63)	2.8 (0.50)	0.2 (0.04)	0.6 (0.36)	1.5 (0.43)	0.2 (0.07)	1.0 (0.42)	0.1 (0.03)	0.2 (0.04)	0.1 (0.03)	0.1 (0.04)	0.1 (0.03)	<0.1 (0.02)	<0.1 (0.01)	Ø	0.1 (0.04)
XB	6.6 (0.88)	1.0 (0.28)	2.3 (0.63)	4.2 (0.70)	4.1 (0.67)	0.3 (0.17)	0.1 (0.03)	1.3 (0.33)	0.4 (0.32)	0.7 (0.28)	0.1 (0.02)	0.3 (0.16)	0.2 (0.04)	0.1 (0.02)	0.1 (0.04)	0.1 (0.02)	Ø	Ø	0.7 (0.36)
X2	3.9 (0.78)	0.5 (0.18)	2.6 (0.65)	3.7 (0.63)	2.6 (0.48)	0.5 (0.34)	0.3 (0.17)	1.7 (0.55)	0.3 (0.17)	1.1 (0.50)	0.1 (0.02)	0.1 (0.03)	0.2 (0.17)	0.1 (0.05)	0.1 (0.03)	<0.1 (0.01)	<0.1 (0.01)	Ø	1.5 (0.55)
X3	3.5 (0.72)	0.3 (0.06)	2.2 (0.57)	4.3 (0.66)	3.4 (0.61)	0.3 (0.16)	0.1 (0.03)	1.3 (0.39)	0.2 (0.05)	0.7 (0.35)	0.1 (0.04)	0.3 (0.16)	0.1 (0.02)	0.3 (0.16)	0.1 (0.02)	<0.1 (0.02)	<0.1 (0.01)	Ø	0.7 (0.35)
X4	2.6 (0.48)	0.5 (0.10)	1.7 (0.48)	3.8 (0.56)	2.8 (0.52)	0.2 (0.05)	0.3 (0.17)	1.6 (0.51)	0.5 (0.34)	0.5 (0.18)	0.2 (0.17)	0.2 (0.05)	0.1 (0.02)	0.1 (0.02)	0.3 (0.17)	<0.1 (0.02)	Ø	Ø	0.3 (0.17)
X5	4.8 (0.94)	0.4 (0.07)	1.5 (0.50)	3.2 (0.48)	2.6 (0.44)	0.3 (0.16)	0.3 (0.16)	0.9 (0.27)	0.2 (0.15)	0.3 (0.16)	<0.1 (0.02)	0.3 (0.16)	0.1 (0.03)	0.1 (0.02)	0.1 (0.02)	0.1 (0.02)	<0.1 (0.01)	Ø	0.3 (0.16)
X6	6.9 (1.02)	0.7 (0.18)	3.8 (0.84)	4.5 (0.70)	3.1 (0.58)	0.7 (0.27)	0.2 (0.16)	1.1 (0.35)	0.5 (0.31)	0.7 (0.34)	0.4 (0.22)	0.1 (0.03)	0.3 (0.16)	0.2 (0.16)	0.1 (0.04)	<0.1 (0.02)	<0.1 (0.03)	Ø	0.9 (0.38)
X7	8.0 (1.14)	0.7 (0.19)	1.7 (0.42)	4.3 (0.72)	3.4 (0.63)	1.0 (0.48)	0.2 (0.05)	0.8 (0.19)	0.2 (0.04)	0.2 (0.04)	0.2 (0.17)	0.5 (0.24)	0.1 (0.03)	0.3 (0.17)	0.3 (0.17)	<0.1 (0.02)	<0.1 (0.02)	Ø	1.1 (0.45)
X8	5.5 (0.77)	1.0 (0.29)	2.6 (0.66)	3.0 (0.57)	2.4 (0.47)	0.3 (0.17)	0.6 (0.36)	1.4 (0.37)	0.4 (0.17)	0.7 (0.28)	<0.1 (0.02)	0.3 (0.17)	0.2 (0.16)	0.2 (0.16)	0.1 (0.03)	<0.1 (0.02)	Ø	Ø	0.7 (0.36)
X9	8.0 (1.03)	0.5 (0.09)	1.7 (0.46)	3.1 (0.51)	2.4 (0.37)	0.1 (0.03)	0.2 (0.05)	0.7 (0.18)	0.4 (0.33)	0.2 (0.05)	0.1 (0.03)	0.2 (0.04)	<0.1 (0.02)	<0.1 (0.02)	0.4 (0.33)	0.1 (0.03)	Ø	Ø	0.5 (0.18)
X10	7.8 (1.04)	1.0 (0.30)	2.1 (0.48)	3.4 (0.65)	2.9 (0.57)	0.4 (0.18)	0.2 (0.05)	1.0 (0.34)	0.3 (0.17)	0.4 (0.17)	0.1 (0.02)	0.3 (0.17)	0.1 (0.03)	0.1 (0.04)	0.1 (0.03)	<0.1 (0.01)	<0.1 (0.01)	Ø	1.0 (0.42)
X11	6.1 (0.87)	1.0 (0.31)	1.7 (0.51)	3.0 (0.43)	1.7 (0.22)	0.2 (0.05)	0.3 (0.16)	1.1 (0.35)	0.2 (0.04)	0.2 (0.04)	<0.1 (0.01)	0.5 (0.31)	0.2 (0.16)	0.1 (0.02)	0.2 (0.16)	<0.1 (0.02)	Ø	Ø	0.6 (0.22)
X12	7.4 (0.96)	0.9 (0.36)	1.7 (0.49)	3.6 (0.62)	2.9 (0.56)	0.2 (0.05)	0.5 (0.25)	0.8 (0.25)	0.3 (0.18)	0.2 (0.04)	0.1 (0.02)	0.4 (0.24)	0.1 (0.03)	<0.1 (0.02)	0.1 (0.04)	0.1 (0.02)	Ø	Ø	0.6 (0.35)
X14	5.0 (0.74)	0.5 (0.09)	2.2 (0.55)	3.8 (0.59)	2.8 (0.52)	0.2 (0.05)	0.6 (0.36)	1.5 (0.43)	0.1 (0.04)	0.9 (0.40)	0.1 (0.03)	0.3 (0.17)	0.1 (0.02)	0.1 (0.03)	0.1 (0.02)	<0.1 (0.02)	Ø	Ø	0.7 (0.36)
X15	6.7 (0.78)	0.7 (0.18)	2.2 (0.60)	2.0 (0.22)	2.3 (0.42)	0.2 (0.05)	0.6 (0.28)	0.6 (0.08)	0.1 (0.04)	0.3 (0.05)	0.1 (0.02)	0.5 (0.32)	0.1 (0.03)	0.1 (0.03)	0.1 (0.02)	<0.1 (0.01)	Ø	Ø	0.2 (0.05)
X16	5.7 (0.83)	0.9 (0.28)	2.0 (0.51)	3.1 (0.59)	2.4 (0.51)	0.3 (0.06)	0.3 (0.16)	1.2 (0.36)	0.2 (0.04)	0.3 (0.05)	<0.1 (0.01)	0.3 (0.16)	<0.1 (0.02)	0.4 (0.31)	0.1 (0.02)	<0.1 (0.01)	Ø	Ø	0.7 (0.27)
X17	5.8 (0.76)	1.1 (0.39)	3.0 (0.67)	3.2 (0.50)	2.1 (0.31)	0.2 (0.05)	0.1 (0.04)	0.9 (0.19)	0.2 (0.04)	0.3 (0.06)	0.1 (0.02)	0.3 (0.16)	0.1 (0.03)	<0.1 (0.02)	<0.1 (0.01)	<0.1 (0.01)	Ø	Ø	0.6 (0.23)

Source: 2010 Census AQE Reinterview File. Note: Estimates are weighted with standard errors in parentheses. Ø represents columns with no respondents.

Overall, the majority of the race and origin groups had GDRs below 1.0 percent. Black, Chinese, General or Other Asian, and Some Other Race groups had GDRs below 2.0 percent. American Indian and Alaska Native as well as Mexican or Mexican American had wider ranges from 1.5 percent to 4.0 percent. White has the largest gross difference rate ranging from 2.6 percent to 8.0 percent, though this is not surprising since White is also the largest group in the population. This showed that respondents within larger race and origin groups are less likely to report their race consistently, considering the magnitude of diversity within the larger groups (see section 3.6.6 for more information on estimating measurement error).

Since the GDRs were computed for each individual as a binary response (i.e., yes or no), analyzing each category as whether it was marked or not, the larger groups will tend to have higher GDRs and the smaller groups will have lower GDRs. This results from respondents, who have some tie to both a small group and a large group, who may select each exclusively at different times. For example, minority respondents with some White background may sometimes self-identify as White, while some White respondents with traces of a minority background may report this additional background. In this case, the small amount of variability in many smaller populations becomes compounded in the larger population.

The combined family of panels had the lowest GDR for respondents who reported their origin as White and Black suggesting that a combined question strategy is more similar to how these respondents view themselves. Considering these groups have high GDRs in general, this is promising. The GDR for Asian Indians is lower on the B4 Spanner/Race Limitation family of panels which could be linked to the inclusion of an Asian spanner.

Within the B1 Example Modification family, panel X11 had a significantly lower GDR for Mexican and Mexican American than the control panel XB. It is hard to say why this occurred. Though this panel includes modified Hispanic examples, this feature should not have affected overall reporting within the Mexican checkbox group. Also we see no similar increase on panel X7, panel X9, or panel X12, which would be indicative of a treatment affect. No other panels showed significant differences for any category so it is possible that the panel X11 difference is attributable to random error.

Within the B4 Spanner/Race Limitation family, each panel performed better for different population groups. Panel X15 had a significantly lower GDR for General, Multiple, and Other Hispanic responses than did panel XB and panel X14, though there were no modifications to the Hispanic origin question that may have caused this. Panel X17 had a lower GDR for Mexican, Mexican American, or Chicano than XB, which also had no changes to the Hispanic origin question. Panel X16 had a lower GDR for Korean than panel XB. We cannot determine if this is related to the reduction in the term “race” that this panel tested. There were no significant differences between the B2 Combined Question panels.

5.6.3 Net difference rates

The net difference rate measures overall differences between the number reported within a group and the actual number of people within a group. Though GDR is one good measure when determining accuracy of response at the person level, the NDR is our measure of the accuracy of

the distribution. The NDR also shows tendency for populations to under- or over-report. Positive values for a panel show a tendency toward reporting more in the reinterview, while negative values show a tendency toward reporting more in the Mailout/Mailback questionnaire. Values close to 0 for a race group suggest that a panel is an accurate measurement of the distribution. The net difference rates for each race and origin, by panel, are shown in Table 18.

Table 18. Net Difference Rate Between the Mailout/Mailback Questionnaires and Telephone Reinterview.

Panel	White	Black	American Indian or Alaska Native	General, Multiple or Other Hispanic	Mexican	Puerto Rican	Cuban	General, Multiple or Other Asian	Asian Indian	Chinese	Japanese	Filipino	Korean	Vietnamese	General, Multiple or Other Pacific Islander	Native Hawaiian	Guamanian or Chamorro	Samoan	Some Other Race
XA	-3.0	-0.3	1.8	3.2	-2.4	-0.2	-0.6	0.9	-0.1	-0.6	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	Ø	0.0
XB	-3.8	-0.2	1.6	2.7	-2.7	-0.3	-0.1	1.1	-0.4	-0.6	0.0	-0.2	-0.1	-0.1	0.0	0.0	Ø	Ø	0.5
X2	0.7	0.0	0.8	2.3	-2.1	-0.5	-0.3	1.5	-0.2	-1.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	Ø	-1.1
X3	0.0	-0.2	1.4	1.5	-1.1	-0.2	-0.1	0.8	-0.1	-0.3	-0.1	0.0	0.0	-0.2	-0.1	0.0	0.0	Ø	-0.2
X4	-0.6	-0.2	0.5	0.9	-1.0	-0.1	-0.2	0.8	-0.3	-0.3	-0.2	-0.1	0.0	0.0	0.1	0.0	Ø	Ø	-0.2
X5	0.0	0.1	1.4	2.3	-1.8	-0.2	0.1	0.9	-0.2	-0.3	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	Ø	0.2
X6	-2.4	0.0	2.4	3.4	-2.8	-0.7	-0.2	0.8	-0.4	-0.3	0.3	-0.1	-0.3	-0.2	0.0	0.0	0.0	Ø	0.3
X7	-5.7	-0.5	1.2	3.4	-2.2	-1.0	-0.1	0.6	-0.1	-0.1	-0.2	-0.5	-0.1	-0.3	0.2	0.0	0.0	Ø	-0.1
X8	-3.0	-0.2	1.9	1.9	-1.3	-0.3	0.0	0.6	-0.3	0.0	0.0	-0.2	-0.2	-0.2	0.0	0.0	Ø	Ø	-0.2
X9	-3.4	-0.1	1.3	2.2	-1.4	-0.1	-0.2	0.6	-0.4	-0.2	-0.1	-0.1	0.0	0.0	-0.3	-0.1	Ø	Ø	-0.2
X10	-2.5	-0.3	1.1	2.2	-1.7	-0.3	-0.1	0.5	0.1	-0.3	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	Ø	-0.4
X11	-2.5	-0.5	1.4	1.6	-1.4	-0.2	-0.2	0.8	0.0	-0.2	0.0	-0.5	-0.2	0.0	-0.2	0.0	Ø	Ø	0.1
X12	-3.7	-0.5	1.2	2.8	-2.2	-0.1	-0.5	0.7	-0.2	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	Ø	Ø	-0.4
X14	-1.4	-0.3	1.8	2.3	-2.5	-0.2	-0.2	0.9	-0.1	-0.4	0.0	-0.3	-0.1	-0.1	0.1	0.0	Ø	Ø	-0.2
X15	-2.9	-0.5	1.0	1.3	-1.1	-0.2	-0.6	0.4	-0.1	-0.2	0.0	0.3	-0.1	0.0	0.0	0.0	Ø	Ø	0.1
X16	-2.5	0.0	1.8	2.1	-1.8	-0.2	-0.3	1.0	-0.1	-0.2	0.0	-0.3	0.0	-0.4	0.0	0.0	Ø	Ø	0.3
X17	-1.8	-0.4	2.2	2.1	-1.9	-0.1	-0.1	0.6	0.0	-0.2	-0.1	0.1	-0.1	0.0	0.0	0.0	Ø	Ø	0.4

Source: 2010 Census AQE Reinterview File. Note: Estimates are weighted. Positive values show a tendency toward reporting on the reinterview while negative values show a tendency toward reporting on paper. Ø represents columns with no respondents.

As with GDR, the groups with the smaller size populations tended to have the lowest NDR (under 1.0 percent). American Indian and Alaska Native NDR ranged from 0.5 percent to 2.4 percent with respondents more likely to report the same origin in the reinterview. Mexican or Mexican American NDR ranged between -1.0 percent to -2.8 percent with respondents more likely to report this origin on the paper questionnaire. General or other Hispanic origins NDR estimates ranged between 0.9 percent and 3.4 percent.

The White category showed the most variability in NDR by panel. NDR ranged from -5.7 percent to 0.7 percent for White respondents. Panel X7 showed the highest NDR of -5.7 percent with the next highest score being -3.8 percent. The highest of the combined panels showed a NDR of 0.7 percent, while the next lowest of any other panel type was 0.0. This suggests that the combined panels showed fairly consistent reporting between modes, while the separate question formats showed respondents to be far more likely to report themselves as White on a paper questionnaire, though they did not identify with this term on the reinterview. This is consistent with many findings that many ethnic groups will select "White" as a surrogate for "American" when unsure how to report (Rockquemore 2009).

Within groups with the smallest GDRs, there were no great differences in NDR. However the groups with the largest gross difference rates showed decreased NDR on the combined race and Hispanic origin panels. Alternatively, Some Other Race showed higher NDR on the combined panel X2.

5.6.4 Reinterview Conclusions

While there were some statistically significant differences in the gross difference rates (used as a proxy for response variance) across the different panels and race groups, in general, responses between the 2010 Census mail returns and the reinterview "truth" were very consistent overall. In fact, all panels had at least 84 percent consistent race and origin reporting between the two measurements.

The B1 Combined Question family of panels tended to have significantly lower gross difference rates for White responses. For instance, three of the combined panels (excluding the alternate control panel) each had a gross difference rate for White of less than 4 percent, whereas the control panel had a gross difference rate of 6.6 percent. This means that respondents to the combined question mail questionnaires were less likely to have a different response for the White category (i.e., White or not) in the reinterview. This is a major finding of the AQE research. There were no other significant differences within the B2 Combined Question family.

Another portion of analysis from the reinterview was the evaluation of the net difference rates. The net difference rate measures the overall differences between the number reported within a specific group and the actual number of people within the group. The NDR shows the tendency for populations to under- (negative values) or over-report (positive values) in the reinterview. Values close to 0 for a given race group suggest that a panel is an accurate measurement of the 2010 Census distribution. Indeed, the results indicate that the net difference rates for the B2 Combined Question panels were much closer to 0 than for the other panels. Each of the B2

panels had an absolute net difference rate for the White category of less than 1 percent, whereas the control panel had a net difference rate of -3.8 percent.

In summary, the main finding from the reinterview analysis is that the experimental combined question panels had lower gross difference rates and net difference rates for the White response category. This appears to suggest that those combined question panels yielded better representation of the "true" identity for the White race group. The differences for other ethnic groups within the B2 Combined Question family were within sampling error.

5.7 Nonresponse Analysis

With any sample survey, there is the potential for nonresponse bias in the estimates. Large differences in the demographic characteristics from the nonresponse analysis may indicate substantial bias in the key estimates for the experiment and reduce the ability to generalize to the population of interest. Although some of the differences are significant, we do not believe they harm the results, based on item nonresponse rates, gross difference rates, net difference rates, or other distributions, because they are relatively small.

The AQE selected households were matched to their final 2010 Census data to compare those who responded to the AQE reinterview and those who were selected for reinterview but either did not respond or did not have sufficient data to be included in the analysis. Only persons one through six on the final census roster were included in the distributions to make the data comparable since AQE auxiliary data did not contain imputed results for additional people within households. Race distributions for reinterview respondents and nonrespondents are found in Table 19 and Hispanic origin distributions are found in Table 20. Additionally, Race (Table A7) and Hispanic origin (Table A8) distributions comparing AQE Mailout/Mailback questionnaire respondents and nonrespondents are located in Appendix A.

Table 19. Census Distribution of Respondents and Nonrespondents to the AQE Telephone Reinterview (Persons 1 - 6).

	Non-Respondents							Respondents						
Panel	White	Black	American Indian or Alaska Native	Asian	Native Hawaiian or Pacific Islander	Some Other Race	Two or More Races	White	Black	American Indian or Alaska Native	Asian	Native Hawaiian or Pacific Islander	Some Other Race	Two or More Races
XA	64.2	17.4	0.7	3.4	0.3	10.5	3.5	80.1	9.5	0.3	4.9	<0.1	3.8	1.4
	(2.19)	(1.51)	(0.24)	(0.67)	(0.16)	(1.26)	(0.83)	(1.70)	(1.10)	(0.12)	(0.66)	(0.02)	(0.91)	(0.32)
XB	68.2	15.7	0.3	4.1	0.2	8.4	3.1	77.7	10.0	0.4	5.1	0.1	3.9	2.8
	(2.29)	(1.67)	(0.10)	(0.69)	(0.08)	(1.14)	(0.66)	(1.52)	(1.01)	(0.13)	(0.89)	(0.03)	(0.76)	(0.54)
X2	67.2	12.7	0.5	4.5	0.1	11.4	3.6	74.6	9.5	0.5	4.9	0.1	3.5	7.0
	(2.29)	(0.89)	(0.16)	(0.89)	(0.04)	(1.72)	(0.97)	(1.85)	(1.00)	(0.34)	(0.81)	(0.02)	(0.43)	(1.16)
X3	60.5	16.3	1.2	4.6	0.7	11.7	5.2	78.3	7.7	0.3	4.9	0.1	4.9	3.9
	(2.29)	(1.33)	(0.61)	(0.83)	(0.45)	(1.71)	(0.95)	(1.67)	(0.75)	(0.07)	(0.83)	(0.03)	(0.85)	(0.73)
X4	60.2	16.9	1.9	4.4	0.1	11.6	4.8	68.6	9.2	0.2	5.7	0.2	9.2	7.0
	(2.44)	(1.59)	(1.02)	(0.82)	(0.04)	(1.07)	(0.91)	(2.19)	(1.09)	(0.12)	(1.25)	(0.12)	(1.14)	(1.27)
X5	63.0	18.4	1.1	3.9	0.1	10.7	2.8	80.7	8.5	0.2	4.8	0.2	4.2	1.6
	(2.24)	(1.74)	(0.32)	(0.75)	(0.03)	(1.39)	(0.74)	(1.45)	(0.83)	(0.05)	(0.78)	(0.11)	(0.77)	(0.47)
X6	62.1	17.3	1.3	4.1	0.1	11.3	3.8	79.3	8.0	0.6	5.6	0.1	3.4	3.0
	(2.42)	(1.65)	(0.57)	(0.57)	(0.03)	(1.48)	(0.96)	(1.67)	(0.76)	(0.31)	(0.95)	(0.04)	(0.61)	(0.74)
X7	65.2	16.0	0.4	5.1	0.2	10.3	2.8	76.9	9.3	0.2	6.1	0.1	4.8	2.7
	(2.30)	(1.51)	(0.09)	(0.95)	(0.08)	(1.41)	(0.68)	(1.71)	(0.91)	(0.05)	(1.17)	(0.04)	(0.91)	(0.53)
X8	65.5	16.2	0.8	5.2	0.1	9.5	2.8	79.6	8.1	0.5	5.9	0.1	3.1	2.8
	(2.15)	(1.50)	(0.44)	(0.91)	(0.03)	(1.08)	(0.58)	(1.66)	(0.87)	(0.26)	(1.07)	(0.03)	(0.78)	(0.58)
X9	55.2	18.3	2.9	6.0	0.1	13.2	4.5	76.5	11.0	0.3	4.9	<0.1	3.5	3.8
	(2.60)	(1.94)	(1.08)	(1.06)	(0.03)	(1.78)	(1.08)	(1.88)	(1.24)	(0.07)	(0.72)	(0.02)	(0.47)	(0.90)
X10	61.5	14.7	1.1	6.7	0.1	11.6	4.3	75.2	10.3	1.5	6.9	0.1	4.2	1.9
	(2.56)	(1.35)	(0.54)	(1.38)	(0.03)	(2.00)	(0.97)	(1.95)	(1.13)	(0.53)	(1.26)	(0.03)	(0.86)	(0.45)
X11	60.0	17.7	1.0	5.0	0.1	13.8	2.5	79.4	10.6	0.6	3.5	0.1	4.1	1.7
	(2.44)	(1.68)	(0.37)	(0.96)	(0.04)	(1.63)	(0.45)	(1.82)	(1.29)	(0.26)	(0.58)	(0.03)	(0.79)	(0.40)
X12	64.9	15.4	0.7	4.5	0.2	10.6	3.7	79.2	9.9	0.2	4.5	0.1	4.1	2.0
	(2.05)	(1.48)	(0.22)	(0.84)	(0.15)	(1.23)	(0.99)	(1.61)	(1.14)	(0.06)	(0.78)	(0.03)	(0.79)	(0.43)
X14	63.9	16.1	2.1	4.2	0.1	11.5	2.1	79.4	9.0	0.9	4.9	<0.1	3.8	2.0
	(2.35)	(1.56)	(1.04)	(0.84)	(0.04)	(1.68)	(0.36)	(1.52)	(0.86)	(0.40)	(0.84)	(0.02)	(0.83)	(0.56)
X15	61.6	17.5	0.6	4.2	0.1	13.3	2.8	80.3	9.0	0.9	4.7	0.1	3.1	1.8
	(2.57)	(1.99)	(0.23)	(0.75)	(0.04)	(1.83)	(0.58)	(1.58)	(0.92)	(0.32)	(0.83)	(0.11)	(0.72)	(0.60)
X16	61.0	18.5	0.6	4.9	0.3	11.5	3.3	77.4	9.7	0.4	6.5	<0.1	3.5	2.5
	(2.40)	(1.80)	(0.19)	(0.78)	(0.17)	(1.45)	(0.69)	(1.78)	(1.00)	(0.16)	(1.17)	(0.02)	(0.51)	(0.63)
X17	67.0	15.4	0.4	3.9	0.2	8.9	4.3	80.1	9.7	0.6	3.4	<0.1	2.4	3.8
	(2.00)	(1.35)	(0.16)	(0.75)	(0.07)	(1.04)	(0.92)	(1.55)	(1.15)	(0.20)	(0.38)	(0.02)	(0.28)	(0.92)

Source: 2010 Census Edited Files (CEF) and 2010 CPEX Sample File. Note: Estimates are weighted with standard errors in parentheses.

Table 20. Census Hispanic Origin Distribution for AQE Reinterview Respondents and Reinterview Non-respondents (Person 1 - 6).

	Non-Respondents					Respondents				
Panel	Mexican, Mexican American, or Chicano	Puerto Rican	Cuban	Other Hispanic Origin	Not Hispanic	Mexican, Mexican American, or Chicano	Puerto Rican	Cuban	Other Hispanic Origin	Not Hispanic
XA	14.7 (1.70)	1.6 (0.49)	1.0 (0.32)	5.1 (0.71)	77.6 (1.87)	6.7 (1.03)	0.6 (0.11)	0.9 (0.48)	2.7 (0.83)	89.2 (1.33)
XB	13.3 (1.62)	1.7 (0.50)	0.5 (0.10)	4.4 (0.54)	80.1 (1.75)	7.6 (1.04)	1.3 (0.44)	0.7 (0.46)	2.9 (0.66)	87.5 (1.41)
X2	13.9 (1.89)	2.5 (0.76)	1.3 (0.84)	5.8 (1.10)	76.7 (2.33)	6.5 (0.93)	2.1 (0.78)	0.6 (0.34)	3.6 (0.57)	87.4 (1.35)
X3	13.6 (1.85)	2.4 (0.72)	0.6 (0.17)	6.7 (1.02)	76.7 (2.17)	6.3 (0.84)	1.0 (0.55)	0.4 (0.22)	4.9 (0.96)	87.3 (1.38)
X4	8.6 (1.07)	0.9 (0.21)	0.5 (0.21)	9.2 (0.94)	80.9 (1.53)	1.3 (0.18)	0.1 (0.04)	<0.1 (0.02)	11.8 (1.37)	86.8 (1.40)
X5	12.3 (1.50)	3.9 (1.28)	0.8 (0.20)	6.3 (1.12)	76.7 (2.15)	7.1 (1.00)	1.9 (0.68)	0.4 (0.13)	1.8 (0.21)	88.8 (1.20)
X6	13.4 (1.61)	2.2 (0.43)	0.8 (0.19)	5.0 (1.12)	78.6 (1.97)	7.3 (1.08)	1.4 (0.47)	0.6 (0.34)	3.4 (0.77)	87.2 (1.33)
X7	12.5 (1.48)	3.3 (0.90)	0.5 (0.09)	5.1 (0.83)	78.6 (1.89)	8.0 (1.08)	2.4 (0.70)	0.4 (0.08)	3.0 (0.48)	86.4 (1.44)
X8	13.1 (1.43)	2.2 (0.56)	0.5 (0.08)	6.1 (0.91)	78.2 (1.78)	6.8 (1.02)	0.8 (0.35)	0.9 (0.47)	2.9 (0.51)	88.7 (1.31)
X9	13.4 (1.36)	2.3 (0.76)	0.4 (0.09)	8.4 (1.69)	75.5 (2.12)	7.7 (1.08)	1.2 (0.45)	0.4 (0.08)	3.5 (0.74)	87.3 (1.33)
X10	15.0 (2.04)	2.3 (0.64)	0.5 (0.09)	5.2 (0.90)	77.2 (2.24)	7.5 (1.28)	1.2 (0.38)	0.6 (0.37)	2.9 (0.68)	87.7 (1.54)
X11	14.3 (1.42)	2.0 (0.53)	0.7 (0.12)	7.4 (1.51)	75.6 (1.99)	6.7 (0.93)	1.1 (0.33)	1.1 (0.48)	2.8 (0.69)	88.3 (1.30)
X12	13.1 (1.39)	2.6 (0.77)	0.4 (0.09)	5.5 (0.69)	78.4 (1.92)	7.9 (1.22)	1.7 (0.52)	0.7 (0.27)	3.0 (0.61)	86.7 (1.43)
X14	15.0 (1.64)	1.2 (0.32)	0.6 (0.11)	7.8 (1.48)	75.3 (2.27)	6.4 (0.99)	0.9 (0.22)	0.5 (0.18)	2.2 (0.35)	89.9 (1.12)
X15	15.7 (1.94)	1.6 (0.50)	0.3 (0.06)	5.9 (1.10)	76.5 (2.13)	7.3 (1.10)	1.0 (0.30)	1.1 (0.36)	2.4 (0.58)	88.2 (1.40)
X16	13.8 (1.18)	1.5 (0.51)	0.5 (0.10)	7.2 (1.16)	77.1 (1.80)	5.7 (0.77)	0.6 (0.15)	0.5 (0.13)	2.3 (0.41)	90.9 (0.90)
X17	12.7 (1.48)	1.3 (0.19)	0.4 (0.08)	5.0 (0.81)	80.6 (1.71)	5.6 (0.76)	0.7 (0.18)	0.5 (0.22)	3.9 (0.96)	89.3 (1.27)

Source: 2010 Census Edited Files (CEF) and 2010 CPEX Sample File. Note: Estimates are weighted with standard errors in parentheses.

Major Findings

As expected, the major findings from the nonresponse analysis showed there are distributional differences between those who responded only to the Mailout/Mailback questionnaire and those who responded to the reinterview as well. In general, the AQE reinterview respondents tended to be White alone (77.7 percent compared to 68.2 percent for panel XB). Reinterview respondents were also more likely to be Not Hispanic (87.5 percent compared to 80.1 percent for panel XB) though almost equally likely to be Cuban (0.7 percent compared to 0.5 percent for panel XB). Respondents were less likely to be Black (10.0 percent compared to 15.7 percent for panel XB) or Some Other Race (3.9 percent compared to 8.4 percent for panel XB). Distributions were fairly similar between panels.

Though the experimental combined panels (X2, X3, and X4) still show higher proportions of respondents with Two or More responses, the disparity is greater for those who responded to the AQE reinterview. Panel X4 had an equivalent percentage of White nonrespondents, however respondents were less likely to be White alone and more likely to be of Some Other Race. Respondents to the reinterview who had received panel X4 were also less likely to be Cuban than those from other panels. These unusual trends for the X4 panel most likely stem from how different panel X4 is in comparison with other panels and could result from both reporting differences and editing techniques.

We decided not to adjust the sample weights or make other nonresponse adjustments to the AQE reinterview estimates because the differences in the response distributions between the reinterview respondents and nonrespondents are predominately comparable across panels.

Conclusion

In general, besides the result noted for panel X4, the differences are less than two percentage points and not significant. Although the overall differences in the distributions for respondents compared to nonrespondents may have affected estimates of the item GDR and NDR, if the differences are relatively similar across panels, then the panel comparisons are meaningful and not critically affected by the reinterview nonresponse bias.

5.8 Focus Group Research

In addition to the mail out experiment and reinterview components of the 2010 Census AQE, a series of qualitative focus groups was commissioned to conduct research that would complement the quantitative AQE analyses (Carroll, et al. 2011). This research sought to engage a wide cross-section of the American public in a dialogue about self-identification and the reporting of race and ethnicity on census questionnaires. The executive summary of this report can be found in Appendix D.

The objectives of the AQE focus group research were:

1) To gain a better understanding of self-identification of race and Hispanic origin within OMB race and ethnic categories;

2) To identify issues that respondents have with the experimental questionnaires, as well as the reasons behind these issues;

3) To help refine questionnaires for future testing; and

4) To understand how and why people identify their race and ethnicity in different ways and contexts

The AQE focus Group research included 768 individuals who participated in 67 focus groups, covering a broad sample of diverse racial and ethnic communities. The focus groups were geographically diverse, with sessions conducted in 25 cities across the country from Boston to Miami, Los Angeles to Anchorage, Honolulu, and San Juan. The focus groups were conducted with a broad range of racial and ethnic communities within the OMB categories (White, Black, Hispanic, American Indian and Alaska Native, Asian, Pacific Islander, and multiracial), including sessions with Middle Eastern and North African communities, Afro-Caribbean communities, and groups where ancestry is different from place of birth (for example, Asian Indians in Trinidad). Participants in the focus groups varied in terms of age, sex, educational attainment, nativity, and ethnic group.

During the focus groups, respondents reported their race/ethnicity on questionnaires which were designed to examine different aspects of the race and ethnicity question format. Respondents were engaged in a dialogue about many different aspects of how they self-identified their race/ethnicity. Discussions included the reasons behind how they responded and why, different form terminology and instructions, how they perceived their racial/ethnic identity, when they first became aware of their racial/ethnic identity, and how this identity changed across their lives. All groups were asked to respond to different questionnaire design strategies, one with separate race and Hispanic origin questions, the other with a combined question on race and Hispanic origin.

Focus group moderators followed discussion guides that focused on asking questions related to *how* participants report on the alternative questionnaires and *why* they report the way that they do. The moderator guides also asked questions to explore racial and ethnic identification as it relates to *situational identity*, recognizing that the way respondents discuss and report their race is highly dependent on the context in which they are asked. In addition, the moderator guides explored themes of *awareness* and *fluidity*, asking questions such as when respondents first became aware of their race and if their racial identity has changed over time. The explorations also probed on race and ethnic *concepts* and how they were understood. Finally, race and ethnic questions specific to particular race and ethnic communities were also discussed.

Each focus group lasted about two hours and had 10 to 12 participants. Focus groups began with introductions and an icebreaker activity. Next, participants were shown and asked to complete a snippet. A snippet is a portion of the questionnaire that contains the Hispanic origin and race questions. Participants were asked to complete this first snippet for themselves and one other person in the household, preferably a child. For most groups, the first snippet was from the control panel. Next, participants were asked to compare the first snippet to a second snippet and

engage in a discussion about the differences. For most groups, this second snippet was from the B1 Example Modification family (panel X9), particularly to obtain feedback on the examples used. Next, participants were asked to complete a third snippet which contained a combined question and for most groups this was the streamlined approach (panel X3).

After completing each snippet, participants were asked a series of questions regarding their responses. Lastly, participants were asked some general questions about their panel preference, recommendations on which panel would help their community report more accurate information, how they answer questions about their race in conversations and on questionnaires, how and why their racial identity changed over time, and about some race and origin concepts. While each group had a similar format, the snippets presented, the order in which they were presented, and the specific questions asked about each snippet varied across focus groups. The snippets assigned to a focus group were designed to hone in on issues identified as particularly relevant to the group/subgroup from Census analysis. Most of the focus groups were presented with three snippets.

Major Findings

The major findings from the AQE focus group research are detailed below.

- Across focus groups, participants commented that all race and ethnic groups were not treated equally. One concern that was consistently expressed was over the separate Hispanic origin question, which was seen as unfair and problematic. Some participants perceived this as potentially identifying Hispanics for discriminatory reasons while others felt that Hispanics were receiving special treatment.

- Participants also commented on the fact that on the separate question panels, Whites and Blacks were not provided a space to write in their specific ethnicity. Participants felt that all racial and ethnic groups should be treated fairly and equitably.

- Many Hispanics did not identify with the OMB race categories and felt that the note that stated that Hispanic origins were not races prevented them from self-identifying their race.

- Many participants across focus groups felt that the inclusion of the examples of Egyptian and Lebanese with the White racial category was “wrong” or “inaccurate.” These comments were often connected to the recommendation that there be a separate racial category for those who would identify as Middle Eastern, North African, or Arab.

- Participants found the use of the term “Negro” in the Black or African American checkbox label to be offensive and outdated and recommended that the term be removed.

- For the combined question approach, participants were asked to report their “race or origin.” The focus groups revealed that there was no consensus on the definitions of race and origin. Some participants felt they were the same while others felt that race was defined as skin color, ancestry, culture, etc. and origin was defined as where they or their

parents were born. Participants recommended that these terms should be defined so respondents could better understand how to report.

Conclusion

Overall, the focus group research provided great insights into racial and ethnic self-identification within various communities in the United States, understanding of common themes across these communities, and yielded important information about ***how*** and ***why*** different individuals report the way they do on alternative questionnaires (Rastogi et al. 2011; Carroll, et al. 2011).

6. Related Evaluations, Experiments, and/or Assessments

- In addition to the race and Hispanic origin panels, the 2010 Census AQE also included two other panels with different objectives: the Census 2000 Form Replication Experiment, and the 2010 Census Avoid Followup Experiment.

7. Lessons Learned, Conclusions, and Recommendations

The 2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment research was designed to test strategies that would decrease item nonresponse, increase reporting in the OMB race and ethnicity categories, elicit detailed race and ethnic reporting, and increase accuracy and reliability of results. Overall, results suggest that a combined question approach is a successful strategy to meet all of the objectives set forth. Results from the testing of the B1 Example Modification family and B4 Spanner Race Limitation family also lend important information regarding what aspects could improve the 2020 Census race and Hispanic origin question(s) as further research is conducted throughout the decade to enhance these successful strategies.

7.1 Answers to Research Questions

7.1.1 B1 Research Questions

Do the modified race and Hispanic origin examples reduce item nonresponse?

No, there is evidence that the modified race and Hispanic origin examples did not decrease item nonresponse. In fact, there is evidence that the modified examples increased nonresponse slightly. Panel X6 showed the highest nonresponse to the race question at 5.2 percent while panel X7 and panel X8 have fairly low response at 4.0 percent and 3.7 percent respectively. All interactions panels containing modified examples had a 4.5 percent nonresponse which is between that of panel X6 and panel X8. Data show that the increase in nonresponse for these panels is primarily due to Hispanic respondents not reporting to the race question. It is possible that the lack of examples representing the Hispanic population cause Hispanic respondents to leave the race question blank.

Do the modified race and Hispanic origin examples increase specific race or origin reporting?

The changes to the race and Hispanic origin examples included modifying the Hispanic, Asian and Pacific Islander examples and including examples for White, Black, and American Indian or Alaska Native. The presence of modified race examples did not increase specific detailed reporting within any race category. Results showed the presence of modified Hispanic origin examples did not show significant changes in specific reporting of Hispanic detailed origins. Though there was no overall change in specific reporting, we did see an increase in reporting of South and Central American groups when "Mayan" was introduced as an example.

Do the modified race examples reduce the reporting of detailed White, Black, and indigenous Central and South American Indian tribes in the "Some Other Race" write-in area?

No differences in the reporting of Black or White detailed origin groups were found between panels with or without examples. The data editing process made it unfeasible to isolate the write-in line of origin for each response. However, White and Black did not contain their own write-in lines on any panel in this family therefore the presence of a write-in response anywhere would be misplaced. There was also no change in reporting within the checkbox groups for either of these races. We saw an increase in the reporting of Central and South American indigenous groups reported on questionnaires that contained example groups. Though it could not be shown that these were reported on the American Indian and Alaska Native write-in line, the significance of this finding yields strong support for the inclusion of Mayan as an example group.

Does allowing for multiple responses to the Hispanic origin question elicit a greater proportion of multiple or mixed origins?

Multiple reporting within the Hispanic origin question was between 0.3 percent and 0.6 percent for all panels within the B1 Example Modification family. Though both of the panels with 0.6 percent multiple reporting contain the modified instruction, there was no significant difference in the percentage of respondents reporting multiple origins on the Hispanic origin question when an instruction was present. Mixed reporting ranged between 0.2 percent and 0.3 percent and was not significant on any panel.

Does removal of the term "Negro" affect reporting within the "Black, African Am., or Negro" category?

There was no difference in the percentage of respondents reporting within the "Black or African American" category when the term "Negro" was removed. Focus group results support this finding. Many participants across focus groups felt the use of the term "Negro" was offensive and some participants said they would go so far as to not answer the Census because the term was on the questionnaire (Rastogi et al. 2011; Carroll, et al. 2011). Participants recommended that the term be removed from the Census questionnaire.

7.1.2 B2 Research Questions

Do any of the combined race and Hispanic origin questions increase reporting of OMB ethnic and racial groups and/or decrease "Some Other Race" reporting?

Yes, this research demonstrates that the strategy to combine the race and Hispanic origin questions into one item resulted in dramatically lower item nonresponse compared to the separate race and Hispanic origin questions. This was a major finding of the AQE. In fact, all of the combined panels resulted in a fraction of people reporting Some Other Race (0.1 percent to 0.2 percent), whereas the separate race and Hispanic origin question designs consistently produced a 5 percent or higher Some Other Race population.

By combining the race and Hispanic origin questions into one item, it appears that Hispanics can better find themselves among the race and ethnic categories, thus reducing Some Other Race reporting. This finding was also echoed in the discussions of self-identification in the AQE focus groups.

Does any combined race and Hispanic origin question reduce item nonresponse?

Yes, all of the combined panels resulted in about 1 percent nonresponse, which is dramatically different from the results in the traditional approach of two separate questions on race and Hispanic origin. Item nonresponse for the combined questions was about 1 percent, whereas item nonresponse in the separate race and Hispanic origin questions ranged from 3.5 percent to 5.7 percent for the race question, and 4.1 percent to 5.4 percent for the Hispanic origin question.

When presented with a combined question, both Hispanics and non-Hispanics can more easily find themselves in the response options. What this seems to indicate is that there is a need for reconsidering or rethinking our conceptual understanding of race and Hispanic origin as separate entities, and to undertake further exploratory research to understand how implementing a combined question would enable a better understanding of racial and ethnic identity, and subsequently to address ways in which questions for policy and data are codified in the future.

Do the combined race and Hispanic origin questions elicit more detailed ethnic reporting for all groups?

Results were mixed on whether the combined panels elicited more detailed ethnic reporting. The experimental combined question panels all showed an increase in detailed ethnic reporting for White respondents, Black respondents, and respondents of Some Other Race. There were no noticeable differences in specific detail reporting for American Indian and Alaska Native, or Native Hawaiian and Other Pacific Islander groups, though these groups had much variability across measures due to small sample size. All panels showed a significant decrease in reporting of specific Hispanic origin while some also showed a slight decrease in specific Asian reporting, though much of this may have stemmed from the lack of specific national origin checkboxes.

Do White respondents and Black respondents provide more detailed information on their race or ethnicity when presented with a dedicated write-in response line and example groups?

Yes, detailed ethnic reporting within both the White population and the Black population increased substantially on panels where each race group had a dedicated write-in line. Detailed reporting within the White category ranged from 1.3 percent to 2.0 percent on all panels without a White write-in line, while detailed reporting ranged from 29.4 percent on panel X4 to 50.4 percent on X3 where a White write-in line was present. Detailed reporting within the Black category ranged from 2.9 percent to 5.7 percent on all panels without a Black write-in line. Detailed reporting ranged from 76.6 percent on panel X3 to 87.6 percent on panel X4 where a Black write-in line was present.

7.1.3 B4 Research Questions

Do the "Asian" and "Native Hawaiian and Other Pacific Islander" spanners decrease item nonresponse?

No, in fact these spanners appear to have a detrimental effect for Hispanic respondents while not benefiting Asian respondents or Pacific Islander respondents. There is no evidence of a decrease in item nonresponse on any panel which contained a spanner. Furthermore, panel X17, which contained both spanners and had the term "race" removed from most of the race question, showed relatively high nonresponse to the race question by respondents of Hispanic origin. General nonresponse to the race question was 5.7 percent on the X17 compared to about 4.4 percent on other panels within the family. Nonresponse to the race question for respondents who reported themselves as Hispanic was 32.8 percent compared to 24.8 percent on panel X16. We cannot statistically differentiate what may be causing this difference, but the overall consensus is that the spanners do not have a positive impact.

Do the "Asian" and "Native Hawaiian and Other Pacific Islander" spanners increase specific race or origin reporting for respondents within these categories?

Panels which contained spanners for Asian groups and Native Hawaiian and Other Pacific Islander groups did not show differences in either checkbox or detailed reporting within either category. Asian detailed origin reporting ranged from 97.0 percent to 98.6 percent on all panels within the B4 Spanner/Race Limitation family. This was comparable to percentages reported in other families. Native Hawaiian and Other Pacific Islander detailed origin reporting ranged from 51.2 percent to 89.0 percent. This range is highly similar to other families.

Does limiting the term "race" impact response rates?

There was no evidence that removal of the term "race" from either the question stem or the write-in instructions had any effect on either unit or item response rates. Panel X15 is the only panel in the B4 Spanner/Race Limitation family without the term "race" having been removed from some part of the race question. This panel does not perform any differently from the other B4 Spanner/Race Limitation panels for any nonresponse measures.

7.2 Final Conclusions

The 2010 Census AQE was designed to test several questionnaire design strategies that would improve race and Hispanic origin reporting. The primary research objectives were to design strategies that would increase reporting in the OMB race and ethnic categories, elicit reporting of detailed race and ethnic groups, lower overall item nonresponse, and increase the accuracy and reliability of results. The findings from the AQE research demonstrate that promising strategies have been found to address the challenges and complexities of race and Hispanic origin measurement and reporting issues and meet the strategic goals this research set forth.

Item Nonresponse Rates

To begin, this research demonstrates that the strategy to combine the race and Hispanic origin questions into one item resulted in dramatically lower item nonresponse compared to the separate race and Hispanic origin questions. This was a major finding of the AQE. Item nonresponse for the combined questions was about 1 percent, whereas item nonresponse in the separate race and Hispanic origin questions ranged from 3.5 percent to 5.7 percent for the race question, and 4.1 percent to 5.4 percent for the Hispanic origin question. By combining the race and Hispanic origin questions into one item, it appears that Hispanics can better find themselves among the race and ethnic categories, thus reducing item nonresponses. This finding was also echoed in the discussions of self-identification in the AQE focus groups.

Additionally, Panel 17, which removes "race" from the separate race question and includes the Asian and Native Hawaiian and Other Pacific Islander spanners, had significantly higher nonresponse among Hispanics (32.8 percent) than all panels within the B4 Spanner/Race Limitation family. The instruction that "Hispanic origin is not a race" may have led Hispanic respondents to feel that they did not need to answer the race question and, further, the presence of the spanners may have made it even more difficult for them to find their "race."

Increase Reporting in OMB Race and Ethnic Categories

The results also indicate that the combined question strategy increased reporting within OMB categories. This is demonstrated through the tremendous reduction in the reporting of Some Other Race alone on the combined questions relative to the separate questions. The Some Other Race alone population ranged from 6 percent to 7 percent on the separate questions panels, making it the third largest category, after White alone and Black alone. However, when Hispanics have an opportunity to choose Hispanic in the combined question, the Some Other Race alone population was reduced dramatically to an almost non-existent 0.2 percent across combined question panels. This was another major finding of the AQE research.

While the distribution for the White population decreases in combined question panels, this is to be expected since Hispanics have the opportunity to report Hispanic on the questionnaire. As previously discussed, the proportion who report White alone for the combined panels is in-line with the proportion of non-Hispanic Whites in the 2010 Census. Based on focus group research, this is a direct result of Hispanic respondents finding their racial identity in the combined

question. Importantly, for all other race and ethnic groups, the proportion remains the same across panels.

Additionally, results from the reinterview analysis clearly showed that the experimental combined question panels had lower gross difference rates and net difference rates for the White response category. This appears to suggest that the combined question panels yielded better representations of the "true" identity for the White race group. The differences for all other race and ethnic groups within the B2 Combined Question family were within sampling error, and the proportion remains the same across panels.

Detailed Race and Origin Reporting

Within the separate question panels, there were no significant differences in the amount of detailed reporting for any of the race and origin groups when examples were added or modified.

The findings regarding eliciting detailed reporting help inform strategies that should continue to be refined. The results indicate that providing a write-in line and examples for the White response category and the Black response category elicits detailed responses from these populations. The X2 panel and X3 panel were successful in eliciting White and Black detailed responses from both groups, while the X4 panel performed much better for the Black population, likely due to the examples that were used on the X4 and the placement of those examples.

For groups that have a dedicated write-in line on the separate and combined questions, detailed reporting remained consistent across panels for Asians, however this was not observed for other race and ethnic groups. Hispanic detailed reporting decreased on the combined questionnaires. For American Indians and Alaska Natives and Native Hawaiians and Other Pacific Islanders, the level of detail fluctuated considerably across panels. This was due to the small sample size for these populations.

Increase the Accuracy and Reliability of Results

Several significant results were discovered with respect to AQE question design strategies that helped increase the accuracy and reliability of results. The population reporting multiple responses does increase on the combined question panels, which may be attributed to question wording, presentation of response categories, and/or respondents feeling like they have better opportunity to express their complete race and ethnic identities. Most significantly, this may be more reflective of people's ability to see the option to report more than one race in the question itself, as evidenced by the higher matching of "truth" responses in the combined question approach as compared with the separate questions designs. The linkage of race reporting on the AQE mail survey with follow-up probing in the reinterview revealed that people who reported multiple races were indeed "multiracial," while many who reported a single race on the mail survey, when asked in the reinterview, acknowledged that they were in fact multiple races, but they did not realize they could report more than one response to the question. This is a significant finding, which was made possible by the addition of the follow-up reinterview survey. Furthermore, qualitative evidence from AQE focus group discussions echoed the

importance of people understanding their reporting options when reporting multiple races to indicate their multiracial heritage.

Other important findings pertained to the introduction of Asian and Pacific Islander category spanners, limiting the use of the term "race," and the removal of the term "Negro." While we find no increase in reporting of either Asians or Pacific Islanders when a spanner is present, we find a decrease in race question response by respondents of Hispanic origin. With no benefit to the intended groups of interest and negative impact on other groups, the spanners do not appear to be of any benefit. Limiting the use of the term "race" from the question stem and within the question itself does not appear to have any effect on response or group distributions. Lastly, the results also indicate that the removal of the term "Negro" from the "Black, African Am., or Negro" checkbox response category does not decrease reporting of the Black or African American population.

The main finding from the reinterview analysis pertained to the comparison of reliable and accurate reporting of the "White" population in combined and separate question approaches. The AQE research results showed that the combined question panels had lower GDR and NDR for the White response category. This, coupled with evidence from qualitative focus group discussions, suggests that results from mail questionnaires that used a combined question approach were better representations of the "true" identity for the "White" race group, whereas separate question approaches produced inflated reporting of Hispanics who identified as White, but said they were not White when asked in the reinterview survey. This finding, coupled with the reduction of "Some Other Race" reporting in the combined question approach and extremely low item nonresponse is one of the most significant findings from this research.

Thus, the AQE research demonstrates that a combined question on race and Hispanic origin has the impact of gaining overall success in both Hispanics and non-Hispanics alike finding a place to identify and report their race and/or origin. The validity of these responses was further confirmed through the AQE reinterview results, which showed that when asked a series of follow-up questions about respondent identification with any of the possible response categories, overall matches between combined question responses and reinterview "truth" were much greater than separate question responses and reinterview "truth." The greater illustrator of this pattern was that "Hispanics" who reported they were "White" in the separate race question did not identify as "White" (only as "Hispanic") in the reinterview; while "Hispanics" who did identify as "White" and "Hispanic" in the combined question also confirmed this identity in the reinterview.

Conclusion

In conclusion, the 2010 Census AQE showed great results in meeting the main questionnaire design strategies to improve race and Hispanic origin reporting. The primary research objectives for lowering overall item nonresponse, increasing reporting in OMB race and ethnic categories, and increasing the accuracy and reliability of results were all met. The research objective to elicit reporting of detailed race and ethnic groups was met for most groups, with more research to be done to develop strategies that will raise the level of detailed reporting among Asians and Hispanics.

The findings from the 2010 Census AQE research provide promising strategies to address the challenges and complexities of race and Hispanic origin measurement and reporting issues in our rapidly diversifying society. These research results provide important information for further consideration and discussion as we develop testing strategies to explore race and Hispanic origin reporting in preparation for the 2020 Census.

7.3 Recommendations

Based on the results of the 2010 Race and Hispanic Origin Alternative Questionnaire Experiment, we recommend implementation of the following:

- **Further test combined race and Hispanic origin question refinements**, paying special attention to research in improving detailed Asian and detailed Hispanic reporting. This supports all four objectives by increasing reporting within standard OMB categories, decreasing item nonresponse, improving accuracy and reliability, and increasing detailed reporting for a number of groups. Some groups saw a decrease in detailed reporting, but the authors are hopeful this can be remedied during the 2020 Census testing cycle.

- **Continue researching the optimal use of examples for each race and origin response categories.** There are mixed results that inclusion of examples aid in accuracy and detailed reporting for some groups, there was also evidence that this was decreased for other groups.

- If the Hispanic origin question is kept separate, **allow multiple responses to the Hispanic origin question by explicitly including the "mark one or more" instruction,** which would make it consistent with the race question. This supports the objective of improving accuracy and reliability by giving respondents the option to report their full self-identified origin.

- **Remove the term "Negro" from the "Black, African Am., or Negro" response category.** Though this study did not show that the term "Negro" negatively impacted any of the study objectives, there was also no benefit to retaining the term on the questionnaire. Due to the tremendous concern over this archaic term remaining on the questionnaire, there is no reason to continue to use it.

- **Do not include spanners for Asian and Native Hawaiian and Other Pacific Islander checkboxes.** This modification had a negative impact on the objective to improve item nonresponse.

The 2010 Census AQE research has yielded promising strategies for the collection of data on race and ethnicity in the future. The results provide important information on how and why people from varied and diverse backgrounds respond to questions on race and ethnicity.

As evidenced by the 2010 Census AQE results, the collection of race and ethnic data has become even more challenging and complex. This is exemplified by the issues many respondents have

with self-identifying within the current OMB categories. It is clear that the implementation of the OMB standards in censuses and surveys is not well understood and the categories are considered unacceptable by increasing numbers of respondents, which has resulted in an inability or unwillingness for some respondents to self-identify as the OMB standards intended.

This growing lack of understanding or acceptance of the OMB standards is compounded by the rapidly changing demographics of the U.S. population, as shown in the results of the 2010 Census. As the U.S. Census Bureau prepares for the 2020 Census, additional research and discussion should be undertaken to explore how successful strategies from the 2010 Census AQE can be employed to provide accurate and relevant data about our changing and diversifying nation.

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Appendix A. Additional Analysis Tables

Table A1. Weighted Frequencies with Unweighted Counts of Specific Hispanic Reporting.

Panel	Mexican	Puerto Rican	Cuban	Argentinean	Columbian	Dominican	Nicaraguan	Salvadoran	Spaniard	Other Specific	Mixed Hispanic	Multiple Hispanic	General	
													Write-In	Checkbox Only
XA	61.2 (8,827)	8.5 (1,054)	4.1 (656)	0.9 (57)	2.1 (221)	3.1 (525)	0.6 (115)	2.9 (513)	1.4 (133)	6.8 (958)	1.8 (179)	1.6 (354)	2.0 (363)	3.2 (390)
XB	58.7 (9,439)	8.9 (999)	5.8 (692)	0.5 (53)	1.8 (288)	2.7 (496)	0.8 (125)	2.4 (506)	1.1 (146)	7.3 (1,057)	1.1 (176)	3.3 (335)	2.7 (413)	2.9 (520)
X2	53.3 (8,871)	11.2 (1,039)	3.3 (637)	0.2 (61)	2.3 (258)	2.8 (519)	1.0 (131)	2.6 (546)	1.9 (147)	7.3 (1,089)	NA	3.2 (369)	6.4 (896)	4.7 (698)
X3	45.4 (8,085)	8.1 (856)	4.1 (609)	0.4 (48)	3.7 (278)	3.2 (531)	0.5 (132)	3.2 (579)	1.1 (114)	6.8 (900)	NA	1.2 (280)	8.2 (1,127)	14.1 (1,888)
X4	51.1 (8,674)	7.4 (789)	3.8 (576)	1.0 (75)	1.6 (236)	2.3 (419)	0.6 (100)	2.0 (504)	0.1 (23)	8.2 (982)	NA	1.8 (291)	9.7 (1,470)	10.4 (1,602)
X5	53.4 (8,995)	12.4 (1,026)	3.5 (591)	0.2 (46)	1.1 (253)	2.5 (449)	0.5 (115)	2.6 (532)	0.8 (73)	8.1 (905)	NA	1.2 (259)	3.5 (455)	10.1 (1,411)
X6	56.5 (9,383)	10.0 (985)	4.4 (678)	0.2 (41)	3.2 (256)	3.1 (548)	0.6 (139)	3.1 (491)	1.7 (152)	7.3 (1,033)	1.8 (194)	2.7 (354)	2.2 (342)	3.5 (428)
X7	56.8 (9,386)	11.3 (1,133)	4.5 (695)	0.7 (65)	1.4 (216)	3.4 (500)	1.0 (122)	4.1 (531)	0.7 (113)	6.1 (1,010)	1.7 (174)	3.5 (412)	2.6 (488)	2.3 (411)
X8	55.1 (9,054)	9.1 (1,032)	4.5 (678)	0.3 (56)	2.9 (254)	3.0 (518)	1.1 (93)	3.6 (590)	2.0 (144)	5.8 (1,020)	1.9 (212)	4.1 (469)	2.9 (391)	3.8 (565)
X9	56.8 (9,308)	8.6 (1,005)	3.4 (731)	0.6 (53)	1.5 (206)	3.4 (533)	0.6 (146)	3.1 (516)	1.2 (135)	9.5 (1,035)	1.6 (222)	2.9 (471)	3.5 (461)	3.4 (443)
X10	56.6 (9,546)	8.6 (997)	5.1 (696)	0.6 (75)	2.5 (298)	3.1 (510)	0.6 (126)	3.0 (536)	1.5 (145)	8.0 (1,043)	1.8 (163)	2.6 (343)	3.0 (382)	3.0 (462)
X11	56.3 (9,311)	10.0 (1,053)	4.5 (694)	0.6 (52)	2.3 (273)	2.9 (454)	0.6 (117)	2.4 (502)	1.0 (111)	7.3 (1,036)	2.1 (213)	4.0 (488)	2.8 (393)	3.5 (525)
X12	53.7 (9,009)	11.8 (1,020)	5.1 (689)	0.4 (39)	1.6 (264)	3.9 (438)	1.1 (127)	3.3 (524)	1.0 (130)	7.2 (1,021)	1.7 (195)	3.0 (373)	2.9 (511)	3.6 (509)
X14	58.7 (9,285)	9.4 (1,096)	3.4 (711)	0.5 (69)	2.1 (281)	2.7 (461)	1.1 (121)	3.4 (513)	1.0 (125)	7.1 (1,033)	1.3 (189)	2.5 (368)	2.5 (422)	4.5 (510)
X15	60.6 (9,414)	9.2 (1,039)	4.4 (704)	0.5 (69)	1.3 (241)	3.0 (457)	0.6 (104)	3.8 (565)	1.4 (134)	6.5 (994)	1.6 (194)	2.6 (324)	2.0 (376)	2.6 (410)
X16	57.1 (9,169)	8.7 (1,011)	5.0 (790)	0.4 (68)	1.5 (269)	3.0 (504)	0.5 (131)	3.5 (560)	2.0 (121)	7.2 (969)	2.8 (209)	1.9 (288)	2.4 (464)	4.1 (461)
X17	57.3 (9,257)	8.2 (991)	4.1 (730)	1.0 (82)	2.8 (300)	2.6 (523)	0.8 (145)	4.0 (476)	1.3 (127)	8.5 (1,120)	1.3 (177)	2.6 (314)	1.7 (386)	3.9 (523)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses. Mexican, Puerto Rican, and Cuban categories include both checkbox and write-in responses. A value of NA was given in categories which did not have a response option.

Table A2. Weighted Frequencies with Unweighted Counts of Specific White Reporting.

Panel	Checkbox Only	European				Middle Eastern				North African				General	Other Specific
		Total	German	Irish	Other	Total	Lebanese	Other	General	Total	Egyptian	Moroccan	General		
XA	98.3 (25,981)	0.4 (171)	0.1 (33)	0.1 (29)	0.3 (123)	0.4 (278)	<0.1 (10)	0.3 (207)	0.1 (61)	0.2 (39)	0.2 (36)	<0.1 (1)	<0.1 (2)	0.3 (159)	0.5 (253)
XB	98.1 (26,453)	0.2 (187)	<0.1 (43)	<0.1 (36)	0.1 (126)	1.0 (348)	0.1 (11)	0.8 (253)	0.1 (87)	<0.1 (26)	<0.1 (23)	<0.1 (2)	<0.1 (1)	0.5 (247)	0.3 (218)
X2	46.5 (9,427)	40.9 (8,807)	19.0 (3,683)	15.1 (3,418)	22.2 (4,993)	1.0 (513)	0.4 (111)	0.5 (383)	<0.1 (36)	0.2 (82)	0.1 (59)	<0.1 (23)	0.0 (0)	5.2 (966)	12.8 (3,306)
X3	44.7 (8,642)	42.7 (8,874)	19.1 (3,691)	15.6 (3,382)	23.1 (5,052)	1.0 (469)	0.1 (74)	0.8 (370)	<0.1 (32)	0.1 (81)	<0.1 (58)	0.1 (23)	0.0 (0)	4.8 (1,021)	14.1 (3,381)
X4	38.0 (7,636)	22.7 (5,017)	11.2 (2,294)	8.5 (1,909)	12.8 (3,074)	1.2 (488)	0.2 (47)	1.0 (404)	0.1 (52)	0.1 (76)	0.1 (52)	<0.1 (20)	<0.1 (4)	32.5 (6,361)	10.9 (2,775)
X5	97.9 (20,398)	0.8 (205)	0.2 (43)	0.1 (26)	0.5 (150)	0.3 (289)	<0.1 (9)	0.2 (211)	0.1 (70)	0.1 (38)	0.1 (28)	<0.1 (4)	<0.1 (6)	0.3 (88)	0.6 (231)
X6	98.1 (24,894)	0.4 (193)	0.1 (34)	0.1 (23)	0.3 (146)	0.5 (236)	<0.1 (2)	0.4 (217)	<0.1 (17)	0.2 (20)	0.1 (12)	<0.1 (4)	<0.1 (4)	0.6 (245)	0.3 (220)
X7	98.0 (26,353)	0.6 (235)	0.1 (53)	0.2 (34)	0.5 (177)	0.4 (311)	<0.1 (17)	0.3 (246)	0.1 (57)	<0.1 (25)	<0.1 (21)	<0.1 (4)	0.0 (0)	0.4 (182)	0.6 (267)
X8	98.1 (26,371)	0.4 (217)	0.1 (47)	<0.1 (36)	0.3 (156)	0.5 (338)	<0.1 (12)	0.4 (261)	0.2 (78)	0.1 (50)	<0.1 (47)	<0.1 (2)	<0.1 (1)	0.4 (170)	0.5 (269)
X9	97.6 (25,056)	0.7 (209)	0.2 (32)	0.2 (39)	0.4 (158)	0.7 (326)	<0.1 (10)	0.7 (258)	0.1 (62)	0.1 (32)	0.1 (23)	<0.1 (9)	0.0 (0)	0.5 (271)	0.6 (240)
X10	98.1 (25,107)	0.6 (207)	0.2 (42)	0.2 (36)	0.3 (153)	0.4 (237)	<0.1 (4)	0.3 (204)	<0.1 (37)	<0.1 (35)	<0.1 (34)	<0.1 (1)	0.0 (0)	0.4 (251)	0.5 (260)
X11	98.1 (24,843)	0.5 (223)	0.1 (36)	0.1 (32)	0.4 (170)	0.2 (225)	<0.1 (8)	0.2 (192)	<0.1 (34)	<0.1 (22)	<0.1 (20)	<0.1 (2)	0.0 (0)	0.5 (262)	0.7 (267)
X12	97.7 (26,478)	0.6 (218)	0.2 (52)	0.1 (48)	0.4 (137)	0.7 (318)	<0.1 (11)	0.7 (242)	0.1 (72)	0.2 (39)	0.1 (23)	<0.1 (10)	0.1 (11)	0.3 (189)	0.6 (275)
X14	98.0 (26,794)	0.4 (159)	0.1 (28)	0.1 (27)	0.4 (126)	0.4 (270)	<0.1 (4)	0.4 (200)	0.1 (67)	<0.1 (25)	<0.1 (18)	<0.1 (4)	<0.1 (3)	0.5 (190)	0.7 (226)
X15	98.3 (26,734)	0.5 (203)	0.1 (32)	0.1 (25)	0.4 (158)	0.4 (294)	<0.1 (14)	0.3 (220)	0.1 (70)	<0.1 (45)	<0.1 (37)	<0.1 (6)	<0.1 (2)	0.5 (185)	0.4 (262)
X16	97.9 (25,326)	0.5 (226)	0.1 (38)	0.1 (50)	0.4 (168)	0.5 (353)	<0.1 (18)	0.4 (271)	0.1 (75)	<0.1 (42)	<0.1 (29)	<0.1 (5)	<0.1 (8)	0.3 (187)	0.9 (292)
X17	97.9 (25,618)	0.4 (192)	0.2 (35)	0.1 (53)	0.2 (119)	0.5 (308)	<0.1 (7)	0.4 (255)	0.1 (52)	<0.1 (34)	<0.1 (29)	<0.1 (2)	<0.1 (3)	0.5 (185)	0.8 (315)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses. Percentages in table are alone and in combination with others and will not add to 100 percent.

Table A3. Weighted Frequencies with Unweighted Counts of Black/African American Specific Reporting.

Panel	Checkbox Only	Black or African American	African				Caribbean			Other Specific
			Total	Nigerian	Other	General	Total	Haitian	Other	
XA	95.8 (9,125)	2.4 (280)	0.5 (59)	0.1 (10)	0.2 (26)	0.3 (32)	1.2 (163)	0.5 (72)	0.7 (92)	<0.1 (6)
XB	94.9 (9,501)	3.1 (275)	0.6 (66)	<0.1 (1)	0.4 (36)	0.3 (42)	1.1 (160)	0.6 (93)	0.5 (67)	0.2 (32)
X2	23.2 (2,319)	67.4 (6,618)	3.1 (289)	0.7 (64)	1.3 (141)	1.1 (87)	4.4 (456)	1.6 (171)	2.8 (285)	0.9 (64)
X3	23.5 (2,212)	66.6 (6,658)	3.7 (354)	1.9 (95)	1.7 (174)	0.7 (104)	4.3 (433)	2.3 (178)	2.0 (255)	0.4 (61)
X4	12.4 (1,118)	77.6 (7,646)	6.8 (717)	0.6 (55)	1.6 (204)	4.9 (504)	2.9 (331)	1.6 (150)	1.6 (184)	0.5 (52)
X5	97.1 (9,367)	0.6 (83)	0.5 (53)	0.2 (21)	0.3 (32)	0.1 (12)	1.7 (150)	0.7 (59)	1.1 (92)	0.1 (13)
X6	96.0 (9,295)	2.4 (259)	0.4 (51)	0.1 (17)	0.2 (25)	0.2 (17)	0.8 (109)	0.3 (42)	0.5 (67)	0.2 (26)
X7	96.6 (9,497)	1.7 (242)	0.6 (66)	0.1 (4)	0.3 (37)	0.2 (29)	1.0 (140)	0.4 (49)	0.6 (91)	0.1 (12)
X8	95.0 (9,352)	2.0 (214)	1.5 (91)	0.1 (18)	1.1 (59)	0.9 (33)	1.3 (134)	1.0 (71)	0.4 (63)	0.1 (21)
X9	95.4 (9,640)	2.7 (297)	0.7 (63)	<0.1 (1)	0.3 (44)	0.5 (24)	1.1 (141)	0.3 (48)	0.8 (93)	0.1 (21)
X10	94.3 (9,406)	3.5 (376)	0.6 (42)	<0.1 (3)	0.4 (25)	0.5 (23)	1.5 (133)	0.9 (59)	0.6 (74)	0.3 (29)
X11	95.9 (9,331)	2.8 (298)	0.5 (56)	<0.1 (4)	0.2 (38)	0.3 (15)	0.8 (120)	0.3 (39)	0.5 (83)	0.1 (16)
X12	95.9 (9,572)	2.6 (226)	0.4 (68)	<0.1 (6)	0.2 (46)	0.1 (23)	1.1 (137)	0.5 (55)	0.6 (82)	0.1 (19)
X14	95.3 (9,517)	2.7 (282)	0.4 (61)	0.1 (14)	0.2 (35)	0.1 (19)	1.4 (116)	0.4 (58)	1.0 (59)	0.1 (23)
X15	96.5 (9,415)	1.3 (177)	0.8 (78)	<0.1 (5)	0.6 (48)	0.2 (32)	1.1 (131)	0.4 (58)	0.7 (73)	0.1 (18)
X16	95.5 (9,318)	2.0 (271)	0.4 (71)	<0.1 (10)	0.2 (29)	0.2 (39)	1.7 (188)	1.1 (92)	0.6 (96)	0.1 (15)
X17	96.2 (9,587)	1.8 (230)	0.4 (77)	0.1 (14)	0.2 (33)	0.2 (42)	1.3 (138)	0.3 (55)	1.0 (83)	0.4 (28)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses. Percentages in table are alone and in combination with others and will not add to 100 percent.

Table A4. Weighted Frequencies with Unweighted Counts of American Indian and Alaska Native Specific Reporting.

Panel	Checkbox Only	Alaska Native				American Indian					Latin American Indian				Canadian Indian
		Total	Tlingit	Other Specific	General	Total	Navajo	Cherokee	Other Specific	General	Total	Mayan	Other Specific	General	
XA	31.1 (333)	0.6 (13)	0.2 (4)	0.3 (8)	0.3 (4)	63.7 (386)	4.6 (34)	18.3 (95)	41.0 (236)	1.4 (29)	4.8 (48)	1.9 (16)	1.4 (23)	1.6 (10)	0.7 (2)
XB	36.8 (344)	3.7 (7)	3.5 (3)	0.2 (5)	0.0 (0)	55.0 (326)	2.9 (13)	12.0 (81)	33.4 (194)	7.1 (46)	4.7 (72)	0.8 (13)	1.9 (37)	2.1 (22)	0.0 (0)
X2	15.7 (204)	0.1 (4)	<0.1 (2)	0.2 (7)	0.0 (0)	78.4 (784)	4.3 (55)	28.8 (265)	39.8 (396)	14.0 (113)	1.9 (51)	1.0 (19)	0.9 (33)	0.1 (4)	4.1 (19)
X3	19.3 (197)	0.8 (8)	0.1 (3)	0.8 (7)	0.1 (3)	77.9 (721)	0.7 (27)	30.8 (257)	37.0 (388)	16.2 (113)	1.5 (34)	0.2 (7)	1.1 (20)	0.2 (7)	0.7 (4)
X4	14.6 (189)	0.2 (9)	0.1 (3)	0.1 (5)	0.1 (4)	83.2 (736)	0.8 (28)	29.7 (214)	31.1 (269)	24.7 (255)	1.1 (33)	0.1 (3)	0.7 (21)	0.3 (11)	1.0 (11)
X5	22.9 (148)	0.8 (12)	0.5 (7)	0.2 (3)	0.2 (3)	75.1 (304)	10.2 (26)	8.4 (67)	53.1 (195)	3.7 (21)	1.3 (22)	0.5 (8)	0.8 (14)	0.0 (0)	0.0 (0)
X6	29.6 (291)	2.4 (10)	0.0 (0)	0.5 (13)	2.1 (2)	54.9 (392)	1.5 (38)	15.5 (107)	37.8 (248)	1.1 (22)	13.1 (143)	1.7 (36)	11.2 (100)	0.5 (14)	0.1 (1)
X7	32.6 (303)	0.5 (10)	<0.1 (1)	0.5 (10)	0.0 (0)	63.1 (322)	1.1 (20)	23.3 (90)	47.4 (180)	3.7 (46)	3.7 (41)	1.4 (3)	1.9 (33)	0.4 (6)	0.1 (2)
X8	25.4 (343)	0.3 (7)	<0.1 (1)	0.6 (9)	0.1 (3)	70.4 (340)	5.3 (25)	15.2 (78)	45.5 (204)	5.3 (46)	4.3 (71)	0.5 (9)	3.3 (53)	0.7 (14)	0.1 (2)
X9	30.0 (335)	0.7 (22)	0.3 (8)	0.3 (10)	0.2 (6)	61.6 (330)	3.5 (35)	15.0 (76)	38.9 (187)	5.6 (39)	6.7 (141)	5.0 (96)	1.6 (42)	0.2 (6)	1.1 (1)
X10	33.3 (319)	3.7 (12)	0.2 (6)	1.3 (6)	2.2 (2)	58.5 (389)	2.1 (21)	17.9 (124)	32.8 (212)	6.3 (39)	4.4 (104)	2.1 (51)	2.3 (54)	0.3 (7)	0.1 (2)
X11	22.4 (265)	4.2 (14)	0.1 (2)	4.3 (17)	0.1 (3)	64.9 (402)	2.8 (49)	13.2 (77)	47.4 (268)	1.9 (21)	8.7 (154)	3.9 (61)	4.7 (89)	0.5 (15)	0.1 (2)
X12	29.8 (289)	1.1 (25)	0.3 (6)	0.9 (21)	<0.1 (1)	66.5 (320)	2.0 (38)	27.6 (109)	38.8 (162)	1.0 (18)	2.7 (54)	0.6 (12)	1.7 (32)	0.5 (12)	0.1 (1)
X14	29.1 (318)	0.5 (11)	0.1 (1)	0.5 (11)	<0.1 (1)	64.2 (401)	2.0 (26)	15.9 (85)	46.1 (266)	1.5 (32)	6.3 (74)	3.5 (12)	2.6 (56)	0.2 (6)	0.1 (2)
X15	28.5 (294)	0.3 (6)	0.1 (2)	0.1 (4)	<0.1 (0)	64.3 (360)	2.9 (22)	22.2 (97)	37.9 (212)	5.2 (49)	6.7 (56)	2.3 (7)	3.8 (34)	0.6 (16)	0.2 (5)
X16	32.0 (269)	1.9 (7)	1.7 (4)	0.1 (1)	0.1 (2)	60.2 (292)	6.4 (8)	17.4 (80)	34.1 (172)	2.7 (38)	5.9 (26)	3.4 (7)	0.5 (8)	2.1 (11)	0.0 (0)
X17	24.3 (271)	5.7 (20)	0.1 (4)	5.5 (14)	0.2 (4)	65.9 (345)	1.4 (35)	27.8 (91)	41.2 (213)	1.0 (20)	4.0 (46)	0.1 (2)	3.6 (34)	0.4 (12)	0.1 (1)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses.

Table A5. Weighted Frequencies with Unweighted Counts of Asian Specific Reporting.

Panel	Total	Asian Indian	Japanese	Chinese	Korean	Filipino	Vietnamese	Hmong	Laotian	Thai	Pakistani	Cambodian	Mongolian	Other Specific	General	Other Asian Checkbox Only
XA	6,591	16.7 (1,063)	8.3 (538)	24.9 (1,830)	8.8 (547)	19.8 (1,400)	13.2 (741)	0.6 (78)	1.1 (63)	2.3 (63)	3.3 (132)	1.0 (93)	<0.1 (2)	4.1 (297)	0.1 (13)	0.8 (86)
XB	7,101	16.8 (983)	11.5 (589)	21.8 (1,903)	9.6 (657)	19.1 (1,346)	11.2 (881)	0.5 (58)	0.9 (95)	1.5 (69)	2.3 (230)	2.4 (129)	<0.1 (3)	3.2 (314)	0.1 (11)	1.9 (135)
X2	6,788	12.9 (922)	9.1 (588)	25.2 (1,917)	7.7 (563)	22.4 (1,450)	7.3 (723)	2.3 (79)	1.5 (58)	0.9 (74)	1.7 (90)	1.6 (135)	0.1 (12)	8.9 (414)	0.6 (15)	2.8 (71)
X3	6,861	12.9 (770)	8.0 (550)	22.1 (1,756)	7.4 (596)	23.4 (1,394)	13.9 (705)	0.4 (51)	2.0 (72)	1.0 (89)	1.3 (112)	1.6 (130)	0.1 (13)	3.1 (362)	0.4 (41)	5.1 (429)
X4	6,876	16.4 (837)	8.4 (614)	21.9 (1,758)	9.3 (568)	18.3 (1,467)	8.9 (625)	0.5 (56)	2.1 (62)	1.5 (57)	0.9 (105)	0.9 (107)	0.3 (8)	6.2 (373)	2.4 (130)	5.0 (389)
X5	6,888	14.1 (1,026)	11.8 (577)	21.4 (1,791)	9.7 (649)	21.5 (1,371)	10.0 (832)	0.6 (72)	1.4 (82)	1.1 (54)	2.1 (100)	0.7 (90)	<0.1 (2)	6.0 (368)	0.4 (21)	2.3 (101)
X6	6,944	18.2 (977)	8.4 (599)	24.4 (1,966)	12.4 (641)	19.0 (1,366)	10.1 (785)	0.5 (59)	0.4 (51)	0.6 (68)	3.8 (149)	1.1 (131)	<0.1 (4)	3.1 (321)	0.4 (16)	1.2 (99)
X7	6,863	15.9 (979)	6.8 (521)	23.8 (1,854)	8.8 (647)	20.2 (1,454)	10.5 (747)	1.0 (98)	2.2 (66)	2.7 (72)	1.9 (122)	1.8 (92)	1.2 (11)	3.7 (325)	0.1 (14)	2.7 (158)
X8	6,875	19.5 (1,016)	8.2 (610)	20.8 (1,866)	9.8 (538)	20.3 (1,511)	11.4 (791)	2.0 (78)	0.6 (72)	0.4 (49)	2.2 (125)	1.1 (110)	0.1 (8)	4.3 (316)	0.9 (28)	1.7 (90)
X9	6,821	18.1 (1,006)	11.5 (648)	23.1 (1,793)	8.6 (591)	23.9 (1,468)	8.6 (768)	0.5 (62)	2.0 (87)	0.5 (56)	1.2 (119)	0.6 (80)	<0.1 (4)	3.0 (279)	0.2 (20)	2.6 (129)
X10	6,839	22.6 (1,053)	6.8 (578)	25.3 (1,857)	8.4 (645)	18.4 (1,448)	7.6 (708)	2.4 (67)	2.3 (50)	1.4 (58)	2.6 (117)	0.9 (87)	0.1 (7)	4.6 (316)	0.3 (30)	2.4 (158)
X11	6,623	19.8 (955)	8.6 (540)	20.8 (1,769)	9.9 (555)	18.8 (1,409)	11.4 (758)	2.1 (86)	2.8 (82)	1.9 (78)	1.2 (143)	1.5 (125)	0.0 (0)	4.0 (316)	0.4 (13)	1.1 (91)
X12	6,624	17.6 (962)	8.0 (563)	23.3 (1,814)	7.0 (581)	19.5 (1,321)	7.6 (646)	0.7 (74)	2.2 (73)	1.6 (66)	6.5 (167)	2.3 (124)	<0.1 (2)	2.6 (306)	1.0 (22)	2.3 (146)
X14	6,730	17.8 (953)	6.6 (628)	24.1 (1,774)	13.0 (613)	16.9 (1,384)	13.3 (757)	1.4 (101)	0.7 (71)	1.3 (83)	1.5 (136)	1.1 (88)	0.0 (0)	3.8 (320)	0.4 (16)	1.0 (100)
X15	6,915	20.9 (985)	7.6 (598)	23.7 (1,860)	7.5 (693)	22.5 (1,516)	9.1 (703)	0.3 (36)	0.5 (49)	1.7 (66)	3.3 (134)	1.0 (95)	0.1 (7)	3.9 (335)	0.3 (13)	2.2 (123)
X16	6,897	15.9 (1,015)	7.7 (622)	22.8 (1,870)	9.2 (614)	21.4 (1,448)	9.6 (770)	0.6 (82)	4.7 (85)	3.1 (91)	1.1 (166)	0.7 (69)	0.5 (11)	3.8 (245)	0.2 (21)	2.4 (156)
X17	6,996	22.1 (987)	6.0 (609)	26.3 (1,983)	9.6 (652)	16.9 (1,315)	9.3 (799)	0.8 (94)	0.8 (81)	0.7 (70)	1.4 (161)	0.8 (80)	<0.1 (3)	5.8 (355)	0.8 (26)	2.2 (131)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses. The checkbox responses panel X3 and panel X4 contained a general Asian checkbox instead of the multiple checkboxes contained in other panels.

Table A6. Weighted Frequencies with Unweighted Counts of Native Hawaiian and Pacific Islander Specific Reporting.

Panel	Total	Native Hawaiian	Guamanian or Chomorro	Samoan	Fijian	Tongan	Marshallese	Other Specific	General	Checkbox Only
XA	335	33.4 (190)	16.3 (32)	17.4 (34)	2.6 (16)	0.8 (5)	1.2 (7)	0.8 (5)	0.2 (1)	30.2 (62)
XB	423	54.7 (217)	4.9 (25)	17.4 (69)	1.1 (7)	3.2 (17)	1.1 (6)	1.0 (6)	1.5 (8)	15.3 (69)
X2	348	42.1 (209)	13.4 (42)	8.6 (45)	22.0 (7)	1.9 (9)	0.0 (0)	6.4 (7)	1.1 (4)	7.8 (42)
X3	396	41.5 (224)	26.0 (18)	7.7 (40)	5.6 (30)	2.3 (13)	0.0 (0)	0.9 (5)	0.6 (2)	17.3 (75)
X4	581	26.9 (171)	2.9 (25)	3.3 (31)	3.9 (13)	2.1 (22)	0.8 (8)	9.1 (9)	1.9 (15)	49.8 (294)
X5	268	24.4 (151)	9.4 (27)	4.1 (23)	1.6 (10)	0.9 (3)	0.0 (0)	6.6 (6)	10.4 (4)	12.5 (40)
X6	363	53.9 (211)	8.4 (21)	8.1 (49)	3.2 (20)	5.9 (25)	0.7 (5)	2.9 (17)	0.6 (2)	19.7 (37)
X7	410	34.9 (208)	9.9 (39)	9.3 (70)	1.9 (15)	5.1 (34)	7.9 (2)	0.2 (1)	0.1 (1)	32.0 (51)
X8	385	52.8 (195)	20.3 (24)	6.6 (46)	4.9 (33)	2.0 (13)	0.5 (4)	0.8 (6)	0.3 (2)	15.0 (61)
X9	348	24.4 (198)	14.4 (25)	10.7 (53)	0.4 (3)	2.3 (19)	19.8 (12)	0.6 (5)	0.1 (1)	29.0 (45)
X10	398	48.5 (241)	5.6 (31)	19.0 (76)	1.4 (8)	0.2 (1)	0.7 (4)	4.6 (22)	0.8 (4)	20.0 (45)
X11	350	27.7 (185)	2.6 (19)	22.3 (45)	2.0 (18)	1.4 (12)	0.0 (0)	21.9 (12)	0.6 (4)	22.6 (65)
X12	441	48.1 (247)	12.9 (41)	15.6 (36)	4.0 (25)	3.9 (24)	0.4 (2)	0.3 (2)	0.3 (2)	16.4 (75)
X14	378	43.4 (204)	31.3 (40)	11.6 (51)	0.7 (7)	1.6 (14)	0.0 (0)	0.7 (7)	1.2 (13)	10.6 (56)
X15	387	50.5 (218)	15.1 (36)	12.4 (55)	5.1 (5)	1.9 (12)	0.7 (5)	0.3 (2)	0.1 (1)	15.2 (61)
X16	382	31.1 (218)	8.7 (16)	7.7 (66)	4.2 (9)	2.0 (17)	0.0 (0)	0.5 (5)	0.2 (1)	27.0 (60)
X17	376	54.6 (223)	10.9 (16)	11.6 (42)	11.8 (22)	1.8 (13)	1.2 (9)	0.3 (2)	0.8 (5)	10.0 (56)

Source: 2010 Census AQE Auxiliary Data Files. Note: Estimates are weighted with standard errors in parentheses.

Table A7. Census Distribution of Respondents and Non-Respondents to the AQE Mailout Questionnaire (Persons 1 – 6).

	Non-Respondents							Respondents						
Panel	White	Black	American Indian or Alaska Native	Asian	Native Hawaiian or Pacific Islander	Some Other Race	Two or More Races	White	Black	American Indian or Alaska Native	Asian	Native Hawaiian or Pacific Islander	Some Other Race	Two or More Races
XA	59.8	18.5	0.9	4.6	0.2	12.1	3.9	76.5	11.1	0.7	4.9	0.1	4.4	2.4
	(1.44)	(0.92)	(0.24)	(0.48)	(0.05)	(0.79)	(0.60)	(0.61)	(0.42)	(0.11)	(0.29)	(0.02)	(0.29)	(0.22)
XB	59.1	18.5	0.8	4.6	0.2	13.0	3.8	74.8	11.6	0.5	5.3	0.1	4.5	3.1
	(1.57)	(1.17)	(0.25)	(0.47)	(0.04)	(1.04)	(0.59)	(0.58)	(0.38)	(0.11)	(0.35)	(0.02)	(0.27)	(0.25)
X2	61.9	16.0	0.7	4.1	0.5	13.4	3.4	72.7	10.9	0.7	4.8	0.1	5.5	5.4
	(1.50)	(0.81)	(0.17)	(0.48)	(0.31)	(0.98)	(0.47)	(0.62)	(0.38)	(0.13)	(0.28)	(0.05)	(0.30)	(0.35)
X3	60.3	17.8	0.8	4.4	0.3	12.0	4.3	72.4	11.3	0.5	5.2	0.1	5.5	5.1
	(1.52)	(0.98)	(0.25)	(0.49)	(0.16)	(0.85)	(0.57)	(0.69)	(0.42)	(0.08)	(0.33)	(0.01)	(0.30)	(0.31)
X4	60.9	18.2	1.8	4.9	0.2	10.9	3.2	66.3	11.0	0.4	4.2	0.1	11.4	6.7
	(1.50)	(0.98)	(0.53)	(0.64)	(0.04)	(0.66)	(0.45)	(0.76)	(0.41)	(0.10)	(0.25)	(0.02)	(0.48)	(0.39)
X5	58.8	17.2	1.2	4.9	0.2	14.4	3.3	74.5	11.7	0.6	5.5	0.1	5.3	2.3
	(1.45)	(0.87)	(0.41)	(0.55)	(0.04)	(1.07)	(0.48)	(0.65)	(0.41)	(0.14)	(0.32)	(0.09)	(0.28)	(0.20)
X6	57.5	18.5	1.1	4.4	0.4	13.9	4.2	74.5	11.2	0.7	5.1	0.1	5.5	2.9
	(1.45)	(0.98)	(0.28)	(0.49)	(0.21)	(0.90)	(0.57)	(0.68)	(0.42)	(0.10)	(0.32)	(0.02)	(0.32)	(0.23)
X7	59.8	17.5	0.8	5.2	0.2	13.1	3.5	74.9	11.7	0.7	5.2	0.1	4.9	2.6
	(1.48)	(0.96)	(0.17)	(0.57)	(0.03)	(0.94)	(0.43)	(0.65)	(0.43)	(0.14)	(0.35)	(0.05)	(0.31)	(0.22)
X8	59.7	17.2	1.0	5.9	0.2	12.5	3.5	75.6	11.4	0.5	5.2	0.1	4.5	2.8
	(1.59)	(0.98)	(0.34)	(0.73)	(0.06)	(0.80)	(0.48)	(0.64)	(0.43)	(0.11)	(0.34)	(0.04)	(0.28)	(0.19)
X9	56.5	18.1	1.8	5.9	0.2	13.4	4.2	74.3	11.5	0.6	4.9	0.2	5.2	3.4
	(1.38)	(0.97)	(0.53)	(0.64)	(0.06)	(0.91)	(0.56)	(0.70)	(0.45)	(0.09)	(0.29)	(0.08)	(0.30)	(0.30)
X10	58.4	18.0	0.6	4.7	0.2	15.2	3.1	74.8	11.4	0.8	5.3	0.1	5.4	2.4
	(1.41)	(0.96)	(0.17)	(0.59)	(0.06)	(1.00)	(0.44)	(0.66)	(0.41)	(0.11)	(0.33)	(0.03)	(0.32)	(0.18)
X11	59.8	17.6	0.8	4.0	0.3	14.7	2.9	74.5	11.7	0.9	5.0	0.2	5.3	2.4
	(1.50)	(0.91)	(0.26)	(0.42)	(0.16)	(1.08)	(0.43)	(0.65)	(0.44)	(0.15)	(0.31)	(0.06)	(0.30)	(0.18)
X1	59.0	17.7	0.9	4.9	0.2	13.5	3.8	75.8	11.7	0.7	4.9	0.1	4.4	2.5
	(1.45)	(0.99)	(0.26)	(0.59)	(0.04)	(1.04)	(0.55)	(0.64)	(0.42)	(0.13)	(0.29)	(0.02)	(0.32)	(0.20)
X14	58.6	18.1	0.7	3.9	0.2	15.1	3.4	75.8	11.0	0.8	5.4	0.2	4.1	2.8
	(1.48)	(1.01)	(0.16)	(0.40)	(0.04)	(1.12)	(0.46)	(0.63)	(0.39)	(0.15)	(0.33)	(0.05)	(0.28)	(0.25)
X15	60.4	16.6	0.7	5.0	0.6	13.6	3.1	75.1	11.5	0.7	5.2	0.1	4.8	2.7
	(1.42)	(0.90)	(0.16)	(0.60)	(0.34)	(1.01)	(0.39)	(0.68)	(0.43)	(0.15)	(0.33)	(0.02)	(0.33)	(0.22)
X16	57.2	19.5	0.9	3.8	0.7	14.1	3.9	74.2	11.8	0.5	5.9	0.2	4.8	2.7
	(1.58)	(1.04)	(0.30)	(0.32)	(0.29)	(0.91)	(0.51)	(0.69)	(0.46)	(0.10)	(0.37)	(0.06)	(0.28)	(0.24)
X17	58.4	18.2	0.6	4.5	0.2	14.7	3.4	74.8	12.0	0.6	4.7	0.1	4.7	3.2
	(1.47)	(0.96)	(0.17)	(0.49)	(0.03)	(1.03)	(0.46)	(0.61)	(0.44)	(0.12)	(0.28)	(0.02)	(0.30)	(0.26)

Source: 2010 Census Edited Files (CEF) and 2010 CPEX Sample File. Note: Estimates are weighted with standard errors in parentheses.

Table A8. Census Hispanic Origin Distribution for AQE Respondents and Non-respondents (Persons 1 – 6).

	Non-Respondents					Respondents				
Panel	Mexican, Mexican American, or Chicano	Puerto Rican	Cuban	Other Hispanic Origin	Not Hispanic	Mexican, Mexican American, or Chicano	Puerto Rican	Cuban	Other Hispanic Origin	Not Hispanic
XA	15.2 (0.92)	2.3 (0.37)	0.5 (0.07)	6.2 (0.67)	75.9 (1.19)	8.5 (0.44)	1.2 (0.14)	0.6 (0.09)	3.2 (0.23)	86.6 (0.52)
XB	16.2 (1.15)	2.1 (0.41)	0.5 (0.08)	6.0 (0.65)	75.2 (1.34)	8.6 (0.40)	1.3 (0.16)	0.9 (0.16)	3.5 (0.26)	85.7 (0.56)
X2	15.9 (0.99)	2.1 (0.35)	1.3 (0.40)	5.1 (0.61)	75.5 (1.27)	8.6 (0.40)	2.0 (0.23)	0.6 (0.10)	5.1 (0.34)	83.7 (0.58)
X3	13.8 (0.89)	1.6 (0.26)	0.7 (0.22)	5.8 (0.63)	78.1 (1.14)	7.5 (0.39)	1.4 (0.19)	0.7 (0.13)	6.3 (0.35)	84.2 (0.57)
X4	14.5 (0.91)	1.6 (0.20)	0.6 (0.17)	4.6 (0.42)	78.7 (1.03)	1.9 (0.18)	0.1 (0.04)	0.1 (0.04)	13.7 (0.50)	84.2 (0.55)
X5	15.2 (0.95)	2.1 (0.46)	0.5 (0.10)	6.3 (0.68)	75.9 (1.21)	8.3 (0.41)	2.1 (0.24)	0.6 (0.09)	4.7 (0.30)	84.3 (0.55)
X6	16.9 (1.07)	2.9 (0.51)	0.5 (0.07)	6.5 (0.68)	73.3 (1.31)	8.4 (0.41)	1.5 (0.17)	0.6 (0.10)	3.7 (0.29)	85.8 (0.54)
X7	14.9 (1.00)	2.0 (0.33)	0.6 (0.13)	6.1 (0.63)	76.3 (1.22)	8.9 (0.42)	1.8 (0.20)	0.7 (0.12)	3.4 (0.25)	85.2 (0.54)
X8	15.0 (0.89)	2.1 (0.34)	0.4 (0.05)	5.6 (0.52)	76.9 (1.12)	7.8 (0.37)	1.4 (0.16)	0.6 (0.10)	3.7 (0.28)	86.4 (0.50)
X9	15.6 (0.90)	2.6 (0.49)	0.5 (0.13)	6.8 (0.79)	74.5 (1.26)	8.6 (0.39)	1.3 (0.13)	0.5 (0.05)	4.0 (0.29)	85.6 (0.51)
X10	17.1 (1.03)	2.6 (0.42)	0.5 (0.09)	6.0 (0.57)	73.9 (1.25)	8.0 (0.38)	1.2 (0.14)	0.8 (0.10)	3.5 (0.25)	86.5 (0.51)
X11	17.8 (1.10)	2.1 (0.34)	0.6 (0.09)	5.9 (0.64)	73.7 (1.33)	8.4 (0.39)	1.7 (0.19)	0.7 (0.10)	3.7 (0.25)	85.6 (0.48)
X12	15.9 (1.04)	1.8 (0.34)	0.3 (0.05)	6.2 (0.66)	75.7 (1.25)	7.5 (0.37)	1.8 (0.21)	0.7 (0.12)	3.5 (0.23)	86.5 (0.51)
X14	16.1 (1.07)	2.6 (0.41)	0.6 (0.21)	8.1 (0.79)	72.5 (1.30)	8.7 (0.43)	1.4 (0.17)	0.5 (0.04)	3.6 (0.25)	85.8 (0.54)
X15	14.7 (0.98)	1.7 (0.28)	0.7 (0.23)	6.0 (0.70)	76.9 (1.25)	9.1 (0.44)	1.4 (0.17)	0.7 (0.10)	3.1 (0.20)	85.7 (0.50)
X16	16.7 (0.96)	2.0 (0.33)	0.6 (0.17)	6.2 (0.55)	74.5 (1.07)	8.3 (0.38)	1.3 (0.17)	0.8 (0.10)	3.4 (0.24)	86.4 (0.49)
X17	16.7 (1.04)	1.8 (0.22)	0.7 (0.20)	5.8 (0.58)	75.2 (1.22)	8.5 (0.42)	1.2 (0.14)	0.7 (0.10)	4.0 (0.29)	85.6 (0.51)

Source: 2010 Census Edited Files (CEF) and 2010 CPEX Sample File. Note: Estimates are weighted with standard errors in parentheses.

Table A9. Race and Origin Distributions for Reinterview Questions, "Truth", and AQE Mailout/Mailback Responses.

		Non-Hispanic							Hispanic			
Panel		White	Black/ African American	American Indian/ Alaska Native	Asian	Native Hawaiian/ Pacific Islander	Some Other Race	Two or More	Hispanic Alone	In Combi-nation	Invalid	Refusal
XA	Q1	66.9 (1.73)	8.3 (0.90)	0.2 (0.16)	4.4 (0.70)	<0.1 (0.01)	0.2 (0.04)	2.2 (0.46)	6.5 (0.85)	2.2 (0.57)	7.2 (1.02)	1.9 (0.51)
	Q2	71.5 (1.75)	8.4 (0.87)	0.2 (0.16)	4.5 (0.70)	<0.1 (0.01)	<0.1 (0.00)	3.5 (0.64)	3.5 (0.61)	5.5 (0.81)	<0.1 (0.03)	2.9 (0.61)
	Q3	66.1 (1.98)	8.2 (0.87)	0.4 (0.23)	4.0 (0.63)	0.1 (0.03)	1.0 (0.32)	1.4 (0.45)	6.3 (0.81)	2.0 (0.54)	7.8 (1.20)	2.8 (0.63)
	Truth	72.8 (1.74)	8.6 (0.88)	0.2 (0.16)	4.6 (0.71)	<0.1 (0.01)	0.1 (0.03)	2.5 (0.56)	6.0 (0.76)	3.2 (0.68)	0.4 (0.23)	1.6 (0.48)
	Mailback	74.7 (1.68)	9.6 (0.97)	0.2 (0.16)	4.6 (0.71)	<0.1 (0.03)	<0.1 (0.01)	0.8 (0.24)	3.5 (0.68)	5.6 (0.80)	0.3 (0.17)	0.7 (0.36)
XB	Q1	65.9 (1.70)	8.4 (0.78)	0.4 (0.23)	4.2 (0.74)	<0.1 (0.01)	0.4 (0.32)	3.5 (0.73)	7.1 (0.82)	2.4 (0.51)	5.4 (0.77)	2.2 (0.61)
	Q2	68.7 (1.61)	8.9 (0.84)	0.2 (0.16)	4.3 (0.70)	<0.1 (0.01)	<0.1 (0.01)	3.5 (0.64)	4.8 (0.72)	5.5 (0.69)	<0.1 (0.00)	2.9 (0.68)
	Q3	66.5 (1.75)	8.4 (0.78)	0.3 (0.17)	3.7 (0.63)	<0.1 (0.02)	1.2 (0.42)	1.8 (0.44)	6.5 (0.74)	1.4 (0.40)	7.5 (1.09)	2.7 (0.63)
	Truth	70.5 (1.55)	9.0 (0.84)	0.2 (0.16)	4.4 (0.74)	<0.1 (0.01)	0.4 (0.32)	3.4 (0.73)	7.0 (0.81)	2.9 (0.53)	0.1 (0.03)	2.2 (0.61)
	Mailback	73.3 (1.45)	9.3 (0.82)	0.2 (0.16)	4.4 (0.74)	0.1 (0.02)	<0.1 (0.00)	1.7 (0.41)	4.0 (0.71)	6.2 (0.77)	0.4 (0.23)	0.6 (0.23)
X2	Q1	65.0 (1.73)	8.9 (1.02)	0.2 (0.17)	3.9 (0.68)	0.1 (0.02)	0.2 (0.05)	3.7 (0.65)	6.2 (0.72)	2.8 (0.72)	7.4 (1.00)	1.6 (0.47)
	Q2	68.3 (1.78)	9.3 (1.04)	0.3 (0.17)	4.2 (0.70)	<0.1 (0.02)	<0.1 (0.00)	5.6 (0.85)	3.5 (0.46)	6.5 (0.96)	<0.1 (0.02)	2.3 (0.58)
	Q3	64.1 (1.85)	8.6 (0.97)	0.3 (0.17)	4.0 (0.68)	0.1 (0.03)	0.5 (0.18)	2.5 (0.59)	7.2 (0.86)	1.1 (0.41)	8.0 (1.14)	3.6 (0.74)
	Truth	71.1 (1.72)	9.4 (1.03)	0.2 (0.17)	4.2 (0.68)	0.1 (0.02)	0.1 (0.03)	3.6 (0.66)	6.6 (0.78)	3.3 (0.74)	0.3 (0.17)	1.3 (0.41)
	Mailback	71.5 (1.82)	9.3 (0.99)	0.3 (0.17)	4.4 (0.70)	<0.1 (0.02)	<0.1 (0.02)	3.4 (0.68)	7.4 (0.85)	2.9 (0.65)	0.3 (0.33)	0.4 (0.17)
X3	Q1	67.4 (1.68)	7.4 (0.73)	0.1 (0.04)	4.2 (0.70)	<0.1 (0.02)	0.3 (0.16)	3.3 (0.65)	7.0 (0.77)	2.2 (0.49)	6.1 (0.87)	2.0 (0.66)
	Q2	70.7 (1.68)	7.3 (0.72)	0.1 (0.04)	4.0 (0.65)	<0.1 (0.03)	<0.1 (0.00)	5.1 (0.84)	5.1 (0.73)	4.7 (0.61)	<0.1 (0.02)	3.0 (0.71)
	Q3	66.5 (1.82)	7.7 (0.80)	0.5 (0.22)	4.1 (0.69)	0.1 (0.03)	0.4 (0.07)	1.3 (0.42)	7.1 (0.79)	1.2 (0.31)	8.1 (1.03)	3.2 (0.73)
	Truth	72.4 (1.63)	7.8 (0.74)	0.1 (0.04)	4.3 (0.70)	<0.1 (0.03)	0.1 (0.03)	3.5 (0.72)	7.4 (0.86)	2.4 (0.48)	0.1 (0.04)	2.0 (0.66)
	Mailback	73.9 (1.5)	8.3 (0.81)	0.2 (0.04)	4.4 (0.70)	0.1 (0.03)	<0.1 (0.02)	2.1 (0.55)	7.7 (0.87)	1.9 (0.41)	0.6 (0.35)	0.9 (0.31)
X4	Q1	65.3 (1.87)	7.1 (0.77)	0.1 (0.03)	4.8 (0.87)	0.2 (0.17)	0.3 (0.17)	3.3 (0.73)	7.3 (0.85)	1.8 (0.45)	8.1 (0.93)	1.7 (0.48)
	Q2	70.4 (1.83)	7.3 (0.78)	0.2 (0.17)	4.8 (0.85)	<0.1 (0.02)	<0.1 (0.00)	5.1 (0.80)	4.6 (0.62)	5.2 (0.80)	<0.1 (0.01)	2.4 (0.61)
	Q3	65.2 (1.88)	7.9 (0.83)	0.3 (0.17)	4.9 (0.87)	0.4 (0.24)	1.1 (0.44)	0.9 (0.29)	6.7 (0.72)	0.9 (0.29)	8.7 (1.22)	2.8 (0.59)

	Truth	72.3 (1.79)	7.6 (0.79)	0.1 (0.03)	4.8 (0.85)	0.2 (0.17)	0.4 (0.34)	3.3 (0.70)	7.2 (0.80)	2.3 (0.51)	0.1 (0.02)	1.7 (0.48)
	Mailback	72.6 (1.83)	8.5 (0.88)	0.2 (0.17)	5.0 (0.86)	0.2 (0.17)	<0.1 (0.02)	3.1 (0.72)	7.7 (0.86)	2.4 (0.55)	0.1 (0.03)	0.2 (0.06)
X5	Q1	71.2 (1.59)	7.6 (0.79)	0.2 (0.15)	3.3 (0.46)	0.2 (0.15)	0.3 (0.16)	2.0 (0.48)	6.9 (0.80)	1.7 (0.34)	4.9 (0.79)	1.8 (0.58)
	Q2	72.8 (1.53)	7.7 (0.79)	<0.1 (0.02)	3.8 (0.57)	0.2 (0.15)	<0.1 (0.01)	3.7 (0.73)	4.0 (0.57)	4.8 (0.67)	<0.1 (0.02)	2.9 (0.74)
	Q3	67.7 (1.65)	8.0 (0.82)	0.1 (0.03)	3.1 (0.43)	0.2 (0.15)	0.6 (0.34)	1.8 (0.50)	7.2 (0.83)	0.9 (0.35)	7.2 (1.12)	3.2 (0.75)
	Truth	74.6 (1.43)	7.9 (0.80)	0.1 (0.03)	3.6 (0.48)	0.2 (0.15)	0.2 (0.15)	2.7 (0.63)	7.0 (0.80)	1.7 (0.31)	0.4 (0.31)	1.7 (0.58)
	Mailback	76.6 (1.51)	8.2 (0.81)	0.1 (0.03)	3.9 (0.60)	0.2 (0.15)	<0.1 (0.02)	0.9 (0.35)	7.2 (0.80)	1.1 (0.27)	0.7 (0.43)	1.1 (0.48)
X6	Q1	67.2 (1.75)	6.7 (0.53)	0.2 (0.16)	4.0 (0.63)	<0.1 (0.02)	0.6 (0.34)	3.7 (0.72)	6.8 (0.82)	2.8 (0.50)	5.7 (0.77)	2.3 (0.65)
	Q2	70.0 (1.76)	6.8 (0.54)	0.1 (0.03)	4.8 (0.85)	0.1 (0.03)	<0.1 (0.01)	5.1 (0.90)	4.6 (0.72)	6.0 (0.74)	<0.1 (0.03)	2.6 (0.65)
	Q3	67.7 (1.88)	7.2 (0.61)	0.4 (0.31)	4.2 (0.75)	0.1 (0.03)	1.2 (0.43)	1.6 (0.40)	7.2 (0.87)	1.6 (0.40)	6.4 (1.16)	2.4 (0.59)
	Truth	71.2 (1.73)	7.1 (0.55)	0.2 (0.16)	4.6 (0.80)	0.1 (0.03)	0.4 (0.31)	3.9 (0.76)	6.5 (0.80)	3.8 (0.58)	0.4 (0.31)	2.0 (0.58)
	Mailback	73.7 (1.59)	7.6 (0.62)	0.6 (0.34)	4.9 (0.85)	0.1 (0.03)	<0.1 (0.01)	1.1 (0.31)	3.9 (0.64)	6.6 (0.81)	0.9 (0.40)	0.7 (0.35)
X7	Q1	65.7 (1.89)	7.9 (0.85)	0.2 (0.17)	4.4 (0.76)	0.1 (0.03)	0.4 (0.18)	2.1 (0.43)	8.2 (0.94)	2.6 (0.54)	5.6 (0.88)	2.9 (0.70)
	Q2	67.8 (1.85)	8.2 (0.90)	<0.1 (0.02)	4.6 (0.82)	<0.1 (0.02)	<0.1 (0.01)	3.3 (0.52)	5.3 (0.77)	6.5 (0.84)	<0.1 (0.00)	4.2 (0.90)
	Q3	64.3 (1.94)	8.2 (0.86)	0.1 (0.03)	4.5 (0.82)	<0.1 (0.02)	0.4 (0.07)	1.1 (0.30)	9.0 (1.03)	1.4 (0.35)	7.2 (0.99)	4.0 (0.85)
	Truth	68.6 (1.82)	8.6 (0.92)	0.1 (0.02)	4.7 (0.82)	0.1 (0.02)	0.2 (0.05)	2.7 (0.51)	8.5 (1.01)	3.3 (0.63)	1.0 (0.51)	2.5 (0.62)
	Mailback	71.6 (1.67)	9.4 (0.95)	0.1 (0.03)	4.9 (0.83)	0.1 (0.03)	0.1 (0.03)	1.1 (0.34)	3.7 (0.60)	8.0 (0.99)	0.8 (0.42)	0.2 (0.05)
X8	Q1	68.0 (1.82)	7.4 (0.74)	0.4 (0.23)	4.8 (0.80)	0.1 (0.03)	0.3 (0.17)	3.5 (0.78)	6.3 (0.69)	2.9 (0.67)	5.0 (0.86)	1.5 (0.46)
	Q2	68.2 (1.86)	7.5 (0.77)	0.4 (0.23)	5.3 (0.86)	<0.1 (0.02)	<0.1 (0.02)	5.7 (0.99)	3.9 (0.59)	6.7 (1.02)	<0.1 (0.01)	2.4 (0.58)
	Q3	64.9 (1.93)	7.7 (0.77)	0.5 (0.23)	4.9 (0.84)	0.1 (0.02)	0.6 (0.24)	1.9 (0.51)	6.6 (0.79)	1.2 (0.40)	9.0 (1.22)	2.8 (0.62)
	Truth	70.3 (1.73)	8.0 (0.79)	0.4 (0.23)	5.2 (0.85)	0.1 (0.02)	0.2 (0.16)	3.8 (0.82)	5.9 (0.66)	4.2 (0.79)	0.4 (0.33)	1.5 (0.46)
	Mailback	72.6 (1.66)	8.4 (0.84)	0.6 (0.36)	5.4 (0.87)	0.1 (0.02)	<0.1 (0.02)	2.0 (0.48)	2.9 (0.62)	6.8 (0.96)	0.4 (0.17)	0.7 (0.36)
X9	Q1	63.9 (1.96)	9.9 (1.06)	0.1 (0.03)	3.8 (0.62)	<0.1 (0.02)	0.1 (0.04)	3.4 (0.63)	7.0 (0.84)	3.8 (0.81)	6.0 (0.92)	1.9 (0.45)
	Q2	65.9 (1.97)	9.4 (0.98)	<0.1 (0.02)	4.4 (0.76)	<0.1 (0.01)	<0.1 (0.01)	5.1 (0.89)	4.6 (0.68)	7.4 (0.98)	<0.1 (0.00)	3.2 (0.62)
	Q3	64.6 (2.00)	9.8 (1.03)	0.3 (0.17)	4.2 (0.71)	0.1 (0.02)	0.5 (0.17)	1.3 (0.34)	6.8 (0.76)	2.3 (0.57)	6.7 (0.97)	3.4 (0.66)
	Truth	68.5 (1.90)	10.2 (1.07)	0.1 (0.02)	4.3 (0.71)	<0.1 (0.02)	0.1 (0.03)	2.8 (0.56)	6.9 (0.81)	4.9 (0.87)	0.4 (0.23)	1.8 (0.45)
	Mailback	70.6 (1.89)	10.7 (1.09)	0.1 (0.04)	4.7 (0.77)	<0.1 (0.02)	<0.1 (0.02)	1.5 (0.43)	3.7 (0.55)	7.5 (1.07)	1.0 (0.43)	0.2 (0.04)

X10	Q1	64.7 (1.96)	8.3 (0.85)	0.3 (0.17)	5.3 (0.9)	<0.1 (0.02)	0.3 (0.17)	4.0 (0.80)	7.0 (0.85)	1.5 (0.35)	6.6 (1.00)	2.1 (0.57)
	Q2	68.5 (1.93)	8.8 (0.91)	<0.1 (0.02)	5.9 (0.99)	<0.1 (0.02)	<0.1 (0.01)	3.4 (0.67)	4.1 (0.59)	5.6 (0.90)	0.1 (0.03)	3.5 (0.74)
	Q3	63.2 (1.87)	8.5 (0.86)	0.5 (0.24)	4.9 (0.81)	<0.1 (0.02)	1.5 (0.52)	1.7 (0.44)	7.2 (0.98)	0.9 (0.25)	8.4 (1.11)	3.2 (0.64)
	Truth	69.6 (1.87)	9.1 (0.92)	0.1 (0.04)	6.3 (1.04)	<0.1 (0.02)	0.2 (0.17)	2.8 (0.60)	7.1 (0.93)	2.0 (0.40)	0.8 (0.41)	1.9 (0.50)
	Mailback	71.2 (1.81)	9.2 (0.84)	0.9 (0.37)	6.1 (1.00)	0.1 (0.02)	0.4 (0.34)	1.2 (0.35)	4.2 (0.72)	4.9 (0.71)	0.8 (0.41)	1.0 (0.44)
X11	Q1	68.7 (1.88)	8.7 (0.93)	0.2 (0.16)	3.1 (0.53)	<0.1 (0.01)	0.5 (0.31)	2.9 (0.69)	6.6 (0.74)	2.1 (0.44)	5.7 (0.82)	1.5 (0.50)
	Q2	71.4 (1.84)	8.6 (0.91)	0.1 (0.03)	3.2 (0.54)	<0.1 (0.01)	0.0 (0.00)	4.5 (0.86)	4.1 (0.54)	5.7 (0.79)	<0.1 (0.03)	2.5 (0.67)
	Q3	68.9 (1.89)	8.8 (0.95)	0.4 (0.31)	3.0 (0.53)	<0.1 (0.02)	0.6 (0.17)	0.7 (0.23)	7.0 (0.80)	1.2 (0.32)	6.1 (0.93)	3.3 (0.77)
	Truth	73.5 (1.75)	9.1 (0.94)	0.4 (0.31)	3.2 (0.54)	<0.1 (0.01)	0.3 (0.16)	2.3 (0.59)	7.0 (0.80)	2.4 (0.44)	0.4 (0.31)	1.5 (0.5)
	Mailback	74.5 (1.71)	9.9 (0.97)	0.5 (0.34)	3.3 (0.54)	0.1 (0.02)	<0.1 (0.01)	0.8 (0.27)	4.4 (0.66)	5.2 (0.68)	0.8 (0.31)	0.6 (0.35)
X12	Q1	66.2 (1.92)	8.5 (0.88)	0.1 (0.03)	3.9 (0.64)	<0.1 (0.01)	0.7 (0.39)	2.7 (0.62)	8.2 (0.92)	2.7 (0.51)	5.0 (0.82)	2.1 (0.59)
	Q2	69.1 (1.93)	8.6 (0.89)	0.1 (0.03)	4.3 (0.72)	<0.1 (0.02)	<0.1 (0.01)	4.4 (0.87)	5.3 (0.80)	5.7 (0.78)	<0.1 (0.01)	2.4 (0.59)
	Q3	65.2 (1.93)	8.7 (0.86)	0.3 (0.17)	4.0 (0.70)	0.1 (0.02)	1.2 (0.52)	1.0 (0.31)	7.9 (0.90)	2.2 (0.55)	7.1 (1.03)	2.4 (0.57)
	Truth	70.0 (1.85)	9.0 (0.91)	0.1 (0.03)	4.4 (0.72)	<0.1 (0.02)	0.4 (0.34)	2.8 (0.64)	7.7 (0.88)	3.6 (0.62)	0.1 (0.03)	1.8 (0.57)
	Mailback	71.6 (1.74)	9.7 (0.96)	0.1 (0.03)	4.4 (0.72)	0.1 (0.02)	0.4 (0.35)	1.1 (0.31)	3.3 (0.58)	7.9 (0.97)	0.7 (0.39)	0.8 (0.30)
X14	Q1	70.0 (1.58)	7.8 (0.73)	0.2 (0.16)	3.8 (0.68)	<0.1 (0.02)	0.2 (0.05)	3.5 (0.70)	6.0 (0.70)	2.0 (0.46)	5.1 (0.82)	1.4 (0.44)
	Q2	71.8 (1.65)	8.3 (0.81)	0.4 (0.33)	4.1 (0.68)	<0.1 (0.01)	<0.1 (0.01)	5.0 (0.89)	3.8 (0.57)	4.8 (0.68)	<0.1 (0.01)	1.9 (0.47)
	Q3	68.8 (1.78)	7.7 (0.73)	0.6 (0.36)	4.1 (0.69)	0.1 (0.02)	1.0 (0.40)	1.6 (0.53)	6.1 (0.72)	1.0 (0.24)	7.0 (1.05)	2.1 (0.44)
	Truth	74.0 (1.53)	8.6 (0.82)	0.5 (0.36)	4.1 (0.68)	<0.1 (0.02)	0.1 (0.03)	3.0 (0.65)	6.0 (0.71)	2.3 (0.47)	0.4 (0.33)	0.8 (0.24)
	Mailback	74.5 (1.56)	9.0 (0.83)	0.7 (0.40)	4.2 (0.68)	<0.1 (0.02)	<0.1 (0.02)	0.8 (0.24)	3.5 (0.63)	5.5 (0.63)	0.7 (0.39)	1.0 (0.49)
X15	Q1	66.2 (1.77)	8.1 (0.76)	0.2 (0.16)	3.6 (0.55)	0.2 (0.16)	0.2 (0.04)	2.4 (0.53)	6.7 (0.8)	2.4 (0.50)	8.0 (0.96)	2.1 (0.62)
	Q2	70.1 (1.72)	8.7 (0.90)	0.2 (0.16)	3.7 (0.55)	0.2 (0.16)	<0.1 (0.01)	4.0 (0.77)	4.6 (0.78)	5.0 (0.63)	<0.1 (0.01)	3.6 (0.82)
	Q3	66.9 (1.84)	8.0 (0.74)	0.3 (0.16)	3.5 (0.50)	0.2 (0.16)	0.6 (0.23)	1.3 (0.45)	7.2 (0.86)	1.4 (0.42)	6.9 (1.08)	3.8 (0.78)
	Truth	71.9 (1.68)	9.0 (0.90)	0.2 (0.16)	3.8 (0.55)	0.2 (0.16)	0.1 (0.05)	2.6 (0.61)	6.7 (0.80)	2.9 (0.53)	1.2 (0.52)	1.6 (0.45)
	Mailback	73.1 (1.60)	9.6 (0.93)	0.3 (0.16)	3.9 (0.56)	0.2 (0.16)	<0.1 (0.01)	1.1 (0.32)	3.4 (0.67)	6.7 (0.84)	0.9 (0.35)	1.0 (0.42)
X16	Q1	66.9 (1.84)	8.7 (0.86)	0.5 (0.27)	4.6 (0.81)	<0.1 (0.02)	0.5 (0.22)	3.2 (0.60)	6.0 (0.64)	1.4 (0.24)	7.1 (1.00)	1.2 (0.32)
	Q2	70.3	8.8	0.4	4.6	<0.1	<0.1	6.0	3.6	4.2	<0.1	2.2

		(1.69)	(0.91)	(0.22)	(0.77)	(0.02)	(0.00)	(0.95)	(0.47)	(0.57)	(0.01)	(0.50)
	Q3	63.5	9.3	0.4	4.6	<0.1	1.3	1.7	5.9	1.5	9.0	2.9
		(1.98)	(0.96)	(0.22)	(0.81)	(0.02)	(0.38)	(0.48)	(0.63)	(0.35)	(1.22)	(0.62)
	Truth	72.4	9.4	0.4	4.9	<0.1	0.2	3.3	6.0	1.8	0.4	1.2
		(1.65)	(0.95)	(0.22)	(0.83)	(0.02)	(0.16)	(0.63)	(0.64)	(0.30)	(0.31)	(0.32)
	Mailback	74.4	9.6	0.4	5.1	<0.1	0.2	1.3	3.9	4.1	0.4	0.7
		(1.72)	(0.89)	(0.22)	(0.84)	(0.02)	(0.16)	(0.38)	(0.56)	(0.55)	(0.31)	(0.27)
X17	Q1	68.3	8.4	0.4	3.0	<0.1	0.4	4.7	5.8	2.6	5.0	1.4
		(1.56)	(0.87)	(0.23)	(0.42)	(0.01)	(0.17)	(0.77)	(0.56)	(0.66)	(0.82)	(0.45)
	Q2	69.8	8.3	0.2	3.4	<0.1	<0.1	6.5	3.5	5.6	<0.1	2.7
		(1.64)	(0.88)	(0.16)	(0.54)	(0.01)	(0.01)	(0.90)	(0.38)	(0.74)	(0.01)	(0.78)
	Q3	64.8	8.0	0.9	3.1	<0.1	0.5	2.6	6.0	1.6	9.0	3.5
		(1.67)	(0.79)	(0.36)	(0.46)	(0.01)	(0.17)	(0.60)	(0.56)	(0.48)	(1.18)	(0.87)
	Truth	72.1	8.8	0.4	3.4	<0.1	0.1	4.6	5.5	3.6	0.1	1.4
		(1.57)	(0.89)	(0.23)	(0.54)	(0.01)	(0.03)	(0.80)	(0.48)	(0.71)	(0.04)	(0.45)
	Mailback	73.5	9.5	0.6	3.1	<0.1	<0.1	2.4	3.0	6.1	0.3	1.5
		(1.54)	(0.93)	(0.28)	(0.43)	(0.02)	(0.01)	(0.61)	(0.36)	(0.78)	(0.17)	(0.54)

Source: 2010 Census AQE Reinterview Auxiliary File. Note: Estimates are weighted with standard errors in parentheses.

Table A10. Hispanic Origin Distributions for Reinterview Questions, "Truth", and AQE Mailout/Mailback Responses.

		Hispanic, Latino, or Spanish	*Mexican, Mexican Am., Chicano*	*Puerto Rican*	*Cuban*	*General or Other Hispanic*	Not Hispanic	Invalid	Blank
XA	Q1	8.7	2.0	0.3	<0.1	6.4	82.2	7.2	1.9
		(0.99)	(0.46)	(0.07)	(0.02)	(0.84)	(1.36)	(1.02)	(0.51)
	Q2	9.0	5.0	0.5	0.4	3.2	88.1	<0.1	2.9
		(1.02)	(0.72)	(0.08)	(0.17)	(0.74)	(1.18)	(0.03)	(0.61)
	Q3	8.2	2.2	0.3	0.1	5.7	81.2	7.8	2.8
		(0.97)	(0.38)	(0.06)	(0.03)	(0.78)	(1.59)	(1.20)	(0.63)
	Truth	9.1	3.0	0.3	0.1	5.7	88.8	0.4	1.6
		(1.03)	(0.50)	(0.07)	(0.04)	(0.83)	(1.12)	(0.23)	(0.48)
	Mailback	9.1	5.4	0.5	0.8	2.5	90.0	0.3	0.7
		(1.02)	(0.80)	(0.08)	(0.36)	(0.58)	(1.09)	(0.17)	(0.36)
XB	Q1	9.5	1.5	0.4	0.3	7.3	82.9	5.4	2.2
		(0.96)	(0.26)	(0.17)	(0.17)	(0.87)	(1.33)	(0.77)	(0.61)
	Q2	10.2	6.2	1.1	0.5	2.4	86.9	<0.1	2.9
		(1.03)	(0.73)	(0.46)	(0.33)	(0.40)	(1.23)	(0.00)	(0.68)
	Q3	7.9	2.1	0.3	0.4	5.1	81.9	7.5	2.7
		(0.84)	(0.34)	(0.06)	(0.32)	(0.69)	(1.42)	(1.09)	(0.63)
	Truth	9.9	3.2	0.9	0.5	5.3	87.9	0.1	2.2
		(1.01)	(0.50)	(0.37)	(0.33)	(0.71)	(1.18)	(0.03)	(0.61)
	Mailback	10.2	5.9	1.1	0.6	2.6	88.8	0.4	0.6
		(1.06)	(0.75)	(0.46)	(0.33)	(0.51)	(1.09)	(0.23)	(0.23)
X2	Q1	9.0	0.7	1.0	0.1	7.2	81.9	7.4	1.6
		(0.97)	(0.10)	(0.41)	(0.04)	(0.89)	(1.39)	(1.00)	(0.47)
	Q2	10.0	4.5	1.9	0.4	3.3	87.6	<0.1	2.3
		(1.06)	(0.59)	(0.62)	(0.18)	(0.62)	(1.16)	(0.02)	(0.58)
	Q3	8.4	1.6	0.9	0.3	5.6	80.1	8.0	3.6
		(0.96)	(0.22)	(0.38)	(0.17)	(0.85)	(1.61)	(1.14)	(0.74)
	Truth	9.8	2.7	1.4	0.2	5.6	88.6	0.3	1.3
		(1.06)	(0.46)	(0.53)	(0.04)	(0.78)	(1.11)	(0.17)	(0.41)
	Mailback	10.3	4.7	1.9	0.4	3.2	89.0	0.3	0.4
		(1.10)	(0.68)	(0.62)	(0.18)	(0.59)	(1.15)	(0.33)	(0.17)
X3	Q1	9.2	1.4	0.5	0.2	7.1	82.7	6.1	2.0
		(0.89)	(0.21)	(0.17)	(0.16)	(0.83)	(1.37)	(0.87)	(0.66)
	Q2	9.8	6.0	0.7	0.4	2.7	87.3	<0.1	3.0
		(0.92)	(0.76)	(0.18)	(0.17)	(0.49)	(1.15)	(0.02)	(0.71)
	Q3	8.3	2.6	0.5	0.1	5.1	80.5	8.1	3.2
		(0.86)	(0.44)	(0.17)	(0.03)	(0.73)	(1.47)	(1.03)	(0.73)
	Truth	9.7	3.3	0.6	0.3	5.6	88.2	0.1	2.0
		(0.94)	(0.46)	(0.18)	(0.16)	(0.76)	(1.11)	(0.04)	(0.66)
	Mailback	9.6	4.4	0.8	0.4	4.0	89.0	0.6	0.9
		(0.93)	(0.57)	(0.24)	(0.16)	(0.72)	(1.05)	(0.35)	(0.31)
X4	Q1	9.1	1.9	0.6	0.1	6.5	81.1	8.1	1.7
		(0.98)	(0.51)	(0.24)	(0.03)	(0.81)	(1.41)	(0.93)	(0.48)
	Q2	9.8	5.5	1.1	0.5	2.8	87.8	<0.1	2.4

		(1.04)	(0.78)	(0.39)	(0.18)	(0.51)	(1.18)	(0.01)	(0.61)
	Q3	7.6 (0.76)	2.3 (0.44)	0.7 (0.25)	0.2 (0.05)	4.5 (0.56)	80.8 (1.44)	8.7 (1.22)	2.8 (0.59)
	Truth	9.5 (1.02)	3.7 (0.62)	1.1 (0.42)	0.2 (0.05)	4.6 (0.57)	88.8 (1.12)	0.1 (0.02)	1.7 (0.48)
	Mailback	10.0 (1.02)	4.7 (0.70)	1.2 (0.42)	0.4 (0.17)	3.7 (0.57)	89.7 (1.03)	0.1 (0.03)	0.2 (0.06)
X5	Q1	8.6 (0.87)	1.4 (0.25)	0.5 (0.22)	0.4 (0.22)	6.3 (0.80)	84.7 (1.30)	4.9 (0.79)	1.8 (0.58)
	Q2	8.8 (0.87)	5.1 (0.66)	1.3 (0.43)	0.6 (0.22)	1.8 (0.32)	88.3 (1.11)	<0.1 (0.02)	2.9 (0.74)
	Q3	8.1 (0.89)	2.3 (0.43)	0.8 (0.37)	0.6 (0.34)	4.4 (0.57)	81.6 (1.51)	7.2 (1.12)	3.2 (0.75)
	Truth	8.7 (0.86)	2.9 (0.44)	1.1 (0.40)	0.5 (0.22)	4.2 (0.56)	89.3 (1.02)	0.4 (0.31)	1.7 (0.58)
	Mailback	8.3 (0.85)	4.8 (0.64)	1.3 (0.43)	0.4 (0.16)	1.9 (0.30)	89.9 (1.07)	0.7 (0.43)	1.1 (0.48)
X6	Q1	9.6 (1.00)	1.6 (0.39)	0.2 (0.05)	0.2 (0.16)	7.5 (0.89)	82.4 (1.30)	5.7 (0.77)	2.3 (0.65)
	Q2	10.6 (1.06)	4.9 (0.72)	1.4 (0.47)	0.7 (0.34)	3.7 (0.65)	86.8 (1.20)	<0.1 (0.03)	2.6 (0.65)
	Q3	8.8 (0.93)	2.2 (0.43)	0.6 (0.22)	0.5 (0.22)	5.5 (0.73)	82.4 (1.51)	6.4 (1.16)	2.4 (0.59)
	Truth	10.3 (1.01)	2.8 (0.46)	0.7 (0.23)	0.5 (0.22)	6.3 (0.80)	87.4 (1.17)	0.4 (0.31)	2.00 (0.58)
	Mailback	10.5 (1.03)	5.6 (0.76)	1.4 (0.47)	0.7 (0.34)	2.9 (0.55)	87.9 (1.16)	0.9 (0.40)	0.7 (0.35)
X7	Q1	10.8 (1.05)	2.3 (0.54)	0.7 (0.25)	0.1 (0.03)	7.8 (0.86)	80.8 (1.49)	5.6 (0.88)	2.9 (0.70)
	Q2	11.8 (1.15)	6.3 (0.82)	1.6 (0.52)	0.3 (0.07)	3.5 (0.55)	84.0 (1.45)	<0.1 (0.00)	4.2 (0.90)
	Q3	10.3 (1.10)	2.6 (0.47)	1.1 (0.42)	0.1 (0.04)	6.5 (0.83)	78.5 (1.68)	7.2 (0.99)	4.0 (0.85)
	Truth	11.7 (1.15)	4.2 (0.66)	1.0 (0.39)	0.2 (0.04)	6.3 (0.81)	84.8 (1.40)	1.0 (0.51)	2.5 (0.62)
	Mailback	11.7 (1.17)	6.5 (0.83)	2.0 (0.62)	0.3 (0.06)	2.9 (0.41)	87.3 (1.22)	0.8 (0.42)	0.2 (0.05)
X8	Q1	9.1 (0.97)	1.7 (0.33)	0.2 (0.06)	0.1 (0.04)	7.1 (0.88)	84.4 (1.43)	5.0 (0.86)	1.5 (0.46)
	Q2	10.6 (1.18)	5.6 (0.81)	0.7 (0.33)	0.9 (0.46)	3.4 (0.70)	87.0 (1.27)	<0.1 (0.01)	2.4 (0.58)
	Q3	7.7 (0.90)	2.5 (0.49)	0.4 (0.17)	0.3 (0.17)	4.5 (0.64)	80.5 (1.56)	9.0 (1.22)	2.8 (0.62)
	Truth	10.1 (1.12)	3.6 (0.60)	0.5 (0.17)	0.7 (0.36)	5.4 (0.81)	88.0 (1.19)	0.4 (0.33)	1.5 (0.46)
	Mailback	9.7 1.10)	4.9 (0.70)	0.8 (0.33)	0.6 (0.33)	3.5 (0.71)	89.2 (1.14)	0.4 (0.17)	0.7 (0.36)

X9	Q1	10.9 (1.11)	1.7 (0.41)	0.2 (0.05)	0.2 (0.04)	8.9 (1.06)	81.3 (1.53)	6.0 (0.92)	1.9 (0.45)
	Q2	12.0 (1.19)	6.3 (0.91)	0.9 (0.37)	0.4 (0.07)	4.3 (0.72)	84.8 (1.43)	<0.1 (0.00)	3.2 (0.62)
	Q3	9.1 (1.03)	3.2 (0.62)	0.8 (0.37)	0.2 (0.05)	5.0 (0.67)	80.7 (1.64)	6.7 (0.97)	3.4 (0.66)
	Truth	11.8 (1.23)	5.2 (0.92)	0.9 (0.37)	0.2 (0.05)	5.5 (0.74)	85.9 (1.33)	0.4 (0.23)	1.8 (0.45)
	Mailback	11.3 (1.17)	6.6 (0.97)	0.9 (0.37)	0.4 (0.08)	3.3 (0.59)	87.6 (1.27)	1.0 (0.43)	0.2 (0.04)
X10	Q1	8.5 (0.93)	1.7 (0.40)	0.2 (0.05)	0.1 (0.03)	6.5 (0.75)	82.9 (1.54)	6.6 (1.00)	2.1 (0.57)
	Q2	9.7 (1.13)	5.1 (0.84)	1.1 (0.39)	0.4 (0.18)	3.1 (0.57)	86.7 (1.34)	0.1 (0.03)	3.5 (0.74)
	Q3	8.1 (1.02)	2.6 (0.65)	0.3 (0.07)	0.1 (0.03)	5.1 (0.77)	80.4 (1.50)	8.4 (1.11)	3.2 (0.64)
	Truth	9.2 (1.05)	3.3 (0.66)	0.6 (0.19)	0.3 (0.17)	5.0 (0.75)	88.2 (1.24)	0.8 (0.41)	1.9 (0.50)
	Mailback	9.1 (1.02)	5.1 (0.74)	0.8 (0.26)	0.4 (0.18)	2.7 (0.60)	89.1 (1.21)	0.8 (0.41)	1.0 (0.44)
X11	Q1	8.7 (0.90)	1.9 (0.48)	0.6 (0.23)	0.1 (0.05)	6.1 (0.71)	84.1 (1.26)	5.7 (0.82)	1.5 (0.50)
	Q2	9.8 (1.00)	5.0 (0.64)	1.0 (0.36)	0.6 (0.32)	3.2 (0.64)	87.7 (1.17)	<0.1 (0.03)	2.5 (0.67)
	Q3	8.2 (0.86)	2.7 (0.55)	0.6 (0.23)	0.2 (0.05)	4.7 (0.58)	82.4 (1.42)	6.1 (0.93)	3.3 (0.77)
	Truth	9.3 (0.92)	3.5 (0.59)	0.8 (0.35)	0.4 (0.16)	4.6 (0.58)	88.7 (1.08)	0.4 (0.31)	1.5 (0.50)
	Mailback	9.6 (0.98)	5.0 (0.64)	1.0 (0.36)	0.6 (0.32)	3.0 (0.58)	89.1 (1.08)	0.8 (0.31)	0.6 (0.35)
X12	Q1	10.9 (1.10)	2.7 (0.72)	0.4 (0.18)	0.1 (0.04)	7.7 (0.88)	82.1 (1.51)	5.0 (0.82)	2.1 (0.59)
	Q2	11.1 (1.12)	6.1 (0.89)	1.4 (0.39)	0.5 (0.19)	3.0 (0.58)	86.5 (1.30)	<0.1 (0.01)	2.4 (0.59)
	Q3	10.1 (1.04)	3.2 (0.61)	1.1 (0.35)	0.1 (0.05)	5.7 (0.81)	80.4 (1.55)	7.1 (1.03)	2.4 (0.57)
	Truth	11.2 (1.10)	4.0 (0.70)	1.2 (0.35)	0.2 (0.06)	5.9 (0.81)	86.9 (1.28)	0.1 (0.03)	1.8 (0.57)
	Mailback	11.3 (1.10)	6.2 (0.89)	1.2 (0.35)	0.7 (0.25)	3.1 (0.55)	87.2 (1.17)	0.7 (0.39)	0.8 (0.30)
X14	Q1	8.0 (0.88)	1.3 (0.25)	0.6 (0.24)	0.3 (0.17)	5.8 (0.71)	85.5 (1.23)	5.1 (0.82)	1.4 (0.44)
	Q2	8.5 (0.88)	4.4 (0.62)	0.9 (0.24)	0.6 (0.33)	2.6 (0.49)	89.6 (0.98)	<0.1 (0.01)	1.9 (0.47)
	Q3	7.1 (0.76)	2.0 (0.32)	0.4 (0.17)	0.1 (0.04)	4.5 (0.58)	83.8 (1.39)	7.0 (1.05)	2.1 (0.44)
	Truth	8.3 (0.87)	2.7 (0.37)	0.7 (0.24)	0.4 (0.17)	4.5 (0.58)	90.4 (0.95)	0.4 (0.33)	0.8 (0.24)

	Mailback	9.0 (0.94)	5.2 (0.75)	0.9 (0.25)	0.6 (0.24)	2.3 (0.36)	89.3 (1.09)	0.7 (0.39)	1.0 (0.49)
X15	Q1	9.0 (1.02)	2.1 (0.45)	0.6 (0.33)	0.3 (0.16)	6.0 (0.74)	80.9 (1.46)	8.0 (0.96)	2.1 (0.62)
	Q2	9.6 (1.03)	5.1 (0.61)	1.0 (0.37)	0.7 (0.23)	2.9 (0.61)	86.8 (1.25)	<0.1 (0.01)	3.6 (0.82)
	Q3	8.6 (0.99)	2.1 (0.27)	0.7 (0.36)	0.2 (0.05)	5.6 (0.85)	80.7 (1.55)	6.9 (1.08)	3.8 (0.78)
	Truth	9.5 (1.03)	3.8 (0.58)	0.8 (0.36)	0.5 (0.23)	4.3 (0.62)	87.7 (1.20)	1.2 (0.52)	1.6 (0.45)
	Mailback	10.1 (1.07)	4.9 (0.59)	1.0 (0.37)	1.2 (0.42)	3.0 (0.62)	88.0 (1.15)	0.9 (0.35)	1.0 (0.42)
X16	Q1	7.4 (0.72)	1.1 (0.12)	0.4 (0.17)	0.1 (0.03)	5.7 (0.68)	84.4 (1.29)	7.1 (1.00)	1.2 (0.32)
	Q2	7.8 (0.74)	4.7 (0.60)	0.7 (0.18)	0.5 (0.17)	2.0 (0.35)	90.0 (0.90)	<0.1 (0.01)	2.2 (0.50)
	Q3	7.4 (0.75)	2.1 (0.34)	0.4 (0.17)	0.2 (0.05)	4.6 (0.63)	80.8 (1.59)	9.0 (1.22)	2.9 (0.62)
	Truth	7.8 (0.74)	2.7 (0.36)	0.5 (0.17)	0.2 (0.05)	4.4 (0.61)	90.7 (0.88)	0.4 (0.31)	1.2 (0.32)
	Mailback	7.9 (0.79)	4.5 (0.58)	0.7 (0.18)	0.5 (0.17)	2.2 (0.47)	91.0 (0.90)	0.4 (0.31)	0.7 (0.27)
X17	Q1	8.4 (0.82)	1.2 (0.25)	0.2 (0.05)	0.2 (0.05)	6.8 (0.79)	85.2 (1.23)	5.0 (0.82)	1.4 (0.45)
	Q2	9.1 (0.83)	4.1 (0.48)	0.7 (0.24)	0.5 (0.17)	3.8 (0.57)	88.2 (1.14)	<0.1 (0.01)	2.7 (0.78)
	Q3	7.6 (0.71)	1.8 (0.31)	0.6 (0.23)	0.4 (0.17)	4.9 (0.52)	79.8 (1.47)	9.0 (1.18)	3.5 (0.87)
	Truth	9.1 (0.83)	2.4 (0.32)	0.6 (0.24)	0.4 (0.17)	5.7 (0.61)	89.4 (0.90)	0.1 (0.04)	1.4 (0.45)
	Mailback	9.1 (0.88)	4.3 (0.50)	0.8 (0.24)	0.5 (0.17)	3.5 (0.60)	89.2 (0.97)	0.3 (0.17)	1.5 (0.54)

Source: 2010 AQE Reinterview Auxiliary File. Note: Estimates are weighted with standard errors in parentheses.

Appendix B: 2010 Alternative Questionnaire Experiment Reinterview Race/Origin Excerpt

August 24, 2009

Items included in excerpt are limited to determination of reinterview self-identified race/origin (of Person 1 only) for comparison to paper AQE results.

(Note that this excerpt of the full reinterview excludes front end, household roster collection, Person 2 questions, questions for related research, and backend contact information collection)

D1. What is your race or origin?

_____

_____

D2. Are you any other race or origin?

_____

_____

E1. Now, I am going to ask you a series of questions about race and origin and would like you to respond to each one. You may identify with as many races and/or origins as you wish. These questions may seem repetitive, but it is important that we ask them of each person to measure the quality of our census.

E2. Are you White?

- ☐ Yes
- ☐ No

E3. Are you Black or African American?

- ☐ Yes
- ☐ No

E4. Are you of Hispanic, Latino, or Spanish origin, for example, Mexican, Mexican American, or Chicano; Puerto Rican; Cuban; or another Hispanic, Latino, or Spanish origin?

- ☐ Yes Go to E5
- ☐ No Go to E9

E5. *(Ask or verify.)* **Are you Mexican, Mexican American, or Chicano?**

- ☐ Yes
- ☐ No

E6. *(Ask or verify.)* Are you **Puerto Rican?**

- ☐ Yes
- ☐ No

E7. *(Ask or verify.)* Are you **Cuban?**

- ☐ Yes
- ☐ No

E8A. *If yes to any one E5-E7,*
Are you another Hispanic, Latino, or Spanish origin, for example, Dominican, Salvadoran, Colombian, Spaniard, and so on?

☐ Yes → **What is that origin?**

_____

☐ No

E8B. *If no to E5-E7,*
What is your Hispanic, Latino, or Spanish origin, for example, Dominican, Salvadoran, Colombian, Spaniard, and so on?

_____

☐ None

E8C. *If respondent reports a general term such as "Hispanic," "Latino," or "Spanish" to question E8 A or B, then ask:*
Can you be more specific?
Read if necessary: Origin can be viewed as the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States

_____

E9. Are you American Indian or Alaska Native?

☐ Yes → **What is your enrolled or principal tribe?**

_____

☐ No

E10. Are you Asian, for example, Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or another Asian race or origin?

☐ Yes Go to E11
☐ No Go to E18

E11. *(Ask or verify.)* **Are you Asian Indian?**

☐ Yes
☐ No

E12. *(Ask or verify.)* **Are you Chinese?**

☐ Yes
☐ No

E13. *(Ask or verify.)* **Are you Filipino?**

☐ Yes
☐ No

E14. *(Ask or verify.)* **Are you Japanese?**

☐ Yes
☐ No

E15. *(Ask or verify.)* Are you **Korean?**

☐ Yes
☐ No

E16. *(Ask or verify.)* Are you **Vietnamese?**

☐ Yes
☐ No

E17A. *If yes to any one E11-16,*
Are you another Asian race or origin?

☐ Yes → **What is that race or origin?**

_____

☐ No

E17B. *If no to E11-16,*
What is your Asian race or origin?

_____

☐ None

E18. Are you Native Hawaiian and Other Pacific Islander, for example, Native Hawaiian, Guamanian or Chamorro, Samoan, or another Pacific Islander race or origin?

☐ Yes Go to E19
☐ No Go to E23

E19. *(Ask or verify.)* **Are you Native Hawaiian?**

☐ Yes
☐ No

E20. *(Ask or verify.)* Are you **Guamanian or Chamorro?**

☐ Yes
☐ No

E21. *(Ask or verify.)* Are you **Samoan?**

☐ Yes
☐ No

E22A. *If yes to any one E19-21,*
Are you another Pacific Islander race or origin?

☐ Yes → **What is that race or origin?**

_____

☐ No

E22B. *If no to E19-21,*
What is your Pacific Islander race or origin?

_____

☐ None

E23. Are you Some other race or origin not yet mentioned?

☐ Yes → **What is that race or origin?**

_____

☐ No

E23A. *If respondent reports biracial, multiracial, mixed, mestizo to question E23, then ask:*
Can you be more specific?

_____

E24. I have asked you a lot of questions about your race and origin. Now I'd like you to think about what you *usually* say when asked about your race and origin. This may or may not be the same as what you've already told me. Keeping in mind that you can say more than one, what do you usually say when asked about your race and origin?

_____
_____
_____

F Section [Person 2 questions inserted here]

G1. Now, I just have a few more questions about you.

G2. *If respondent reports White only, then ask:*
Earlier you said you were White. What is your specific origin? For example, German, Irish, Lebanese, Egyptian, and so on. → G8

_____

G3. *If respondent reports Black or African American only, then ask:*
Earlier you said you were Black or African American. What is your specific origin? For example, African American, Haitian, Nigerian, and so on. → G8

_____

G4. *If respondent reports multiple responses including White, then ask:*
Earlier, one of the things you said was that you were White. What is your specific White origin? For example, German, Irish, Lebanese, Egyptian, and so on. → G5 or G8

_____

G5. *If respondent reports multiple responses including Black or African American, then ask:*
Earlier, one of the things you said was that you were Black or African American. What is your specific Black origin? For example, African American, Haitian, Nigerian, and so on. → G8

_____

G6. *If respondent reports Hispanic only and no race, then ask:*
Earlier, you said you were <FILL SPECIFIC HISPANIC ORIGIN>. People of Hispanic, Latino or Spanish origin may be of any race. Do you consider yourself White, Black or African American, American Indian or Alaskan Native, Asian, Native Hawaiian and Other Pacific Islander or Some Other Race?

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Native Hawaiian and Other Pacific Islander
- ☐ Some Other Race
- ☐ No/None of these – Specify exactly what R said _____

G7. *If respondent reports multiple races or origins then ask:*
Earlier, you reported more than one race or origin for yourself. Do you more closely identify with one of these groups?

☐ Yes→ **What is that group?**

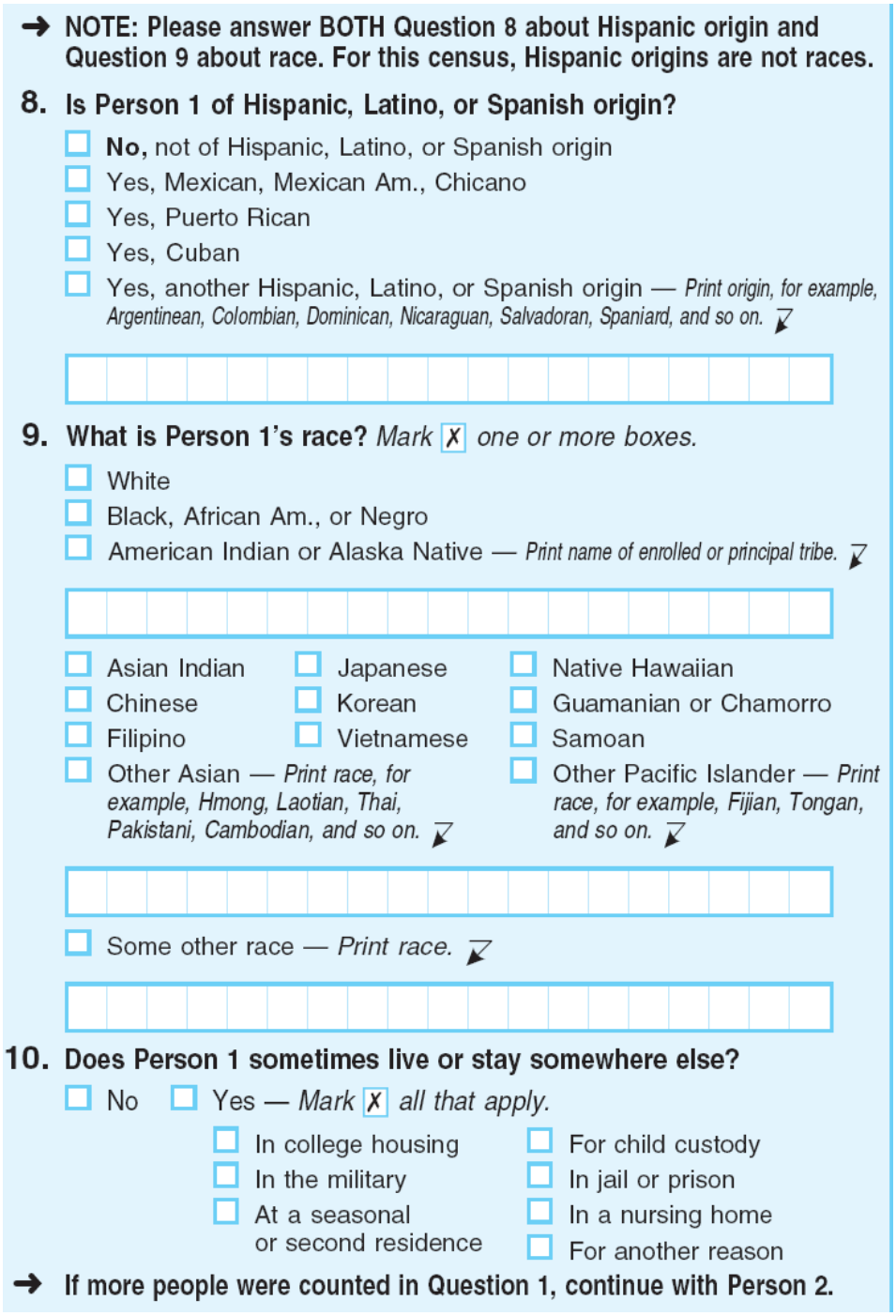
_____

☐ No

[Remaining questions for related research inserted here]

I4. Thank you. We have reached the end of the interview. I appreciate you sharing your thoughts and time to assist us with our research.

Appendix C: 2010 Alternative Questionnaire Experiment Race and Hispanic Origin Panel Questionnaire Images



➜ **NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.**

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

- ☐ **No,** not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

9. What is Person 1's race? *Mark* ☒ *one or more boxes.*

- ☐ White
- ☐ Black, African Am., or Negro
- ☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe.*

- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.*
- ☐ Native Hawaiian
- ☐ Guamanian or Chamorro
- ☐ Samoan
- ☐ Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*

- ☐ Some other race — *Print race.*

10. Does Person 1 sometimes live or stay somewhere else?

☐ No ☐ Yes — *Mark* ☒ *all that apply.*

- ☐ In college housing
- ☐ In the military
- ☐ At a seasonal or second residence
- ☐ For child custody
- ☐ In jail or prison
- ☐ In a nursing home
- ☐ For another reason

➜ **If more people were counted in Question 1, continue with Person 2.**

Figure C1. Hispanic origin and race questions on the XA control panel. This panel is identical to the standard 2010 Census D-1 questionnaire.

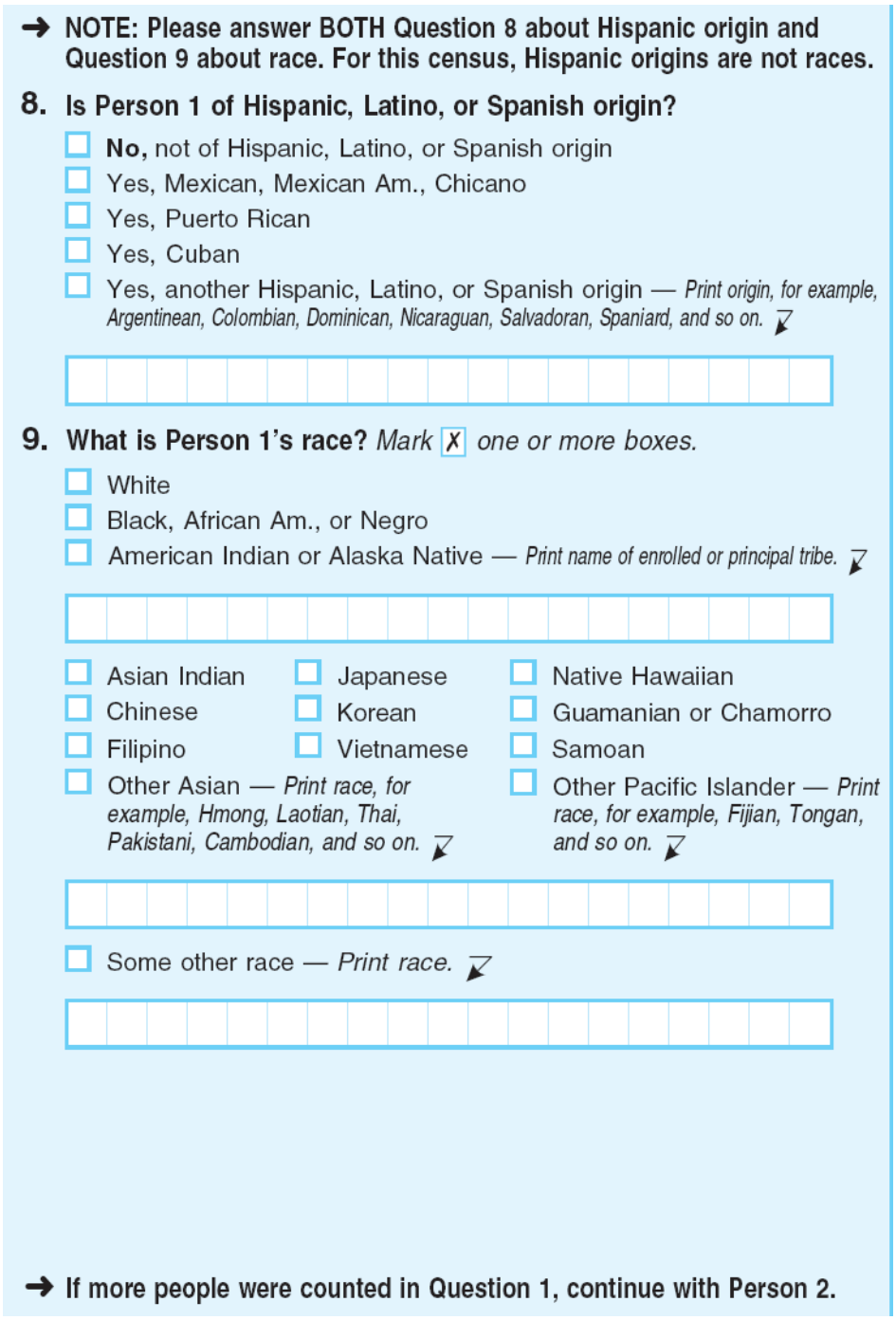


Figure C2. Hispanic origin and race questions on the XB control panel. This panel does not include the overcount Question 10 found on the standard 2010 Census D-1 questionnaire.

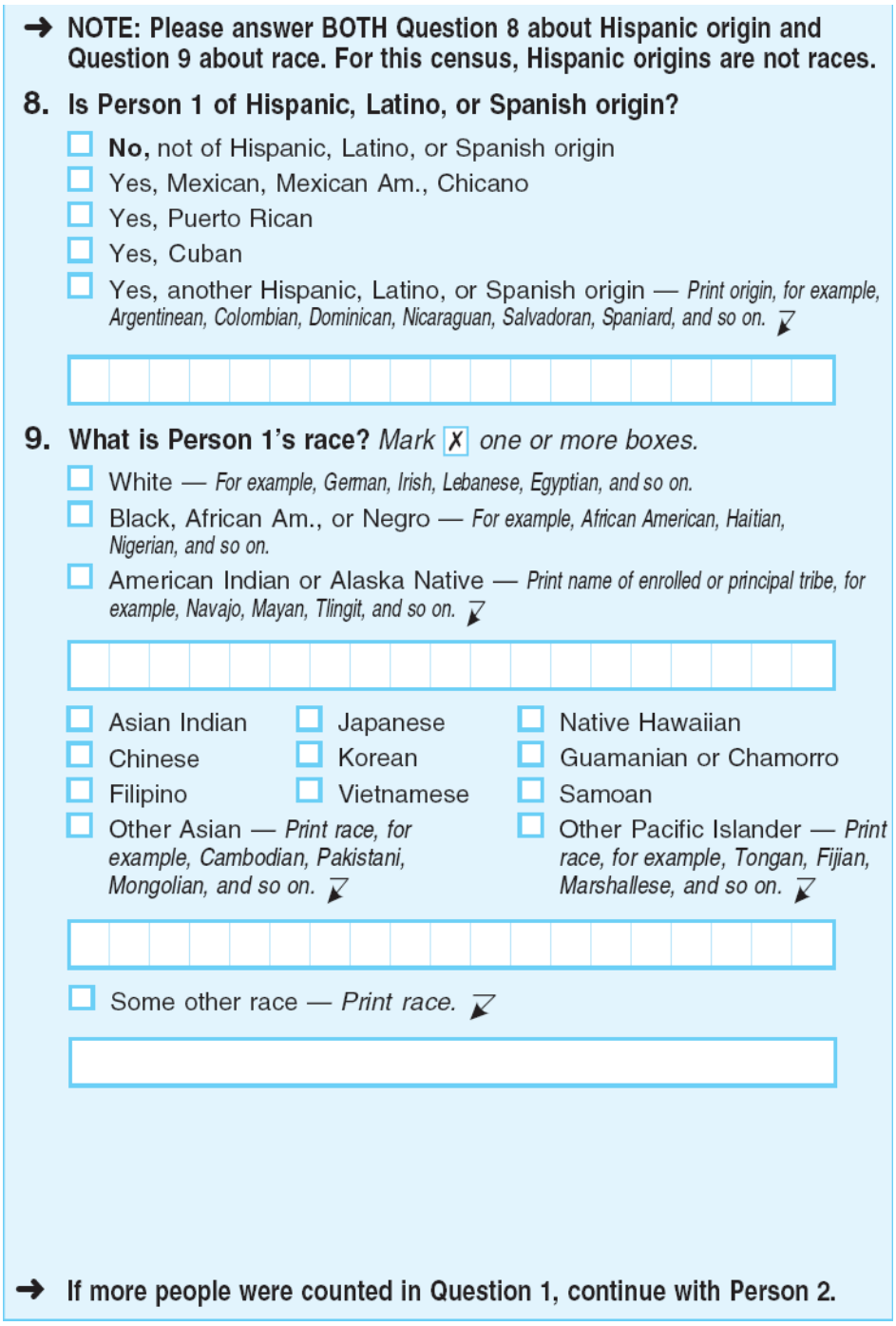


Figure C3. Hispanic origin and race questions on the X6 experimental panel. This panel is in the Race and Hispanic origin Example Modification family (B1b). Examples have been added for the "White," "Black or African Am., or Negro" and "American Indian or Alaska Native" categories. "Other Asian" and "Other Pacific Islander" examples have been modified.

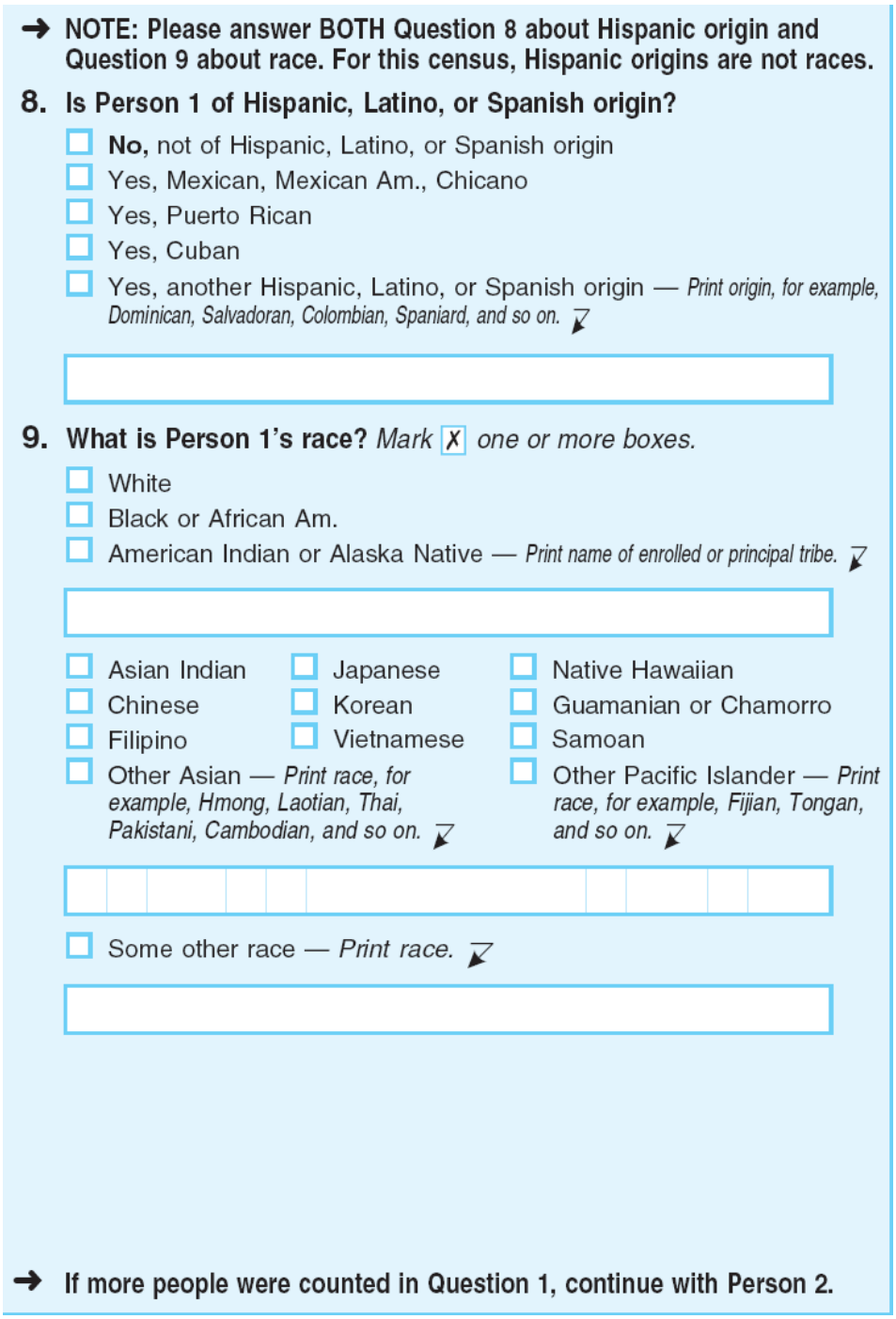


Figure C4. Hispanic origin and race questions on the X7 experimental panel. This panel is in the Race and Hispanic origin Example Modification family (B1c). "Negro" has been removed from the "Black, African Am., or Negro" checkbox category and Hispanic origin examples have been modified.

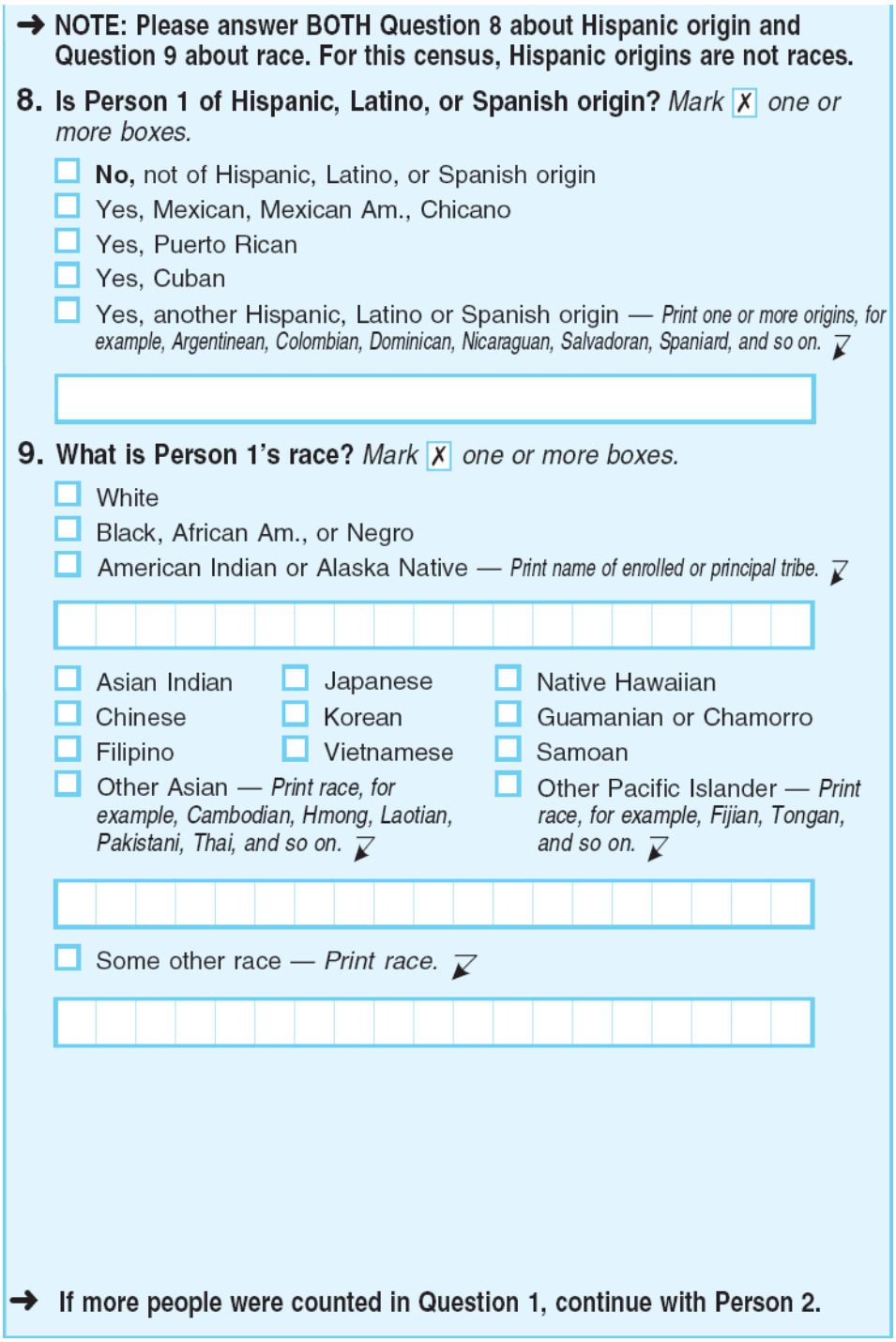


Figure C5. Hispanic origin and race questions on the X8 experimental panel. This panel is in the Race and Hispanic origin Example Modification family (B1d). An instruction for multiple Hispanic origin reporting has been included. Other Asian examples have been listed in alphabetic order.

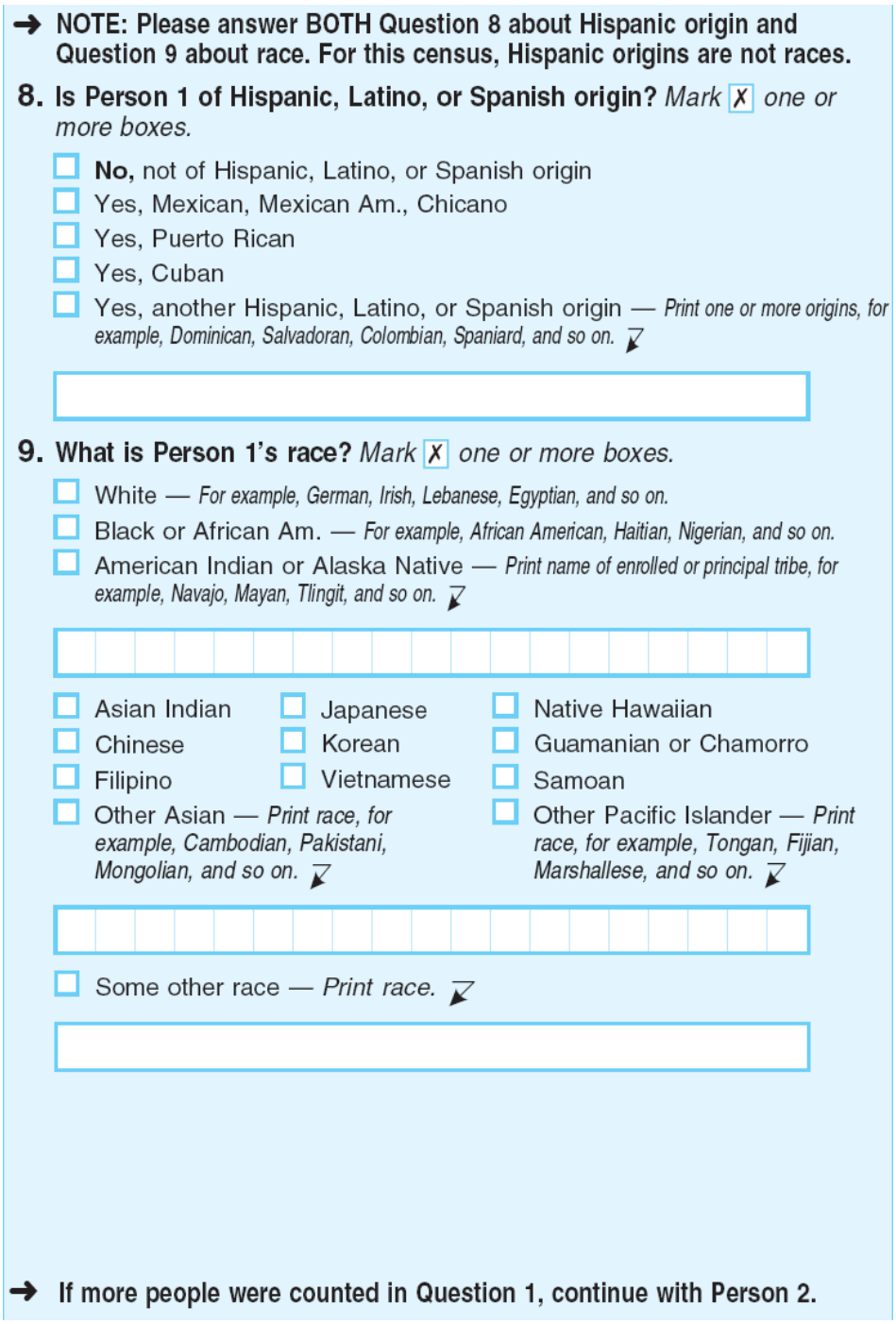


Figure C6. Hispanic origin and race questions on the X9 experimental panel. This panel is in the Race and Hispanic origin Example Modification family (B1b, B1c, B1d). Examples have been added for the "White," "Black or African Am., or Negro" and "American Indian or Alaska Native" categories. "Other Asian" and "Other Pacific Islander" examples have been modified. "Negro" has been removed from the "Black, African Am., or Negro" checkbox category and Hispanic origin examples have been modified. An instruction for multiple Hispanic origin reporting has been included.

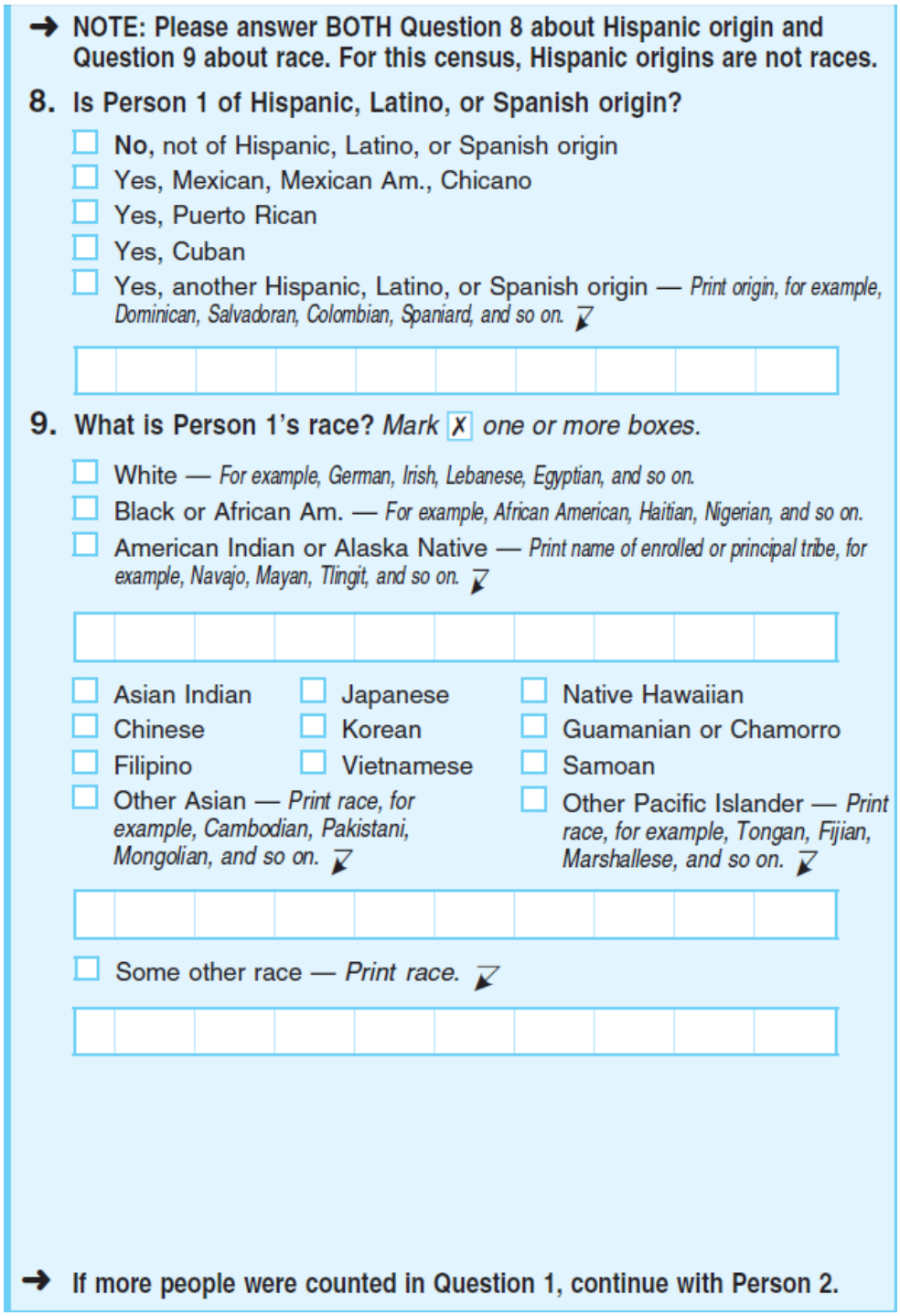


Figure C7. Hispanic origin and race questions on the X10 experimental panel. This panel is in the Race and Hispanic origin Example Modification family (B1b, B1c). Examples have been added for the "White," "Black or African Am., or Negro" and "American Indian or Alaska Native" categories. "Other Asian" and "Other Pacific Islander" examples have been modified. "Negro" has been removed from the "Black, African Am., or Negro" checkbox category and Hispanic origin examples have been modified.

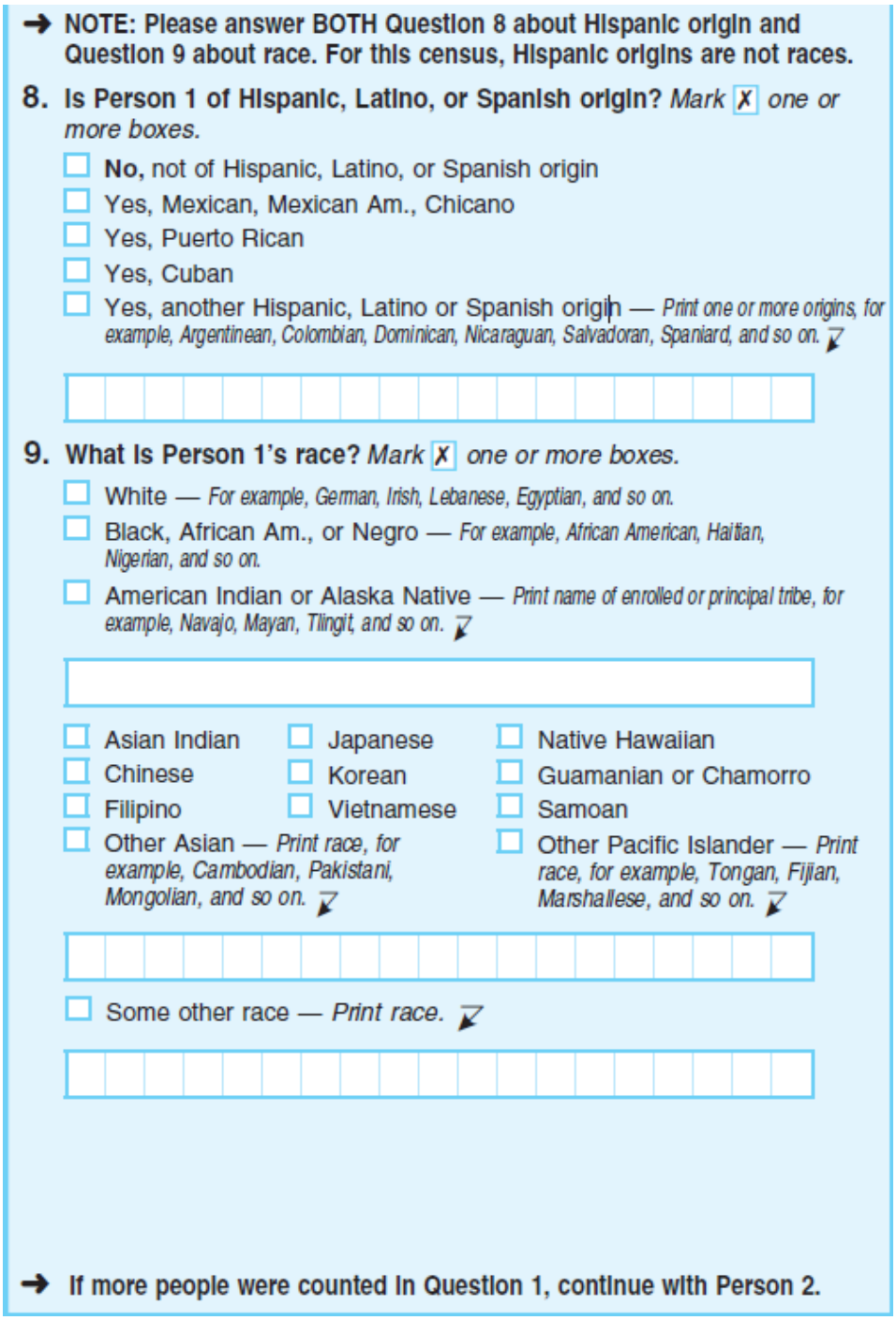


Figure C8. Hispanic origin and race questions on the X11 experimental panel. This panel is in the Race and Hispanic origin Example Modification family (B1b, B1d). Examples have been added for the "White," "Black or African Am., or Negro" and "American Indian or Alaska Native" categories. "Other Asian" and "Other Pacific Islander" examples have been modified. An instruction for multiple Hispanic origin reporting has been included.

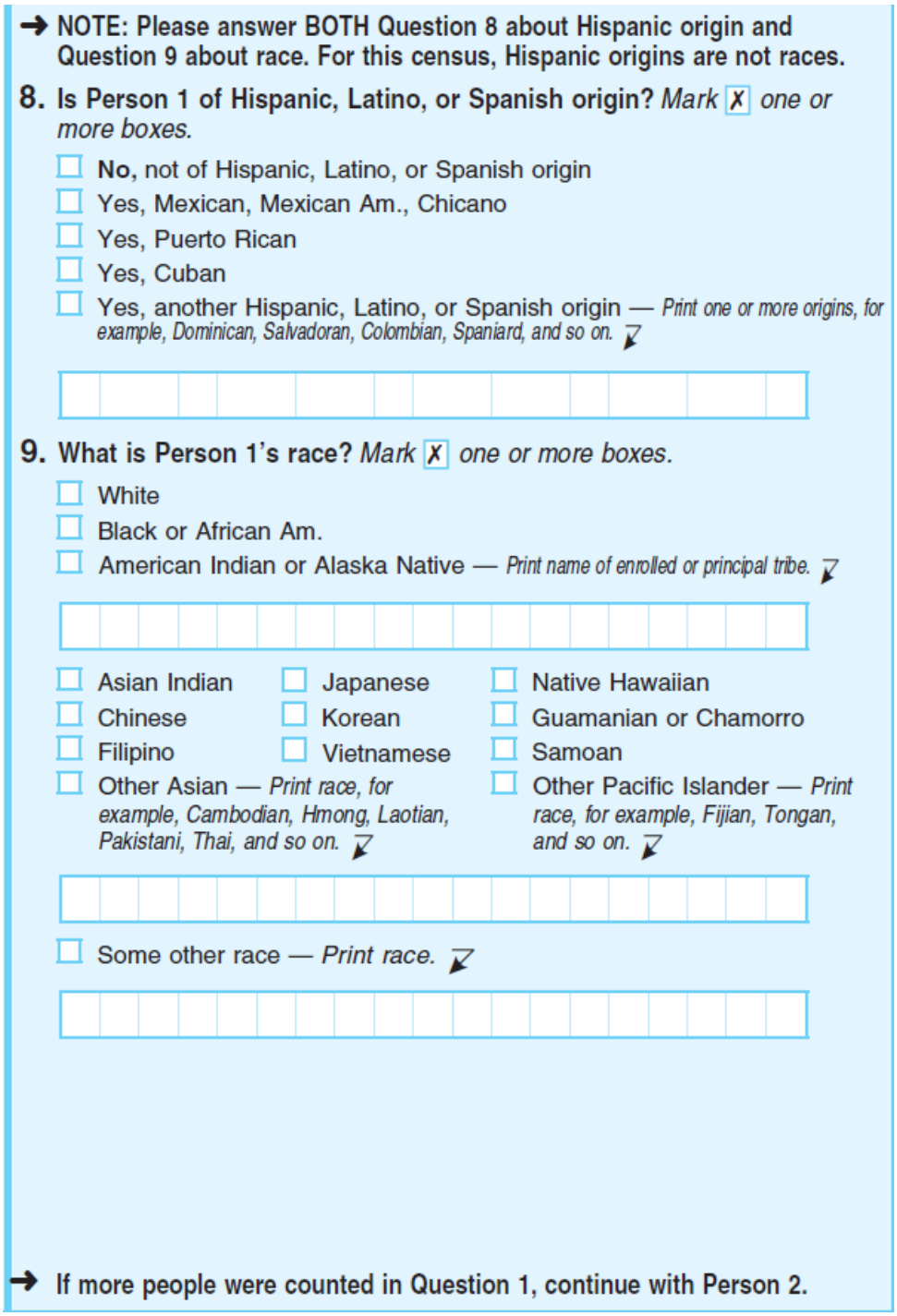


Figure C9. Hispanic origin and race questions on the X12 experimental panel. This panel is in the Race and Hispanic origin Example Modification family (B1c, B1d). "Negro" has been removed from the "Black, African Am., or Negro" checkbox category and Hispanic origin examples have been modified. An instruction for multiple Hispanic origin reporting has been included. Other Asian examples have been listed in alphabetic order.

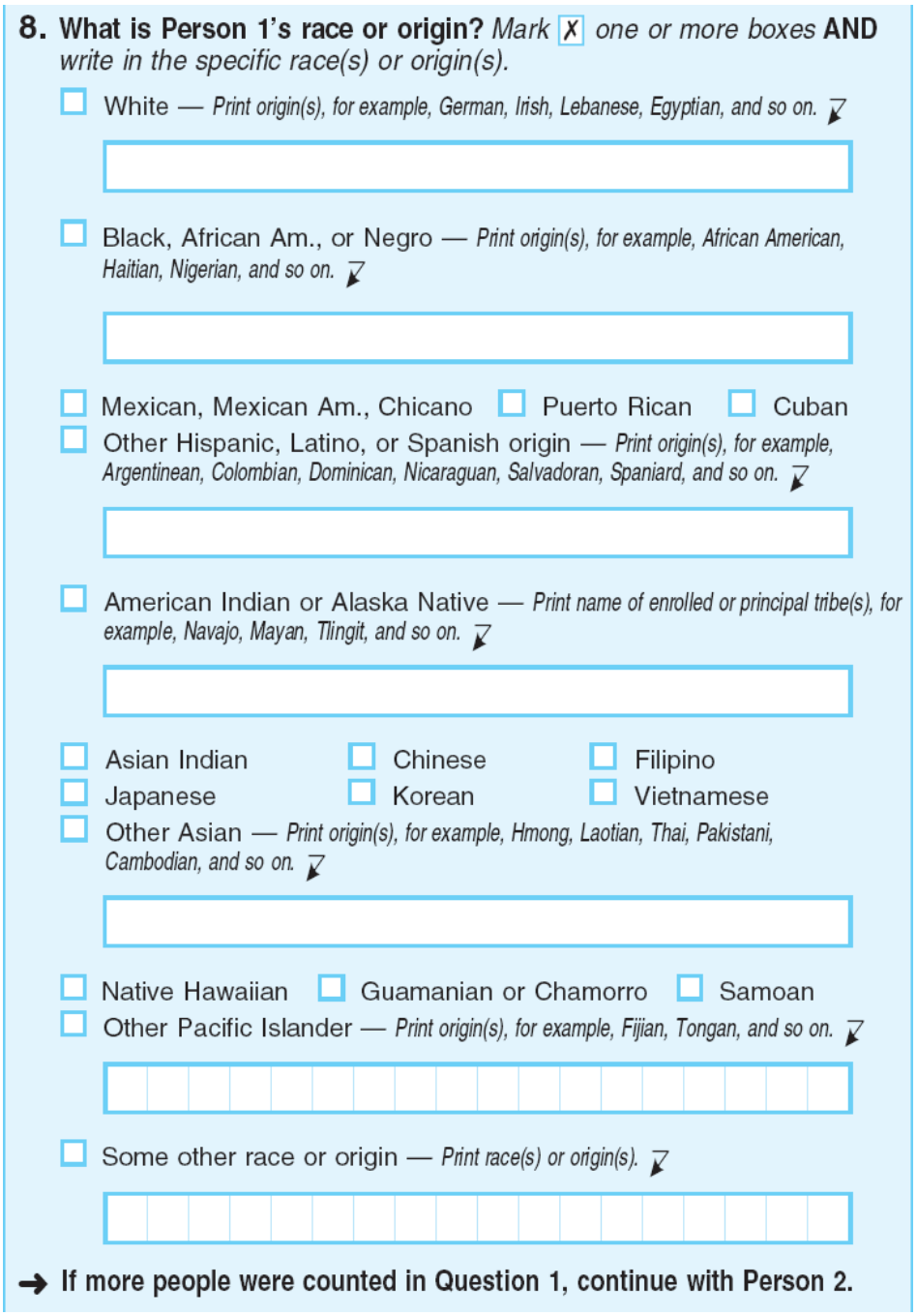


Figure C10. The combined Hispanic origin and race question on the X2 experimental panel. This panel is a member of the combined race and Hispanic origin family (B2a). This "detailed" layout maintains all checkboxes and write-in lines from the standard 2010 Census D-1 questionnaire and includes write-in boxes for all OMB categories previously lacking write-in lines.

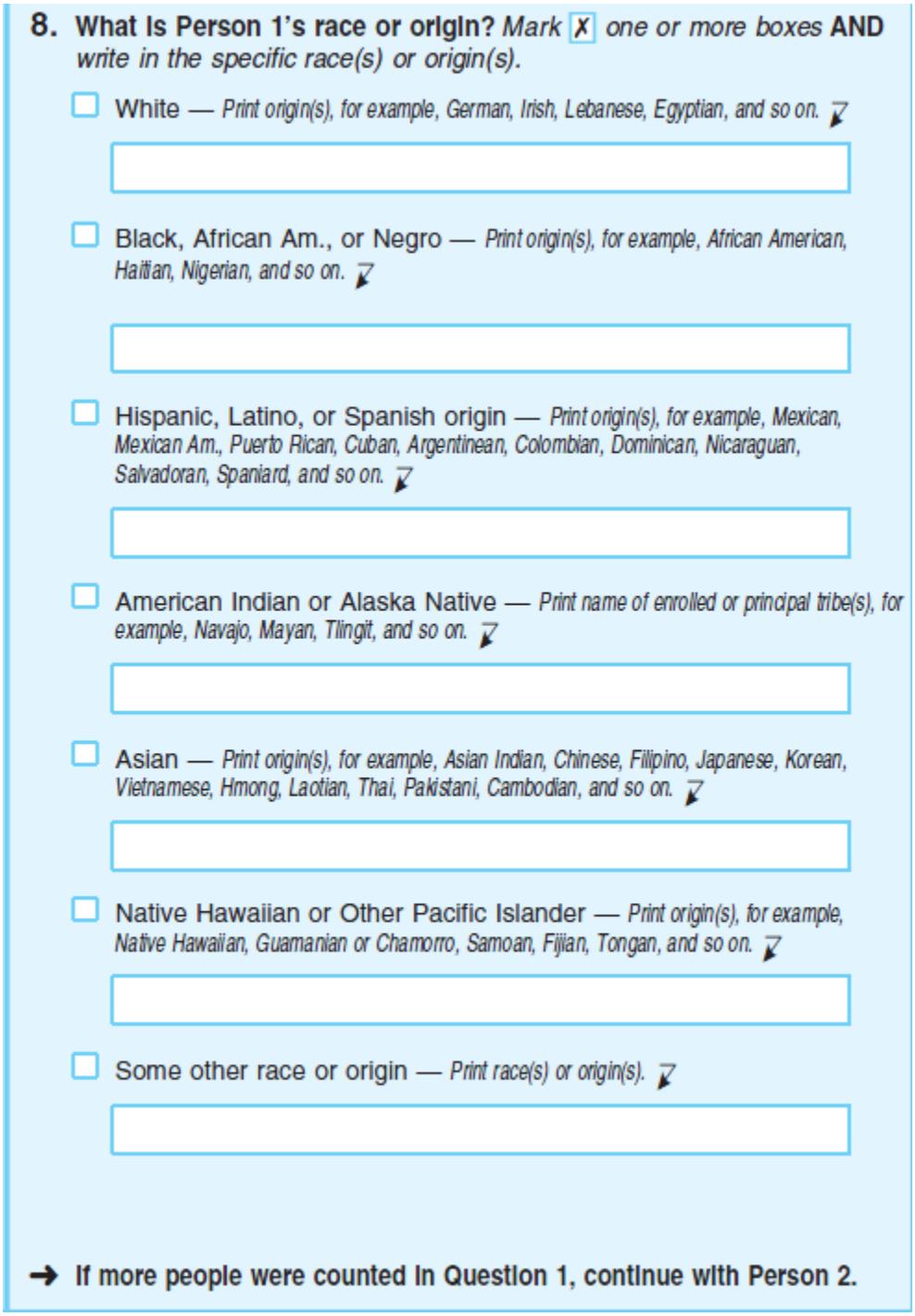


Figure C11. The combined Hispanic origin and race question on the X3 experimental panel. This panel is a member of the combined race and Hispanic origin family (B2b). The "streamlined" layout compresses all checkboxes into the OMB categories and includes write-in lines for all categories.

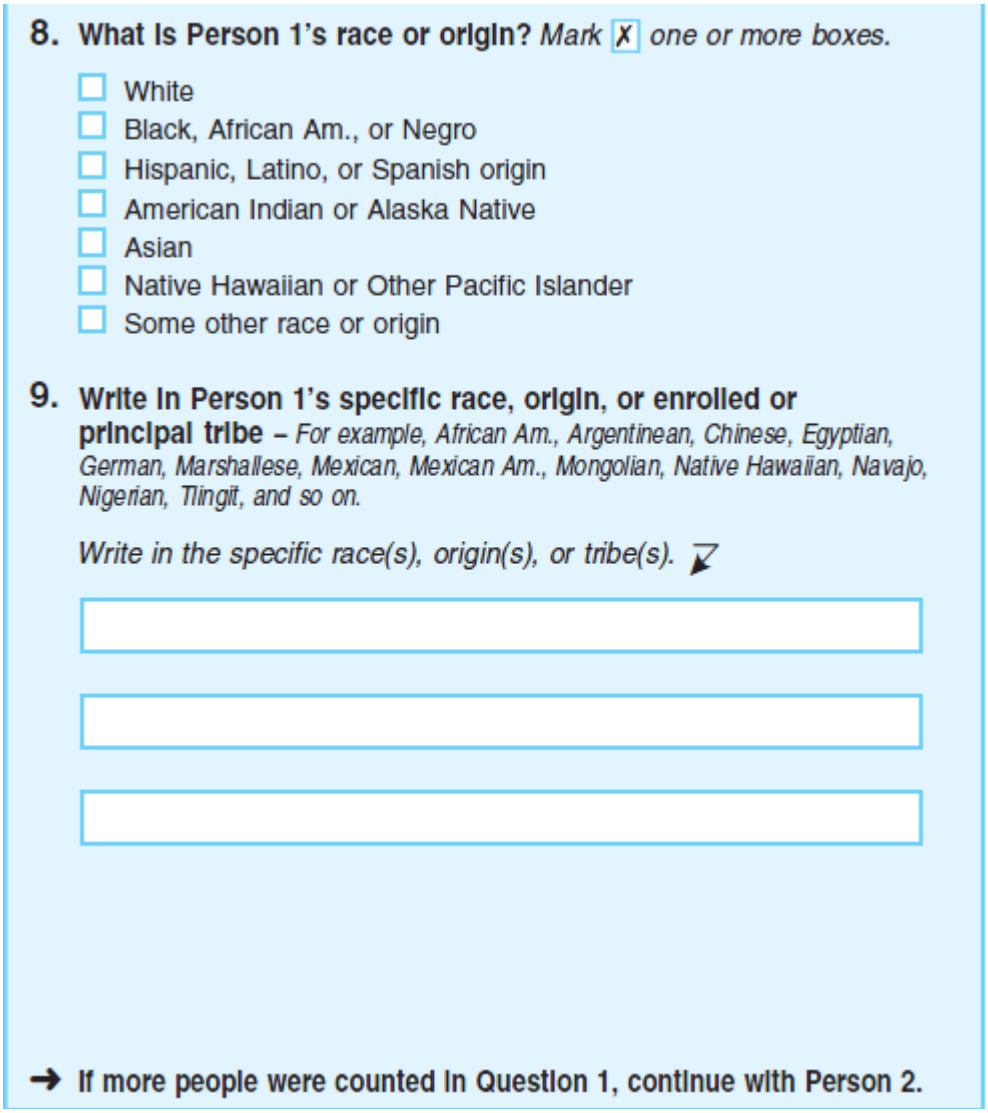


Figure C12. The combined Hispanic origin and race question on the X4 experimental panel. This panel is a member of the combined race and Hispanic origin family (B2c). The "very streamlined" layout has checkboxes for only the OMB categories. A second question is added with write-in lines to elicit specific reporting within the race and ethnic categories selected.

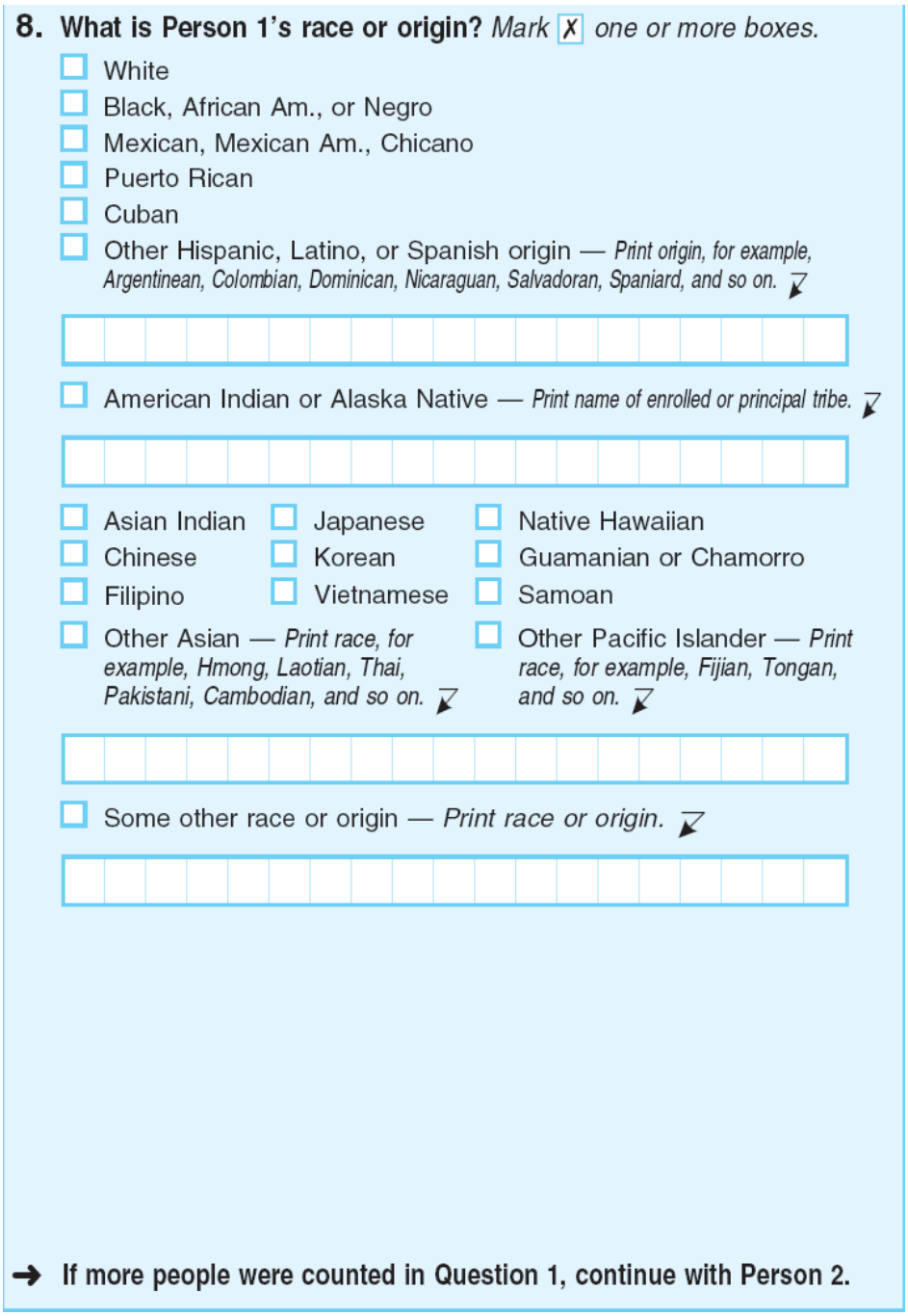


Figure C13. The combined Hispanic origin and race question on the X5 experimental panel. This panel is a member of the combined race and Hispanic origin family (B2d). The "alternative control" layout maintains the same checkboxes and write-in lines as the separate race and Hispanic origin questions on the standard 2010 Census D-1 questionnaire.

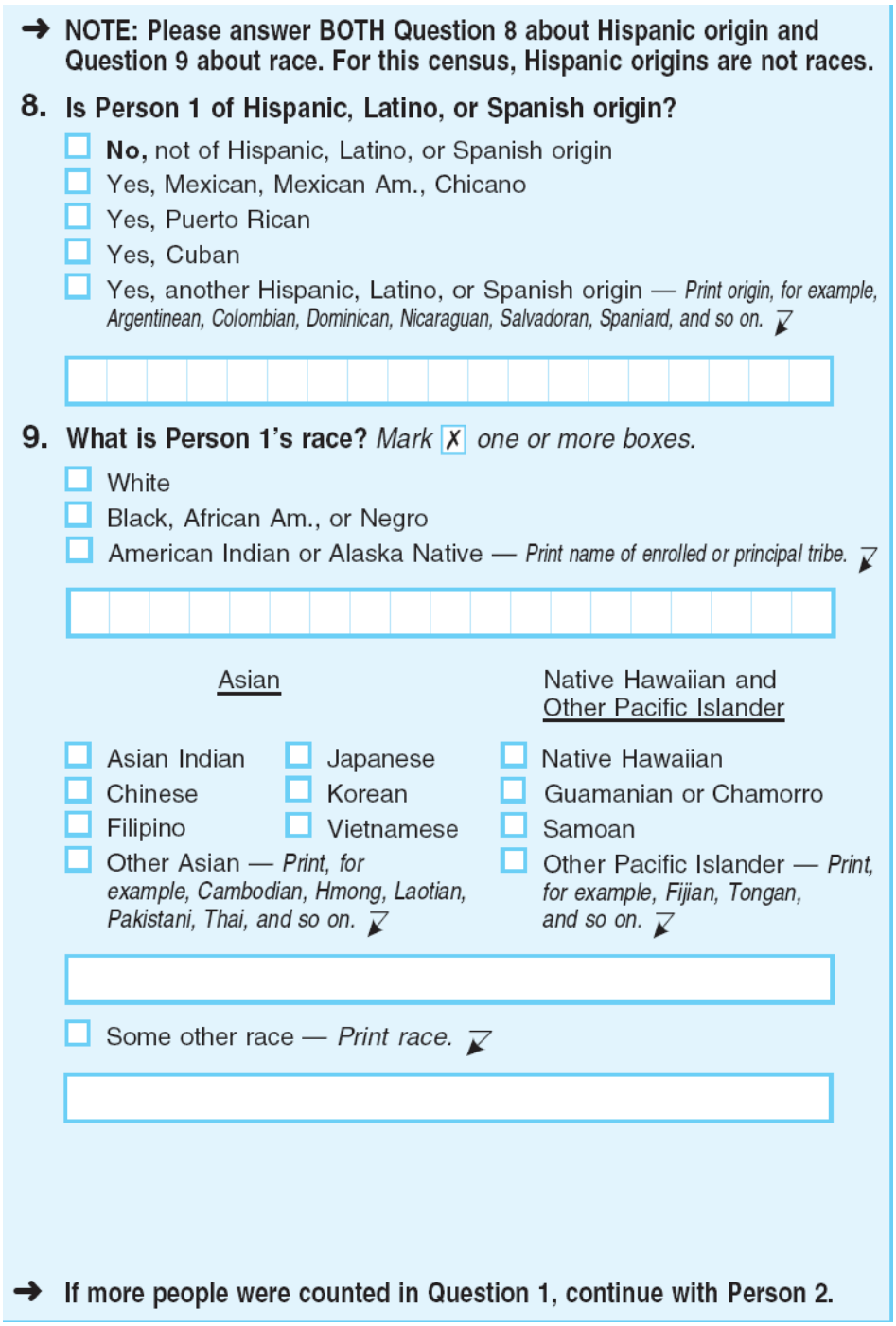


Figure C14. Hispanic origin and race questions on the X14 experimental panel. This panel is a member of the spanner format and limiting term "race" family (B4). A spanner has been added above the Asian and Native Hawaiian and Pacific Islander national origin checkboxes. The term "race" has been removed from the write-in instructions. Other Asian examples have been listed in alphabetic order.

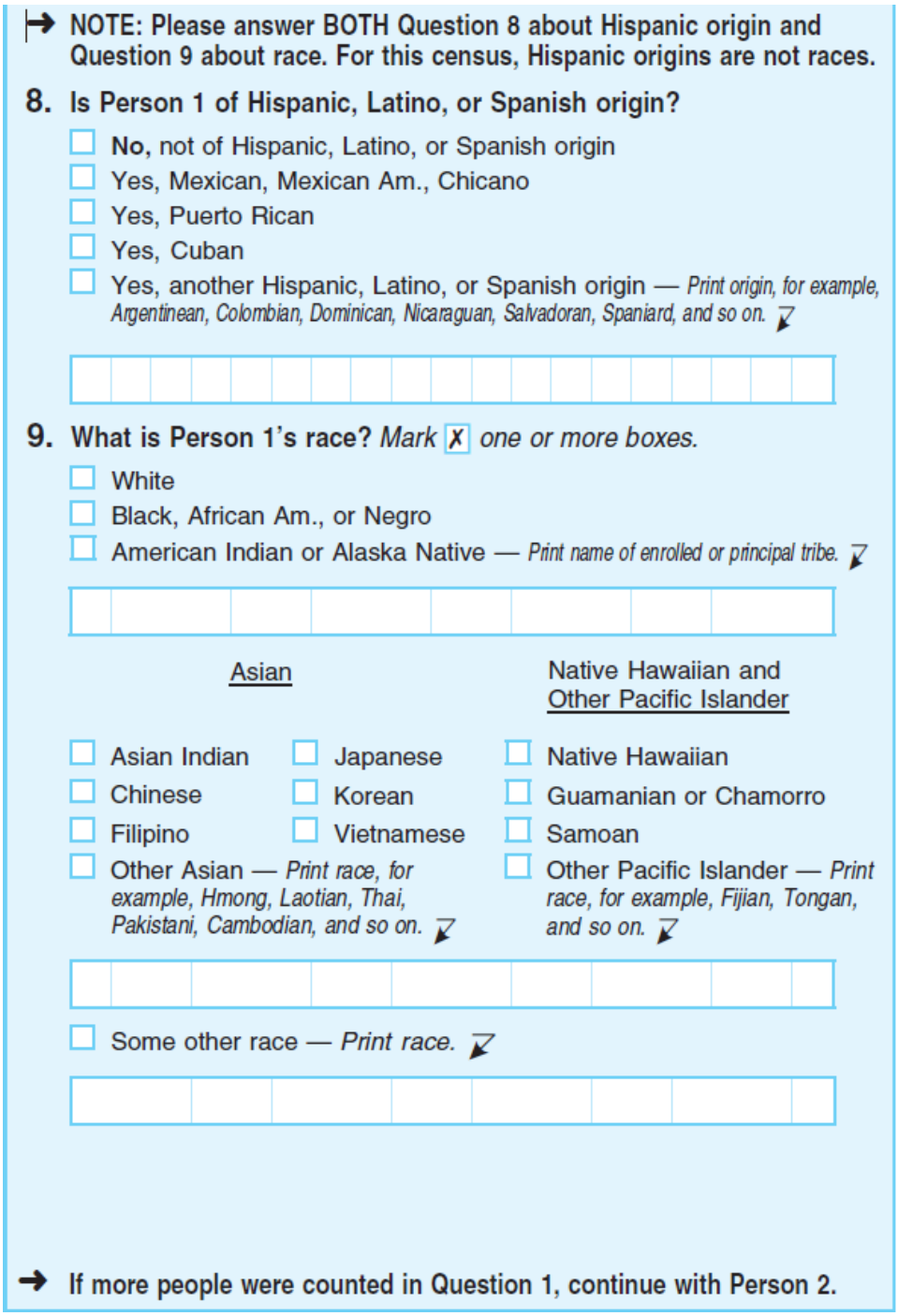


Figure C15. Hispanic origin and race questions on the X15 experimental panel. This panel is a member of the spanner format and limiting term "race" family (B4). A spanner has been added above the Asian and Native Hawaiian and Pacific Islander national origin checkboxes.

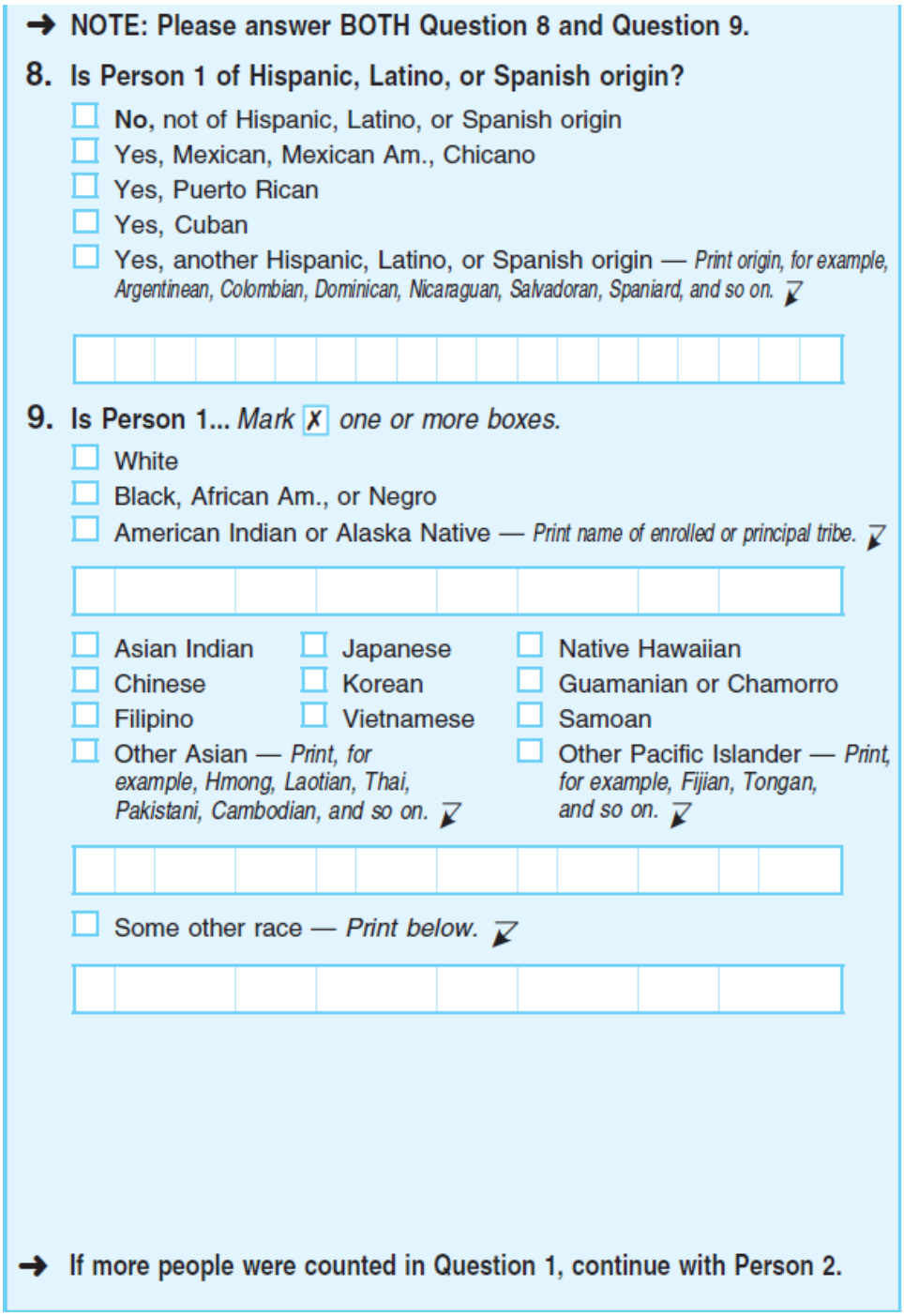


Figure C16. Hispanic origin and race questions on the X16 experimental panel. This panel is a member of the spanner format and limiting term "race" family (B4). The term "race" has been removed from the question stem and write-in instructions.

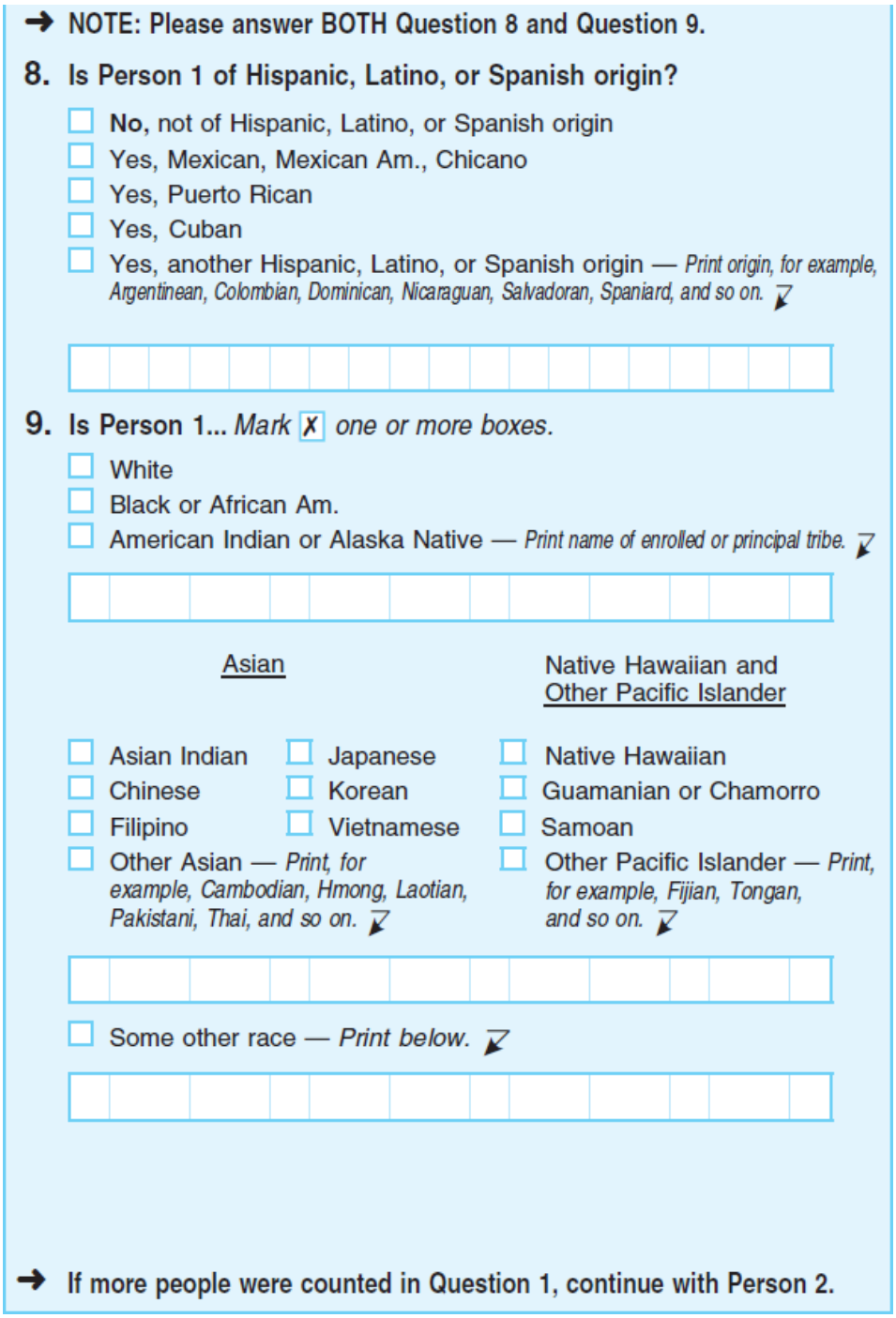


Figure C17. Hispanic origin and race questions on the X17 experimental panel. This panel is a member of the spanner format and limiting term "race" family (B4). A spanner has been added above the Asian and Native Hawaiian and Pacific Islander national origin checkboxes. The term "race" has been removed from the question stem and write-in instructions. Other Asian examples have been listed in alphabetic order. "Negro" has been removed from the "Black, African Am., or Negro" checkbox category.

Appendix D: Focus Group Report Executive Summary

Executive Summary

Final Report of the Alternative Questionnaire Experiment Focus Group Research

The Alternative Questionnaire Experiment (AQE) focus groups engaged the American public in a dialogue about reporting race and ethnicity on census forms. This research was one part of a three-part Alternative Questionnaire Experiment undertaken by the Census Bureau to improve race and Hispanic origin reporting. The goals were to improve accuracy and increase the number of individuals reporting in OMB categories and reduce the number selecting "Some other race." The focus groups complement a mailout/mailback survey in which panels of respondents respond to alternative forms and a follow-up telephone survey conducted to test accuracy and reliability among the mailout/mailback respondents.

The AQE focus group research included 768 individuals who participated in 67 carefully designed focus groups. The participants covered the breadth and diversity of the American public, including individuals from all race and origin groups and reflecting within group diversity. Recruiting was organized around 17 distinct race and origin subgroups with different reporting issues. Within these groups, the participants included men and women; immigrants and native born; the young, prime aged, and older; high school graduates and dropouts; people working toward a college degree, as well as those with four-year and post-graduate degrees. Seven of the groups were held in Spanish. The groups were geographically diverse, taking place in 25 cities from Boston, Massachusetts to San Juan, Puerto Rico and from Los Angeles, California to Anchorage, Alaska and Honolulu, Hawaii.

During the focus groups, individuals recorded their reporting behavior on snippets containing several different versions of the race and Hispanic origin questions, discussed their reasoning behind why they wrote what they did, reviewed form terminology and instructions, and engaged in general discussion of how they perceived their racial identity, when they first became aware of it, and how this identity changed across their lives.

Each snippet was designed to examine different aspect of the race and ethnicity question format. All groups were asked to complete one of three snippets that had separate race and Hispanic ethnicity questions. There were three variants of this format referred to as XB, X9, and X17. All three had checkboxes for Whites, Blacks and American Indians or Alaska Natives. Below the American Indian or Alaska Native checkbox was a write-in box with instructions to list the respondents' principal or enrolled tribe. Following the American Indians or Alaska Natives checkboxes were a series of nationality checkboxes in a two column format with Asian nations on the left and Native Hawaiian and Pacific Islands on the right. There were write-in boxes accompanied by examples to write in Other Asian and Other Pacific Islander. At the bottom of the form was a box where respondents could write in Some other race. The three forms—XB, X9, and X17—also varied in terms of instructions and formatting. XB was the 2010 Census

form, X9 included examples for all race categories, and X17 provided spanners across the respective nationality boxes to help Asians, Native Hawaiians, and Pacific Islanders more easily find their checkboxes.

In addition to a snippet with separate Hispanic origin and race questions, all groups reviewed a snippet with a combined question of Hispanic origin and race in one of two formats. The combined forms had checkboxes for Whites, Blacks, Hispanics, American Indians or Alaska Natives, Asians, Native Hawaiians or Other Pacific Islanders, and Some other race. Snippet X3 had examples and a write-in box for Hispanic origin and every race category. Snippet X4 separated the Hispanic origin and race checkboxes into one question and provided three write-in lines in a second question.

How Participants Reported

The majority of participants across all focus groups did comprehend and follow the instructions guiding them to complete the snippets by finding 'their' OMB category. Participants were able to check boxes and write more descriptive information where requested. Participants generally completed the combined origin and race snippet X3 similarly to what they reported on the other snippets. However, due to the formatting differences, they were instructed to be—and were—more elaborate in their written responses.

Reporting was fairly straightforward on the separate Hispanic origin question. Those respondents who checked No, not of Hispanic, Latino, or Spanish origin, generally did not have problems in selecting this checkbox. A few non-Hispanics reported information on race in the ethnicity question. In Hispanic groups, the majority of participants responded by checking *yes* and they were easily able to find their respective boxes or write in their country of origin. A few Hispanic participants protested that Spanish was included because they felt that Spanish resonated with Spain and did not fit the model of the other countries listed. Spain was thought to be more European and thus inappropriate for this section. The ethnicity question generated discussion on why this was a separate question in all but the Hispanic groups.

Participants in some racial and ethnic groups easily completed the race question. For example, Whites who were of European/North American heritage and Blacks who were African-Americans generally understood their [race] boxes. Asians and Pacific Islanders with designated nationality or island checkboxes also had no problems. They had few problems moving from nationality checkboxes to larger geographic categories such as Asian or Pacific Islander.

Self-reporting race was a more complicated issue in other groups. Asians and Pacific Islanders without checkboxes disliked being in the *Other* category, but generally found their reporting location. They sometimes completed the wrong write-in line. Immigrants, particularly Hispanics, Africans, North Africans, Caribbeans, and Middle Easterners found fitting into U.S. racial categories difficult, particularly since they felt they were dealing with the highly charged [race] categories and often indicated they preferred nationality checkboxes. For example, some Middle Eastern participants did not categorize themselves as White even with the Egyptian and Lebanese examples on snippet X3.

American Indians and Alaska Natives had issues that were complicated by their feelings about the category label, by their write-in line, and by the focus on their legal relationship with the U.S. Government through tribal enrollment (or lack thereof). In general, American Indians followed the instructions on the snippets by checking the American Indian or Native Alaskan checkbox and writing in their enrolled tribe, since enrolled tribe was a familiar concept for them. However, enrolled tribes were not applicable to Alaska Natives since they have shares in Native Corporations. They generally checked the correct box, but had to think harder about what to write in. Native Hawaiian participants, like the multiracial participants, were combinations of a variety of the race and ethnic groups listed and often checked more than one box. Some multiracial participants desired a separate *Multiracial* checkbox.

Participants in the Ancestry Differs from Place of Birth groups used many of their own interpretations of what race and origin were in order to answer the race question, such as their place of birth, the place of their parent's birth, where they lived the longest, and how they were "brought up." Many were confused about what the creators of these snippets wanted them to report. Central and South American Indigenous groups had the most difficulty. They have no tribes and no official relationship with the U.S. Government. Not seeing the word *indigenous* meant that they were often not sure that they could report in the American Indian category. Literacy was also a problem for this sub-population. In fact, many in this population reported as White since they had been taught that that was the correct category for Hispanics.

Overall, respondents preferred X3, the combined Hispanic origin and race question format, however, there were supporters of the separate question formats on XB, X9, and X17. While there was some disagreement about which form was better, the reasons for preferring one form over another were fairly consistent. These reasons related to several common themes that affected race and ethnicity reporting across the racial and ethnic groups comprising this study. These themes were underlying factors in participants' motivations and strategies for snippet responses and snippet preference.

Common Themes Affecting Reporting across Multiple Ethnicities and Locations

Simple, Straightforward, and Self-Evident Identity

Participants across the different focus groups expressed a preference for snippets in which reporting their race and ethnicity was simple. Participants generally found reporting simple and easy when there was a readily available checkbox that supported their self-identity. Participants who did not readily find a familiar checkbox or an easy way to transfer their identity to the snippet, found the task more complex. Thus, a very consistent complaint was that the lists of categories and boxes that could be checked were limited and that the participant's preferred term was absent. So, for example, on forms XB, X9, and X17, Japanese and Puerto Rican respondents who had a checkbox were happy, but Guatemalan and Iranian respondents who did not, would have preferred to have one.

Fairness and Equitable Treatment

Participants observed, made note of, and expressed concern that groups were not treated equitably in multiple places on all of the snippets. Across all forms and in almost all groups,

there were concerns about the unfairness of snippet components. Participants frequently noticed and commented on the fact that on snippet XB, Blacks and Whites were not provided space so that they might write in their specific ethnic ties, and were described as a color. Participants were quick to point out the exclusion of their own specific nationality or tribal group on a list of options with checkboxes or within a cluster of examples. Or they complained that some groups were given checkboxes while others had to write in their specific origins, that some groups had long lists of examples while others had two or three, and that some lists included some ethnic origins with a hyphenated "American" and others did not. Many participants also commented on the order in which categories were listed, asking questions about why Whites were listed first and why the list was not alphabetical.

One of the most consistent complaints and concerns was about the separate Hispanic ethnicity question on the XB, X9, and X17 snippets. At least some of the participants in just about every focus group saw this structure of questioning as unfair and problematic. Both the separate question and the statement on XB and X9 that Hispanic was not considered a race concerned participants. Many Hispanics saw that not considering Hispanic a racial category prevented them from self-identifying in the way that they themselves, and others, tended to think of them. The two-question format was perceived as perhaps a process for isolating them and identifying them for what might ultimately be discriminatory reasons.

On the other hand, for non-Hispanics completing the XB, X9, or X17 snippet first, this differential treatment of Hispanics was the first thing they encountered. Reactions were varied: While some non-Hispanics were neutral about the ethnicity question, others had stronger reactions. Some thought the question discriminated against Hispanics, particularly snippets XB and X9, that included the phrase that Hispanics were not considered a racial group. Other participants saw it as providing special treatment for Hispanics, since the question allowed Hispanics multiple checkboxes.

Disagreement with OMB Categories and Examples

In some cases, focus group participants' responses to the OMB categories involved disagreement about the ways in which particular groups were categorized or defined by the OMB. While most focus group respondents found the examples helpful in terms of clarifying definitions and the specific aspect of their identity that was being asked for, almost all disagreed with the classification of Egyptian and Lebanese as examples of the White category. These discussions were often connected with the recommendation that there be a separate racial category for those who would be Arab or Middle Eastern. Although the Egypt example was under the White category on X3, most of the MENA [Middle Eastern and North African] participants did not see themselves as White and selected "Some other race" on snippets, specifying that they were Middle Eastern, Arab, or their specific nationality.

Other examples of disagreement with the OMB categories included Filipinos who thought they should be classified not as Asians, but rather as part of the Pacific Island group, or else have their own checkbox. Similarly, although it was most common in groups with American Indians, some participants questioned the placement of Mayan in the American Indian and Alaskan Native category. Although Mayans in focus groups used their example as a directive of which checkbox was designated for them.

Some multiracial participants selected Some other race and wrote in terms indicating that they were of mixed races (e.g., Multiracial, Mulatto or Mestizo). The Hispanic participants, particularly those from Puerto Rico, frequently spoke of the history of mixing of White, Black, and Indigenous, typically led to all three being in their racial makeup. They would have preferred a term that better describes this mixture instead of being asked to select many checkboxes. Multiracial participants held diverse opinions about how to self-identify, though many indicated that they would have preferred a mixed-race category.

Though many participants preferred to report using nationalities, there were several vocal respondents in a myriad of groups who worried that the use of nationalities and ethnicities as examples for racial categories was inappropriate. Others included the fact that the Black and White groups were color categories. Participants maintained that presenting a national or ethnic category as a racial category caused confusion: (a) it communicated to potential respondents that an ethnic or national identity could be substituted for, or was preferable to, a racial designation, and (b) because it might suggest that persons' race or nationality listed as examples in one category could not check or racially identify in another. These concerns led to requests across groups for including an operational definition of race and origin to be placed on the census forms.

Instructions and Navigational Issues

There were several navigational issues that concerned participants. The instruction to mark one or more boxes was frequently overlooked initially by participants while others did not notice that the instruction was granting permission to mark more than one box if appropriate. Some participants wanted the instructions to say "mark as many as apply" without the visual of the "X," and to be larger, in bold letters, or in color so that respondents would more likely see and read it.

Other instruction issues raised across focus groups focused on the X3 snippet. Some participants noted the initial instruction to "mark one or more boxes" and write in the specific race(s) or origin(s). The fact that race and origin were singular in the stem of the question, but could be interpreted as plural in the instruction following the stem, caused confusion.

It was clear in many groups that participants were conflicted between ease of form completion and detail of data. While some liked X3 because it allowed them to write in their full and detailed ethnicity, others complained that X3 required participants to check a box and write their origin. Some felt this was burdensome. Among Asian, Native Hawaiian, and Other Pacific Islander groups, some preferred snippet X17 because they could just check a box. In addition, snippet X17 had the Asian and Native Hawaiian and Other Pacific Islander spanners that Asian participants said directed them quickly to their respective checkboxes.

Participants across groups indicated the navigational arrows on all snippets were helpful in pointing out where respondents should write. On the other hand, the location of the write-in boxes just below the American Indian or Alaska Native checkbox on the race question (snippets XB, X9, and X17) hindered navigation. Many participants thought these write-in boxes separated the race question into two parts, each of which required an answer.

The order of the examples did not seem to be an issue across focus group participants. Participants looked to find themselves in the examples and responded based on their interpretation of these examples. As mentioned earlier, there was more concern about the order of the list of the OMB racial categories.

Ethnic Preference in Self-Identification
Focus group data show a rather consistent preference for ethnic over racial self-identification. Participants in focus groups generated data on respondent rejection of the broader pan-racial designation in favor of a more specific national origin or ethnic designation. Asian, American Indians, Alaska Natives and Blacks were highly likely to express a similar desire to be known by their tribal or ethnic designation. This led to the preference of some participants for snippet X3, as it allowed for writing in more specific ethnic, national, or in some cases, tribal affiliations.

Checkbox Naming
Another recurring theme raised across the different ethnic groups was the offense taken over, or complaints about, checkbox naming. The most consistent complaint was that those in the Black racial category should not be named and were no longer called "Negro." It was thought to be offensive and outdated by the vast majority of the Black group participants and those who mentioned it in other focus groups. All of the senior citizens in the Black groups rejected the use of Negro.

There were several other checkbox naming issues. Dissatisfaction with the use of Indian or American Indian to refer to indigenous groups, complaints about the attachment of the word "native" to Hawaiian, questions about the appropriateness of the term White rather than Caucasian or European to refer to those conventionally classified as White, and the negative evaluation of the absence of American as part of the name of groups listed with some of the Asian and Hispanic options and examples. Participants also questioned the abbreviation of American on the snippets in reference to African-Americans and Mexican Americans.

Racial and Ethnic Group Politics and Relations with the U.S. Census
One of the most common lines of questioning and commentary dealt with participant concerns and curiosity about how the data being collected on actual census forms was being used. One concern in reporting was how reporting behavior would affect funds distributed to communities using Census counts. This concern was most often expressed by those who felt that they could check multiple categories. In American Indian groups, where participants wanted funds to be directed to American Indians, multiracial individuals were more likely to identify only their American Indian heritage. A multiracial New York participant talked about checking the race category that was the least privileged in order for funds to be directed to the most disadvantaged group. One person in one of the African-American groups even suggested that Egyptian was placed under the heading of Whites to bolster the count of Whites.

In addition to statements about funding distribution, the recurrence of the racial political relations theme was also observed in reports on within-group mobilization prior to the census. Several participants claimed that they were specifically contacted by the representatives of particular racial or ethnic groups and given instructions about how they should report, and how reporting in

that particular way might aid in group mobilization for political influence or other resources. This was more common in Black, American Indian, and Alaska Native focus groups. Participants were also aware of these issues because of past campaigns or informal interactions with others and the media.

Motivations and Strategies for Snippet Responses

Checking One or More Named Categories

All focus groups contained participants who were intent on completing the snippets (and forms like the census) in as quick and straightforward a manner as possible. In multiple focus groups, those expressing a preference for the XB and X17 snippets defended their preference with a statement about wanting to work with something easy, straightforward, and quick. Many participants were honest in their statements about not wanting to spend much time completing any census form. They preferred the presence and prominent display of named checkboxes categories in which they could place themselves. Participants who felt omitted or misnamed were often compelled to write in their preferred self-identifying name (ethnicity, race, tribe, etc.).

Using Some other race and Providing Additional Written Information

The checking of "Some other race" and the provision of additional written information was tied to all of the recurring themes discussed above. Specific characteristics of snippets (e.g., structure of questioning, the use of particular examples and options) led to perceptions of bias and unfairness or to the understanding that snippet writers were incorrect about categorizing or inappropriate with respect to naming particular groups. A vocal minority of the respondents who perceived bias or disagreed with OMB naming or categorization were motivated to correct or challenge snippet creators on these matters. Checking the "Some other race" category and writing in additional information were strategies of correction and challenge for those motivated by these perceptions and understandings. On the other hand, there were also instances when the focus group participants reported that they approached the material on the snippet having been primed or prepared by prior interactions and experiences around race and ethnic self-identification. In these cases, the relevant themes of ethnic preference in self-identification and racial politics and relations describe participant motivation for use of the Some other race and write-in strategies. For example, Hispanics, in spite of being told that they were not a racial group in the census, wanted nonetheless to represent their Hispanic or more particularized national origin as their racial group on the race questions on these snippets. Thus, instructions of where to write and what to write were not always followed.

Non-Compliance with and Refusal to Answer Question Directives

The strategies of selecting Some other race and writing in additional information discussed above could be instances of respondent non-compliance (i.e., refusing to answer a question, omitting a question that did not seem like it applied to them, and writing in responses like "human race"). However, this strategy of reporting was used much less frequently across the focus groups and it can be linked to confusion, as well as disagreement or offense. Likewise, participants that included non-Hispanic origins in the Another Hispanic, Latino, or Spanish origin checkboxes may have been challenging perceived bias against their groups in the snippet, or may have been confused and under the impression that their specific origin was indeed being solicited by the snippet.

Being Consistent or Inconsistent Across Snippets
Participants who were focused on simplicity and ease of completion across the different focus groups tended to report consistently, even as the structure of questioning, directions, categories, and examples changed across snippets. They sought opportunities to check the appropriately-named category wherever they were available and only wrote when specifically directed to do so. Similarly, those interested in ethnic as opposed to racial self-identification, and those concerned about giving strategic reports that would enhance racial or ethnic group resources from governmental entities, also sought opportunities to self-identify in the ways that they had chosen regardless of the ways questions were asked or the specific options given.

In summary, focus group participants across the AQE focus groups expressed a desire for a quick and easy way to map their racial and ethnic self-identity onto the census snippets. The preferred method was to provide a checkbox or checkboxes conforming to their racial and ethnic self-identification along with instructions to check all that apply. These checkboxes would be easy to find as well. In addition, the presentation of checkboxes, their labels, and any examples used would be equitable across all groups. While some participants were concerned with what the census was going to do with the information, most of them expected the Census Bureau to do some sort of summary and probably post-coding of their answers, particularly the written answers on X3. The following section of the report contains JBS's recommendations for improving race and ethnicity reporting.

Recommendations

Recommendation 1: Use a combined question format to identify respondent ethnicity and race; omit the separate Hispanic origin question. The use of separate questions to identify Hispanic origins was seen as an inequitable treatment of this group because Hispanics felt left out of the OMB race categories and because other groups objected to Hispanics having a separate question. Also, reporting issues arose for both questions when non-Hispanics attempted to report race on the Hispanic question. The combined question would include a Hispanic checkbox and write-in category. While X3 was preferred over X4, there were certain components of X4 that were seen as desirable, such as more write-in boxes, and more equal treatment of all groups.

Recommendation 2: Expand options for category selection in order for respondents to easily self-identify their groups. Virtually all groups admired the ease of using readily identifiable checkboxes that made recording of race or origin straight-forward. Groups that were not described by a checkbox category felt that their racial or origin group also should to be listed in the same format. Though the ease of checkboxes appealed to many, some participants did want to specify their identity further. At the same time, several groups complained that the category their group was supposed to use was combined with others, or was offensive, or made little sense to their group as a whole. The option to select a hyphenated American or combined race and American category was only available to some groups. (e.g., African-American, but not Asian American). The following additional recommendations for checkbox categories were suggested by focus groups:

2.1 *Expand the set of checkbox categories at minimum to include the subgroups in this study so that more groups can easily find their racial or origin group.*

- 2.1.1 Add a Middle East/North Africa grouping: There was strong agreement across all groups that there should be a Middle East-North Africa group and that combining this group with white was "wrong." Iranian respondents voiced this desire as well.
- 2.1.2 Provide separate boxes for the American Indians and Alaska Natives category and add a box for an Indigenous category. Each group not only wants its own box but also has unique reporting issues. Eskimo should be added to the Alaska Native box.
- 2.1.3 Provide separate boxes for the Native Hawaiians and Other Pacific Islander category. Other Pacific Islanders felt that they were a "remainder" category. Participants also asked for additional clarification regarding Micronesia, Melanesia, and Polynesia either as examples or subcategory checkboxes
- 2.1.4 Provide a checkbox for Africans and Caribbean separate from or under the Black checkbox. These groups are largely immigrants and do not feel that the current reporting fairly represents them.
- 2.1.5 If a combined question is not used, add a Hispanic/Latino checkbox in the race question. This overlaps with but enforces the single question option.
- 2.1.6 Provide a mixed-race checkbox.

2.2 *Allow all groups the option to include a combined hyphenated American wording in their checkbox label (e.g., Japanese-American) if desired.* Several national origin groups noted that some group categories included hyphenated Americans (e.g., Mexican-American, African- American but others such as Asian did not). Both immigrants and native born members of origin groups wanted to use hyphenated American terms.

2.3 *Provide a write-in box for every racial and origin category and make the use of these boxes optional.* This recommendation would satisfy those who want to write their detailed heritage in addition to those who simply want to check a box to complete the question.

2.4 *Create an exhaustive list of ethnicities and use computer technology to eliminate the need for category boxes and examples.* Many groups suggested this to resolve problems with category labels and limited examples. The Census could then aggregate these in various ways. This would resolve category assignment issues such as Filipinos who see themselves as Pacific Islanders and not Asians.

2.5 *Work with communities to develop labels for categories that are acceptable to them.* As mentioned above several groups complained that the term they were to identify with seemed confusing, discriminatory, or pejorative (e.g., "native" in front of Hawaiian).

Recommendation 3: Revise the form to treat all groups equitably in terms of both questions and available answers. Across almost all groups there was a strong sense that groups were treated unequally. It was readily noted that Hispanics were singled out in the forms and other origin groups did not receive the same treatment. Some groups were included in category examples, others had a differing number of examples, a differing number of checkboxes, and

special spanners. Groups that were of mixed origin within an OMB category felt that they were discriminated against because they had only one write-in box, while individuals who were of mixed origin across two OMB categories had two write-in boxes available. Overall, there was a strong sense that most groups wanted the Census to produce a question or set of questions that treated all groups in a similar manner. Some specific recommendations for achieving this include:

3.1 *Give each group the same number of questions, checkboxes, examples, and write in lines.* Participants in all groups were sensitive to the number and order of checkboxes, examples, write-in boxes or other components available to other groups.

3.2 *Order categories in a neutral way such as alphabetizing.* Participants in several groups supported alphabetizing as a fair way to order items.

Recommendation 4: Refine category examples to improve understanding. While individuals did respond well to the use of additional examples, there was a lot of concern about the exact examples used.

4.1 *Delete Egyptian and Lebanese as examples for the white checkbox*. Across all OMB categories, these examples were identified as "wrong." No group thought that Middle East/North Africans belonged in the white category. There was general agreement that they belonged with a separate Arab or Middle East/North Africa checkbox.

4.2 *Dialogue with individuals in each group about the types of examples that would best illustrate each category.* Examples caused confusion among several groups and respondents in most groups offered alternatives. However, more information is needed before finalizing examples.

Recommendation 5: Avoid using contentious language, categories and examples in the race and ethnicity questions.

5.1 *Remove the word Negro from the Black African-American and Negro checkbox label.* The word made at least some individuals in most OMB groups uncomfortable, and across groups there were at least two individuals who refused to use the forms because of this. African-Americans, old and young, disagreed with the term even while understanding that some older individuals may still use it.

5.2 *Delete the references to "enrolled or principal tribe" as the instruction for the Native American or Alaska Native write-in box*. As described above, this caused issues for American Indians, Native Alaskans, and Indigenous Central and South Americans who each felt this instruction was not relevant to or limited their reporting.

5.3 *Avoid using the pejorative phrase "and so on" in the stem questions.* Participants whose groups were not included in the examples felt this phrasing implies that the examples listed are of more importance than those not listed.

Recommendation 6: Improve the stem question for the race question (as well as the Hispanic ethnicity question if a combined question is not adopted.) Across and within groups there was a lack of agreement on the definitions of race, ethnicity, and origin. The result

was that many groups felt that the Census should provide better categories, or at a minimum, better definitions of race, origin and any other terms used in the stem questions. These explicit definitions are important as the racial paradigm of color and geography implied in the current OMB categories will continue to shift as the country becomes more racially [diverse]. Any definitions provided should be revisited and changed with future iterations of the Census to reflect the reality of the country and the lived experiences of the populations being counted.

6.1 *Drop reference to race, origin, and ethnicity and use a neutral stem such as "Check all that describe you" or "Check all that apply*." Given the lack of agreement on the terms race and ethnicity, and the errors in reporting resulting from misinterpretations, a neutral stem question may be best.

6.2 *If the terms race/ethnicity/origin are included in the question stem, provide clear definitions of the terms.* Respondents across groups felt that it was the Census Bureau's responsibility to clarify these terms so respondents could better understand how to report.

Recommendation 7: Refine formatting and the design of the form. Respondents had several ideas to improve the race and ethnicity questions. These included:

- Change instructions to check or mark all boxes that apply. This would clarify the instructions. It could be used as the only instruction. (See stem question above.)
- Use double arrows for clarification. These were seen as the most effective.
- Adapt the form language for the Puerto Ric[o] community, do not use the form developed for Hispanics in the United States.
- Keep the form as short and simple as possible. This was recommended several times, often by the same groups that were asking for more examples and boxes.
- Be consistent, either increase the write-in space or do not use plural, e.g., tribes, if there is only space for one entry.
- Be grammatically correct and consistent when using singular and plural. Participants objected to the double negative in the Hispanic question and to the use of race in stem question and race(s) in instructions.
- Improve the format for the instructions by increasing the font size, and adding bold letters or using colors to make it stand out.
- Add the instruction to read the entire form before choosing an answer. Individuals whose checkboxes are further down the form may stop short and not fully report. Or those with multiple identities may report in the first appropriate checkbox.
- Improve the translation of the Spanish forms. Tailor them to the different regions of the U.S. and use simple language easily understood by those with less education.
- Translate forms into other languages including Native American languages and Braille.
- Indent the write-in boxes and increase the space allotted for this. (A computerized form could provide as much writing space as the respondents desired.)

Recommendation 8: Conduct additional focus groups with Brazilians. This group has many of the same issues as Hispanics but is not Hispanic. While the recommendations above will solve many problems for Hispanics, Brazilians appear to have no easily identifiable reporting checkbox. More information is needed.

Recommendation 9: Provide information and education about the reasons why race and origin data are collected in the census and how it will be used. Several groups wanted an educational information campaign or public relations campaign to inform the public that collecting race/origin data is important and necessary. This should include adult and secondary school sites and places where immigrants will be able to participate in the campaign(s). REAC [Race & Ethnicity Advisory Committee] members are good channels. Many of the Hispanics remarked on education campaigns or census workers instructing them to mark their racial category as "White" which they learned in the focus group was incorrect. Many participants across all groups only knew of the financial allocation issues associated with the census that impacted their reporting behavior.