RESEARCH REPORT SERIES
(Survey Methodology #2006-12)

**Questionnaire Effects on Measurements
of Race and Spanish Origin**

Nancy Bates[1]
Elizabeth A. Martin[2]
Theresa J. DeMaio
Manuel de la Puente

[1]Demographic Surveys Division
[2] Director's Office

Statistical Research Division
U.S. Census Bureau
Washington, D.C. 20233

QUESTIONNAIRE EFFECTS ON MEASUREMENTS OF RACE AND SPANISH ORIGIN[1]

Nancy Bates, Elizabeth A. Martin,
Theresa J. DeMaio, and Manuel de la Puente
U. S. Bureau of the Census

1. RACE AND ETHNICITY MEASUREMENT PROBLEMS

As anthropologists have known for many years, racial classifications in popular use are based, not on a single principle, but rather on a mixture of attributes, including national origin, tribal membership, religion, language, minority status, wealth, and physical characteristics (see, e.g., Harris, 1968). Proof of this conclusion is readily available from the world's population censuses. Cursory review of a nonrandom sampling of recent censuses in 45 countries demonstrates the variety of classifications of race and related constructs which are the basis of official statistics in different countries. Persons of different countries may be asked to report tribe (in e.g., Kenya, Liberia), nationality (in e.g., Japan, Hong Kong, France, Republic of China, El Salvador, Gabon, Burundi, Dominican Republic), linguistic group (Mauritius), district or country of birth (e.g., Italy, Central African Republic, Argentina, Bahamas, Bolivia, Costa Rica, Nicaragua), religion or sect (e.g., Haiti, Ethiopia, Mexico, Egypt, Thailand, Ghana, Trinidad and Tobago), ethnic group (e.g., Vietnam, Barbados, Venezuela, Zambia), citizenship (e.g., Botswana, Philippines), origin in an indigenous or aboriginal group (Colombia, Canada, Australia, Guatemala), language or dialect (e.g., Nigeria, India, Venezuela, Peru, Honduras), race (Bermuda, Belize, Guyana, Jamaica), or skin color (Cuba, Brazil). Usually, more than one of these inquiries are included on a country's census, but none are included in as many as half of the censuses examined. Direct inquiries specifically about race or color are rare, and are concentrated in countries in or near the Caribbean region. Very commonly, the categories for any given inquiry are a mix of groups defined by color or origin, indigenous origin or tribe, and other criteria. (For example, the categories for Belize's 1960 census inquiry into "race or ethnic origin" were: Maya or Keckchi; Carib; African or Negro; European or white; East Indian; Chinese or Japanese; Syrian; Colored (mixed European-African); Mestizo (Mixed European-Indian); and Other.)

There are differences in the extent to which countries encourage reporting of current nationality in response to questions about race and ethnic origin. Since 1946, the Canadian census, for example,

has not asked race per se, but asks about the "ethnic or cultural group(s)" of one's ancestors. Despite Canada's efforts to foster reports of multiculturalism, reports of 'Canadian' are reportedly on the increase, suggesting a new indigenous perception of ethnic identity (Pryor, Goldmann, Sheridan, and White 1992). Like Canada, Australia also measures ethnicity without asking a specific question about race by using a write-in ancestry question and a question about Aboriginal descent. Unlike Canada, Australia accepts and even encourages responses of 'Australian' as an ancestry (Cornish 1992). Britain's ethnicity question (asked for the first time in the 1991 census) provides another example of the difficulties of measuring ethnicity. The ethnic group categories which were finally arrived at after exhaustive testing and revision included general phenotypes (white), combinations of phenotypes and national origins (Black-Caribbean, Black-African) and national origin categories (Indian, Bangladeshi, Chinese) (Sillitoe and White 1992).

As was once true in the United States census, some countries base inquiries about race or ethnicity on interviewer observation (for example, the Dominican Republic's classification of Dominican versus Haitian nationality, and Venezuela's inquiry into ethnic group), implying that physical appearance and verbal cues are used as criteria for classification. In censuses of many countries, classifications are based on self-identification, as is now true in the U. S. as well.

The principles as well as the criteria for popular classifications vary in different cultural settings. Harris and Kotak (1963) and Harris (1970) contrast the Brazilian and U. S. race classifications, pointing out that "black" and "white" are recognized in the U. S. as fixed characteristics which are biologically inherited, while Brazil recognizes a far greater number of race categories (as many as 500!), with more fluidity and ambiguity in their determination. They also find that racial identifications are not consistent among different informants, or even at different times by the same informant. Harris and his colleagues find that, in Brazil, racial classifications may be influenced by the economic and educational status of the person, and that full siblings who differ in physical

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appearance may be regarded as of different races. They note the strong correlation between physical type and racial identity, which is consistent with the 1991 Brazilian census's reference to "race or color," and its almost exclusive reliance on categories of color. (The numerous and subtle racial distinctions were reduced to just five census categories: branca (white), preta (black), amarela (yellow or oriental), parda (tan or mulatto), and indigena (indigenous).) In Brazil, as in Caribbean countries, census classifications of race or ethnicity consistently include a "Mixed race" (or mulatto or mestizo) category; this situation contrasts with the U. S. census, which has not included a mixed race category since 1910.

The great variety of criteria, categories, and principles used to officially represent race and ethnicity in different countries of the world suggests the obvious conclusion that most countries find it necessary to make distinctions between groups, but that distinctions which are possible or salient in one setting are not so in another. It further suggests that persons migrating from one country to another are likely to encounter an official scheme for classifying origin, race, or ethnicity which is quite foreign to them.

In the United States, a major source of difficulty in measuring race and ethnicity lies in the changing composition of the U. S. population. Racial and ethnic identities in the United States are largely the product of several centuries of immigration resulting in an increasingly heterogeneous and diverse population; expansion of U. S. territory also played a part. In 1980, the population was 86 percent white, 12 percent black, 6 percent Hispanic and 2 percent Asian or Pacific Islander[2] (U.S. Bureau of the Census 1993a); by 1990, these figures had changed to 84 percent white, 12 percent black, 9 percent Hispanic, and 3 percent Asian or Pacific Islander (U.S. Bureau of the Census 1993a). According to population projections, in the year 2000, the population will diversify still further. In part because of continual changes in the composition of the U. S. population, no single set of racial

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[2] Figures do not add up to 100-percent because persons of Hispanic origin may be of any race.

categories has been used in more than two U. S. censuses since 1790, and most were only used once (U. S. Bureau of the Census, 1989).

Many U.S. born Americans identify with more than one race, largely a result of an increase in mixed marriages over the last four decades. In 1960, for example, the census reported a total of 150,000 intergroup marriages. By 1970 this number had doubled to 300,000. And in 1980 and 1990 the number of such marriages totaled about 1 million (Saluter 1992). Similarly, the number of children living in families where one parent is white and the other parent is a race other than white (including Hispanic) has increased from 400,000 in 1970 to over 570,000 in 1980 to approximately 1.5 million in 1990 (Harrison and Bennett, 1995). This surge in the number of persons of mixed race presents reporting problems for persons who are forced on many government forms to choose one parent's racial heritage over the other's.

Finally, the particular labels used (e.g., "Hispanic" versus "Latino," or "Black" versus "African-American") may also affect reporting of race. Labelling various race groups in the census questionnaire touches on sensitive issues of identity; names carry a great deal of symbolic and emotional meaning, both for the persons who identify themselves as members of a group, and for others. Tracing changes in racial labels for the black population, Smith (1992) produces data suggesting that the term "African-American" has gained popularity as a label since the early 1990's. Use of the labels "Hispanic" versus "Latino" also has been debated. Some argue that the current Hispanic classification system should be retained for purposes such as trend analysis (Trevino 1987) while others maintain that the term "Latino" is preferable because it reflects the diverse national origins, racial and cultural characteristics of distinct population groups from Latin America (Hayes-Bautista and Chapa 1987).

2. MEASUREMENT OF RACE AND HISPANIC ORIGIN IN THE CENSUS

Prior to 1970, the census measurement of race was primarily based upon enumerator observation. In 1970, the U. S. Census Bureau began conducting the census by self-enumeration rather than personal visit and, consequently, the concepts of both race and Hispanic origin became based upon self-identification[3] by respondents. For race, no definitions are provided and persons are asked to select the one race with which they most closely identify. The race question in the 1990 decennial census contained 16 separate categories including an "other" race designation with a write-in option. These include white, black or Negro, Indian (Amer.), Eskimo, Aleut and nine separate Asian and Pacific Islander (API) categories[4]. The Hispanic origin item in 1990 contained 4 categories including Mexican/Mexican-American/Chicano, Puerto Rican, Cuban and an "Other Spanish/Hispanic" category. Traditionally, race has been asked two questions before Hispanic origin. Census classifications for both race and Spanish origin are based upon guidelines set by the Office of Management and Budget, which is responsible for establishing how Federal race and ethnicity data are gathered and reported.

The official census race and ethnic origin categories were designed for legal, regulatory, and bureaucratic purposes, and not because they corresponded to any scientific or commonly shared categorization of race and origin. Therefore, the current classifications represent a set of categories which probably is not congruent with race classifications used by a growing segment of the U.S. population. The mixture of race and national origin categories confuses some persons about the intent of the race question, and some persons do not find a category with which to identify.

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[3] Strictly speaking, it is not quite accurate to say that race is based upon self-identification, since one respondent fills out the form for all household members. Nevertheless, it is the intent of the Census Bureau to measure each person's racial self-identification, and the 1990 form includes a printed instruction to "Fill ONE circle for the race that the person considers himself/herself to be."

[4] The API categories include: Chinese, Filipino, Hawaiian, Korean, Vietnamese, Japanese, Asian Indian, Samoan, Guamanian, and "other API".

Respondents in the census must try to locate themselves in an artificial classification scheme which blurs some differences they consider meaningful while introducing others which seem meaningless.

Measurement problems occur when a survey's classification categories are incongruent with respondents' own classifications or when interviewer and respondent apply different classification schemes. Proof of the resulting confusion is documented by two data quality indicators from past censuses. The first and perhaps the most pervasive problem, documented in the past two censuses, is inconsistent race reporting by Hispanics who self-identify with one racial group in the census and then report a different one during follow-up interviews. In 1980, 35 percent of Hispanics identified themselves as "Other" race in census questionnaires, but only 10 percent were reported as "Other" race in personal visit reinterviews conducted after the census (McKenney, Fernandez, and Masamura 1985). Respondent confusion during the self-administration process and interviewer behavior during the reinterview both probably contributed to the inconsistencies. The 1980 version of the race question on the mail questionnaire may have confused respondents because it did not explicitly ask about "race" (U.S. Bureau of the Census 1987). Additionally, the reinterview was conducted in person, so reinterviewers may have recorded "white" for Hispanic respondents who "looked white" but had reported their own race as "Other" on the census questionnaire.

Results of reinterviews conducted after the 1990 census confirm the unreliability of race reporting by Hispanics. Most reinterviews (about 75 percent) took place over the telephone, so the possibility of the reinterviewer recording race by observation was reduced compared to 1980. Nonetheless, the reinterview identified fewer persons of "Other" race than the census (2.0 percent compared to 2.6 percent; see McKenney et al. 1993). In addition, only 29 percent of persons reported as "Other" race in the census were also reported as "Other" race in the reinterview; most of the rest were reported as "white." Similarly, only 38 percent of persons reported as "Other" race in the reinterview had given the same report in the census. While part of the inconsistency may be due to the effect of mail

versus telephone administration, this very high level of unreliability of "Other" race reporting is consistent with 1980 results and is almost entirely due to inconsistent race reporting by Hispanics.

The second measurement problem is high levels of item nonresponse for Hispanic origin. Hispanic origin had the highest nonresponse rate of any 100-percent item in both 1980 and 1990 censuses. In 1990, nonresponse for Hispanic origin was approximately 29 percent in most areas of the country prior to recontact by the Census Bureau. The computer allocation rate after recontact was 10.0 percent for short forms and 3.5 percent for long forms (Cresce, Lapham, and Rolark 1992; McKenney and Cresce 1992). These rates showed an increase over 1980, when they were 4.2 percent and 2.3 percent, respectively (U.S. Bureau of the Census 1986).[5] One explanation for the high nonresponse rates supported by Kissam et al. (1993) is that the question is redundant to respondents who have just reported "Other" race and written in a Hispanic nationality. At the same time, many non-Hispanic persons may have left the item blank because they didn't understand it, did not find a category that fit them, or thought the question didn't apply to them.

Evidence from past censuses suggests lack of understanding of the question. In 1980, fairly substantial numbers of people (particularly blacks in the South, Northeast, and Midwest) provided false positive reports of Mexican-American origin (U. S. Bureau of the Census 1982). Respondents apparently wanted to indicate that they were American, and the Mexican-American response category was the only one that contained the word "American" (Passel and Word 1987). Evaluations of the 1980 and 1990 census pretests and reinterviews showed non-Hispanic persons reporting as "Other" Spanish/Hispanic, perhaps because they thought the category meant other than Spanish/Hispanic (McKenney and Cresce 1992; U.S. Bureau of the Census 1993b; Thomas and

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[5]One reason for the substantial increase in the allocation rate for short forms was a change, based on budget constraints, in the rules for following up with respondents on questionnaires that failed a content edit for completeness.

Dingbaum 1992).

Some Hispanics were also confused by the question. A pattern of inconsistent reporting of "Other Spanish/Hispanic" origin between the census and the reinterview was observed in both 1980 and 1990. In 1980, only 55 percent of persons reported as "Other Spanish/Hispanic" in the reinterview had been similarly classified in the census; the others had been reported mostly as Mexican (11 percent) and as non-Hispanic (31 percent) (U.S. Bureau of the Census 1986; McKenney, Fernandez and Masamura 1985). In 1990, this same pattern persisted. About 63 percent of persons reported as "Other Spanish/Hispanic" in the reinterview were similarly reported in the census; the others were reported mostly as Mexican (8 percent) and non-Hispanic (25 percent) (McKenney, Bennett, Harrison, and del Pinal 1993). Evidence from 1990 census pretests suggests that persons who reported "No, not Spanish/Hispanic" during the census but reported a Hispanic ethnicity in the reinterview did so because they reacted negatively to the term "Spanish/Hispanic" (McKenney and Cresce 1992).

3. RESEARCH METHOD

In an attempt to reduce item nonresponse for Hispanic origin and reduce Hispanics' reporting of "Other" race, an experiment was performed manipulating the context of the race and ethnicity questions. The survey methods literature demonstrates that question sequencing may affect responses to questions because the context invoked by prior questions influences respondents' frame of reference. Previous work with ordering effects has largely involved items relating to attitudes and opinions (see Schuman and Presser 1981; Turner and Martin 1984; Schwarz and Sudman 1992). Our hypotheses constitute an attempt to extend research on this topic to include quasifactual and factual items.

A particular type of context effect, termed the "part-whole" effect, occurs when respondents "subtract" their answers to a narrower question from their answer to a subsequent broader one (see e.g. Schuman 1992). We hypothesized that preceding the more general question (race) with the narrower one (Hispanic origin) would restrict the frame of reference for race and reduce the perceived redundancy of the Hispanic origin item. Because in past censuses the majority of "Other" race write-ins are Hispanic nationalities, we hypothesized that first allowing Hispanics a chance to report their ethnicity would create a more restricted frame of reference for the race question. Having already indicated "yes" to Spanish origin, this group might be less likely to select "Other" race and write in a Spanish nationality. In addition, by reversing the question order, we hoped to reduce the number of persons who left Hispanic origin blank, believing their answer could be inferred from their response to the race question.

The second component of the context experiment was a new instruction to the Hispanic origin question. Although wording for this instruction varied somewhat over the experiments, the intent was always to increase response from persons who might otherwise skip the question.

The results reported below cover 5 questionnaire design experiments, including one previously reported (see Martin, DeMaio and Campanelli 1990). The context experiments discussed here expand upon this work by presenting additional findings from four replications of the same experiment with statistically representative samples. Table 1 displays the different methodologies, sample sizes, and context changes across the five experiments. In addition, results from qualitative in-depth and cognitive interviews with Hispanic respondents are reported to supplement findings from the self-administered questionnaire experiments.

3.1 THE CLASSROOM TESTS

A series of 30 group session split-panel experiments conducted in 1987 first tested the race and Spanish origin experiment (see Martin, DeMaio and Campanelli 1990). Each session used two questionnaires -- a revised census long form containing typographic and layout changes was tested against the 1986 test census long form, which served as the control. Figure 1 illustrates the race and Hispanic origin questions as they appeared on the two questionnaires. The experimental form reversed the order of the race and Spanish origin questions and included a new instruction directing respondents to mark "No" to Spanish origin if they were not of Spanish origin. On each form, race and Hispanic origin were separated by questions about age and marital status. Session participants were mostly of minority racial and ethnic groups with relatively little education. Half of the 515 people who participated in the tests were randomly assigned the control form and half received the revised questionnaire.

3.2 THE NATIONAL CENSUS TEST (NCT)

The order experiment was replicated for the first time in a nationally representative mailout/mailback test during the 1988 National Census Test (NCT). The NCT consisted of 4 questionnaire panels designed to test differences in format, question wording, and question order. Three panels from this study are relevant to the race and Hispanic origin experiment discussed here. The first is the control form which contained the traditional ordering, the second is a revised form in which question format and wording for the two items were changed but the ordering was maintained, and a third panel contained the format changes, wording changes, and the order experiment. All three forms contained some variation of the instruction to answer "No" if not Spanish/Hispanic, and consequently, there was no test of the instruction's impact by itself (see Figure 2). Data from the NCT are no longer available to analyze and consequently, the statistics reported here come from an earlier report which

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conducted tests of significance over all 4 NCT panels (see Bates and DeMaio 1991).

3.3 THE ALTERNATIVE QUESTIONNAIRE EXPERIMENT (AQE)

The experiment was replicated again in a test known as the Alternative Questionnaire Experiment (AQE), conducted in urban areas during the 1990 census. Two forms included in the AQE contained the same basic changes to the race and Hispanic origin questions initiated in the earlier tests (see figure 3). In the first revised questionnaire, the instruction to fill in the "No" category if not Spanish/Hispanic was again added to encourage response from those who might otherwise skip it. In the second revised questionnaire, the instruction was added and the order of the race and Hispanic origin questions was reversed. This design allowed for an assessment of the effects on item nonresponse of the added instruction alone, and of the added instruction combined with the order reversal.

3.4 THE SIMPLIFIED QUESTIONNAIRE TEST (SQT)

The experiment was replicated again in a national sample as part of the Simplified Questionnaire Test (SQT) in 1992, designed to assess whether response rates might be improved by using a more "respondent-friendly" booklet format (see Dillman, Sinclair and Clark 1993). The SQT booklet had separate pages for each person instead of the traditional matrix design. In addition to the format change, the SQT form also reversed the order of the race and Hispanic origin questions. An instruction was added prior to the Spanish origin question stating that it is important to answer both Hispanic origin and race. Unlike the earlier tests, Hispanic origin and race were placed contiguously in the SQT form along with the reversed order. This difference somewhat clouds the cross-experiment conclusions about the race/Hispanic origin order experiment. The different format and form length (the SQT was a test of census "short" forms) may also have affected comparisons across experiments. Figure 4 illustrates the race and Spanish origin questions from the SQT booklet form.

The race and Hispanic origin questions used as the control in the SQT were identical to the control in the AQE (see figure 3).

3.5 THE APPEALS AND LONG FORM EXPERIMENT (ALFE)

The final questionnaire design test to include the context manipulation was the Appeals and Long Form Experiment (ALFE), conducted with a nationally representative sample in 1993. One component of this experiment tested two revised census long forms against the 1990 long form, which was the control. Figure 5 illustrates the race and Hispanic origin questions as they appeared in the revised forms (the control was identical to that used in the AQE and SQT).

A major design change tested in this experiment involved the overall structure of the form. The first revised form was fashioned in an "individual space" format whereby each person has his/her own separate pages and questions are arranged vertically in three columns per page. Alternatively, the second ALFE revised form had a traditional row/column or matrix format, which presented the questions vertically along the left hand side of the page and person names across the top with multiple response columns aligned below each person's name. The second revised form more closely resembled the questionnaire format of the classroom, NCT and AQE revised forms. Both ALFE revised forms contained a new instruction to Hispanic origin that was similar to that used in the classroom tests, NCT and AQE. Like the SQT, both revised forms reordered Hispanic origin before race and placed the two questions next to one another.

3.6 THE IN-DEPTH AND COGNITIVE INTERVIEWS

For a more in-depth assessment of how Hispanics interpret and respond to questions on the English and Spanish census forms, the Census Bureau also sponsored two qualitative small-scale studies.

The first study was conducted in 1988 in the Pilsen district in Chicago, an area with a relatively high concentration of Mexicans and Mexican-Americans (Elias-Olivares and Farr 1991). Using both English and Spanish census forms from the 1988 dress rehearsal, this study interviewed a total of 39 persons most of whom were born in Mexico or of Mexican descent. The second study was conducted in 1992 by Aguirre International under contract with the Census Bureau (Kissam, Herrera, Nakamoto 1993). This study used in-depth interviews and focus groups to examine how mostly monolingual Hispanics, from different national origins, viewed the census process and responded to the 1990 Spanish language census form. In-depth interviews were conducted with 60 Hispanic respondents who were selected with the assistance of community-based organizations in the San Francisco Bay area in California and the Washington, D.C. metropolitan area. While the findings reported in the qualitative studies cannot be generalized to the Hispanic population, the results provide insights into respondent behavior, reactions and opinions which are not available from the other experiments.

4. RESULTS

4.1 RACE AND HISPANIC ORIGIN ITEM NONRESPONSE

With few exceptions, table 2 reveals a distinct pattern of reduced item nonresponse for Hispanic origin on the questionnaires with the question order reversal, the added instruction, or both. In most cases, nonresponse was cut in half. While nonresponse to Hispanic origin was decreased, nonresponse to the race question remained fairly constant, suggesting that the reordering did not result in increased nonresponse to race. However, the interpretation of how the instruction and order reversal separately contributed to this reduction is not entirely consistent across experiments.

A clean interpretation of the effect of question ordering by itself is difficult due to minor wording differences, format changes, and other components of the context experiment that varied over the five tests. The AQE was the only experiment in which the effect of the added instruction to "fill in

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the NO circle if not Spanish/Hispanic" could be assessed independently of the order experiment. According to table 2, the instruction (added in the first revised questionnaire), reduced by over half the nonresponse rate for Hispanic origin, from 19 to 8 percent. The order reversal in the second revised questionnaire further reduced nonresponse by over a third, from 8 to 5 percent, suggesting that the order reversal had an effect in addition to the effect of the instruction. Both reductions were statistically significant.[6]

Results from the NCT, however, are not consistent with this conclusion. For this test, differences in item nonresponse between the forms with and without the order reversal (revisions 1 and 2) are nonexistent. Instead, wording and format changes appear responsible for a significant decline in nonresponse. Because all NCT forms contained the new instruction, its impact cannot be assessed. The inclusion of the instruction on the control form probably accounts for the higher item response rates for the control form in this test compared to the others.

In the SQT, the order reversal and added instruction combined to reduce Hispanic origin item nonresponse from 18 to 7 percent. In the ALFE, both revised form panels incorporated the order change and added instruction, and the first revised panel yielded the expected improvement in nonresponse, which dropped from 18 to 4 percent. The second revised panel, unexpectedly, did not. For this panel, item nonresponse for Hispanic origin (while significantly reduced from the control form), remained relatively high, at 13 percent. There is no obvious explanation why the revisions

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[6] For several of the experiments, statistical tests conducted to determine differences between forms used a variance estimation method that adjusted for clustering of the data and sample design effects. These statistics, (jack-knife chi-squares, jack-knife likelihood ratio chi-square and difference of proportion t-tests) were calculated using the VPLX and CPLX computer programs (see, Fay 1982; Fay 1985; Fay 1989). Likelihood ratio chi-squares were used to test the fit of alternative log-linear models. Log-linear modeling was performed in CPLX for all experiments except the classroom tests and AQE which used the CATMOD procedure in SAS. In the tables that follow, X^2's represent Pearson chi-squares, calculated on the assumption of simple random sampling, the Js refer to jackknife chi-squares and the L^2's represent the likelihood ratio chi-squares.

were not as successful in revision 2, with the traditional matrix format, as in revision 1, with an individual space format.

Table 3 examines rates of nonresponse to Hispanic origin by race and form type. Results from the control form in the classroom tests indicated that those reporting their race as black or Asian/Pacific Islander (API) were more likely to skip this question than whites and "Other" races. On the revised form (with the added instruction to mark "No" and the reversed question order), there were no significant race differences in item nonresponse rates. This trend holds for the AQE where both revised forms reduced nonresponse, especially among blacks and API's. In the NCT, nonresponse among blacks was reduced in both revised forms but with little difference between them suggesting again that wording and format were responsible rather than question sequence. Results from both the revised SQT form and the first revised ALFE show significant nonresponse reductions for all racial groups. These results suggest that, when it is asked first, the race question conditions responses to the Hispanic origin question. This is confirmed by the presence of a significant three-way interaction between Hispanic nonresponse, race, and questionnaire type in three of the four experiments in which a test was possible.[7] Presumably, non-Hispanics are more likely to skip the Spanish origin question when race is asked first because they think a "no" response can be inferred from their previous answer to race. However, when an explicit instruction is added to fill "No" if not Spanish, and Hispanic origin is asked prior to race, persons of all races respond at a more uniform and higher rate in most of the tests.

The second revised ALFE form again demonstrates results inconsistent with the other test results. Compared to the control form, the context changes result in a slight nonresponse reduction for those reporting their race as white or black, but have a negative effect for persons of other races. In fact,

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[7] Results of the interaction tests are shown at the bottom of Table 3. Data were not available to test the interaction in the NCT.

nonresponse to Hispanic origin appears to be almost doubled for persons reporting their race as "other." Since the "other" race category historically contains a high percentage of Hispanics, this result is especially puzzling.

Kissam et al. (1993) and Elias-Olivares and Farr (1991) offer partial explanations for this finding. Both studies examined the process by which Hispanics filled out their census forms. According to Kissam et al., respondents had difficulty with the matrix format of the census form, especially less literate respondents. Overall, only 23 percent of the respondents answered questions 2 through 7 in a column-by-column manner. Most of the respondents filled out the form row-by-row answering the first question for each member of the household, went on to the second question, and so on. While the report offers no direct evidence that this method of completion contributed to nonresponse, less literate respondents were found to favor this approach and were also found to skip questions more often. It appears possible that Hispanic respondents were confused by the matrix format of the second revised panel of the ALFE, and as a result, a significant proportion left Hispanic origin blank. If so, it remains unresolved, however, why "Other" race respondents in the classroom tests and the AQE were not similarly affected, since both control and revised forms in this experiment employed the same row/column format as that used in the second revised ALFE form. Also perplexing is why item response for "Other" race respondents for this form actually deteriorated significantly compared to the control, considering both had the matrix format.

In summary, the item nonresponse results generally support the hypothesis that reversing the question order reduced the perceived redundancy of the Spanish origin question and increased response as a result. At the same time, placing race after Spanish origin does not appear to harm race response.

4.2 RACE REPORTING BY HISPANICS

We next explored whether the placement of Hispanic origin before race restricts respondents' frames of reference when they report their race. This manipulation is aimed at reducing reporting of "Other" race by Hispanics. Kissam et al. (1993) noted that some respondents expressed dismay that "Hispanic" was not a category in the race question while others, pointing to the nine Asian and Pacific Islander subgroups, interpreted this omission as implying that Hispanics were less important than Asians and Pacific Islanders. For example, a bilingual 20 year old Mexican-American woman stated:

> *"I think you should list Hispanics. I see all these Orientals but not Hispanic and I think there are more Hispanics than other places listed here. It is offensive to me that you don't have Hispanics here."* (Kissam et al. 1993 p. 28).

This quote suggests one reason why Hispanics select the "Other" race category, and seems to support our rationale for placing Spanish origin prior to race to allow Hispanics the opportunity to first record their Spanish ancestry, in hopes of reducing the selection of "Other" race and a Spanish write-in later.

Although the classroom test results indicated a 14 percent decline in the proportion of Hispanics who reported "Other" race in the revised questionnaire, the difference was not statistically significant. Table 4 shows that a substantial majority of Hispanics still chose the "Other" race category and supplied a Spanish write-in. The NCT exhibits a similar decline in "Other" race reporting when question order was reversed but, again, differences were not statistically significant.[8] Results from

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[8]In table 4 and subsequent tables, results for the NCT revised form 1 containing only format changes is excluded since this was not hypothesized to affect race reporting, similarly, results for the AQE form with only the added instruction is shown combined with the control form since the instruction alone was not hypothesized to affect race reporting. Data for both revised forms from the ALFE are combined together in table 4 and later tables since both incorporated the order change.

the AQE reveal a modest, yet significant decline in "Other" race reporting for the questionnaire with the order experiment but, again, a substantial minority still selected this option (41 percent).

Of the five questionnaire design tests reviewed here, the SQT and ALFE provide the strongest support for the hypothesis that the order reversal significantly reduced "Other" race reporting by Hispanics. In both tests, over half of the Hispanic respondents reported their race as "Other" when race was asked first, compared to 30 and 26 percent when Hispanic origin appeared first. The more dramatic effects of the order reversal in SQT and ALFE likely are due to contiguity of the items in these tests.

To explore whether particular Hispanic groups (Mexican, Puerto Rican, Cuban, Other Hispanic) were affected differently by the order reversal, tests for an interaction between panel, Hispanic group and race reporting were performed for the AQE and ALFE. In both tests, all 4 groups exhibited increased reporting of "white" when race was placed after Hispanic origin (see table 5) and in both tests, Cubans were most likely to report "white." In the AQE, Cubans' reporting of "white" reached 100 percent on the revised form and a significant three-way interaction was detected. The inclination for Cubans to more readily identify with the racial label of "white" may reflect Cuban immigration prior to the late 1970's which primarily consisted of persons from the middle and upper-middle classes (Portes 1969; Rogg 1974). The interaction effect was not significant in the ALFE.

To summarize, evidence from five experimental replications consistently shows that the ordering creates a more restricted frame of reference for race reporting and results in significant shifts in race reporting by Hispanic persons. The effects of question order appear to be greater when race and Hispanic origin are adjacent rather than separated by other questions. However, even with the reordering, "Other" race still remains the preferred racial category for many Hispanics.

4.3 CONTEXT EFFECT AND RACE REPORTING INTERACTIONS

We examined four additional variables which we hypothesized might interact with or explain the effects of the instruction and question order manipulations on race reporting by Hispanics[9]. Results from the classroom tests suggested that the effects of the reversed question order might depend upon whether persons of Spanish origin were U.S. born or born outside a U.S. state. The hypothesis is that U.S.-born Hispanics may be more assimilated than the foreign born to categories of race commonly used in this country and may identify more readily with the label "white." Consequently, the order experiment might reduce "Other" race reporting by this group more than by immigrant Hispanics for whom the census categories of race are more unfamiliar, and also for whom racial identity may be more closely linked to nationality or other factors.[10]

The three-way interaction between race reporting, place of birth and form type proved significant among Hispanics only for the classroom experiments. Here, the reduction in reporting of "Other" race in the revised questionnaire was substantial (from 78 percent to 26 percent), but only for U.S.-born Hispanics; Hispanics born outside the U.S. reported race as "Other" to the same extent regardless of questionnaire version. The same interaction was not observed in the AQE or ALFE, where reporting of "Other" race was reduced by the order reversal for all Hispanics regardless of U.S. birth.

Another variable hypothesized to interact with race reporting and the context experiment was recency of arrival in the U.S. by immigrant Hispanics, shown in Table 7. Again, this variable measures the degree of acculturation, using length of time in the United States as an indicator. The AQE detected a significant three-way interaction. For Hispanic immigrants who had been in the

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[9]Interaction tests could be conducted only in the long form experiments where data was still available.

[10]For the classroom tests and the AQE, the place-of-birth question was used to establish whether respondents were born inside or outside a U.S. state. For the ALFE, the citizenship question (which references nativity in or out of the U.S.) was used because place of birth was not coded in terms of U.S./non-U.S. geography.

U.S. less than 20 years, the form containing the order experiment reduced reports of "Other" race. Those immigrants living in the U.S. for twenty years or more and who presumably are more acculturated, exhibited a lower overall tendency to select "Other" race than their more recently arrived counterparts and their reporting behavior does not appear affected by question order. However, the same interaction did not appear in the ALFE, where both immigrant categories had roughly the same reduction in "Other" race reporting when question order was reversed.

Lastly, level of education and English proficiency were considered in exploring the relationship between race reporting and context effects among Hispanics. Kissam et al. (1993) report that Hispanics with less than a 6th grade education could not complete the 1990 Spanish language census form without extensive assistance because they lacked the necessary literacy skills. This group encountered lexical (vocabulary), syntactic (phrasing) and dialect difficulties and also experienced conceptual and formatting problems with the census form. Elias-Olivares and Farr (1991) report that Hispanics who filled out the English census form had difficulty with some of the vocabulary and virtually all had difficulty with the race and ethnic origin questions. Further problems arose with the Spanish form where respondents found the language sometimes too technical, colloquial or formal.

We hypothesized that the order effect might reduce "Other" race reporting more among those with lower education. However, in the AQE, there was no evidence that the effect of the experimental manipulations on race reporting were conditioned by education. An analysis of the effect of education in the ALFE indicated the same pattern (neither results are shown). In both the AQE and ALFE, the three-way interaction with English speaking proficiency (speak English "very well" vs. "less than very well") was not significant either and this was true even when controlling for proxy effects by examining only persons believed to have filled the form.

To summarize the interaction findings is somewhat difficult. For the most part, we would conclude that the effect of the ordering on race reporting among Hispanics does not differ by how acculturated the respondent is or by his/her education level or knowledge of English. However, at least two of the experiments suggest otherwise, indicating that the effect of context might be conditioned by variables measuring cultural assimilation.

5. CONCLUSIONS

Our reanalysis of data from a series of questionnaire design experiments suggests that the order of the race and Hispanic origin questions sets a frame of reference for answering. The placement of Spanish origin prior to race and the addition of a new instruction significantly reduced the nonresponse rates for the Hispanic origin question. At the same time, nonresponse for race remained low and fairly stable. Some of the evidence suggests that the ordering is primarily responsible for these effects, but at least one of the experiments suggests no significant difference in item nonresponse when Hispanic origin is placed prior to race and other factors are kept constant.

We also found that asking Hispanic origin before race yielded large reductions in reporting of "Other" race by Hispanics, although "Other" remained the preferred race category for a large minority. This trend was consistent across all experiments. Reductions in "Other" race reporting were greater when race immediately followed Hispanic origin than when it came several questions later.

The effect of reversing the order of race and Hispanic origin is consistent with research on context effects in the survey methods literature, which shows that preceding a more general question (race) with a narrower one (Hispanic origin) restricts the frame of reference for the second question. While most research on context effects has investigated attitude items (e.g., Schwarz and Sudman 1992),

our research shows that similar effects exist for factual questions as well, including such basic facts as a person's race and ethnic identity.

While the questionnaire design experiments provide clear and consistent evidence of the effects of question sequence upon Hispanics' race reporting, they provide less conclusive evidence about the effects of possible conditioning variables. Acculturation may influence the effect of question sequence upon race reporting for Hispanics. In one experiment, question sequence affected race reporting for recent Hispanic immigrants, but not for those who had immigrated 20 or more years earlier. This interaction effect was not replicated in the other experiment for which a test was possible. One experiment, but not another, provided evidence that the effect of question sequence upon race reporting was significantly greater for Cubans than other Hispanic subgroups. We found no evidence to support interaction effects between English proficiency or education and race reporting by Hispanics.

Results from qualitative studies shed light on some sources of the problems Hispanic respondents had reporting race and Hispanic origin. Confusion resulted from the seeming redundancy of the questions while frustration and resentment resulted from the absence of a "Spanish/Hispanic origin" response option in the race question. Hispanic respondents' confusion and frustration with these questions contributed to the high item nonresponse rates and inconsistent reporting for these items documented in previous quantitative studies.

The experimental results reported in this paper provide further confirmation of the measurement problems affecting race and Hispanic origin, and demonstrate that substantial improvements in the completeness of reporting can be achieved from rather modest revisions to current census measures of race and Hispanic origin. Possibly, even greater improvements in data quality can be achieved from more radical changes in measurement procedures. Question sequence and instructions are only

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two of various experimental changes proposed for these items. Other suggested revisions include a combined race and origin question (Farley 1993; Kissam et al. 1993), adding a multi-racial category to the race question, permitting respondents to "check all that apply" instead of restricting their choice to one race category, and others.

A general requirement for measurements of race and ethnicity is that they should be comparable and replicable across different measurement modes and procedures, over time, and for different subgroups of the population. The very substantial context effects reported in this paper imply that current measures of race and Hispanic origin are vulnerable to fairly subtle variations in measurement procedure. At this point, it is probably safe to say that no measures of race and Hispanic origin which satisfy the criteria of comparability and replicability have been devised. It remains an open question whether measurements with these properties could be developed.

In addition to demonstrating a need to improve measures of race and Hispanic origin, our results also serve as a caution of the effects on the data of changing the measurement procedures for these items. If the order of race and Hispanic origin is reversed in future censuses, we can predict with confidence that race reporting by Hispanics will be affected. These changes in race reporting would adversely affect the comparability of race data over time. Because for many tabulations, persons selecting the "Other" race category are allocated into one of the four major race groups (white, black, Indian/Alaska Native, or Asian/Pacific Islander), a change in question order could change the allocation rates if shifts occur by Hispanics from the "Other" category to "white." Moreover, if question sequence, race reporting, and various conditioning variables (such as acculturation and Hispanic subgroup) interact in their effects, then measurements of race and Hispanic origin almost certainly do not have constant measurement properties across subgroups of the population. The presence of such interaction effects, which are suggested but not conclusively shown by the results reported here, would make it difficult to calibrate the new and old measurement procedures, or to

calculate the effect of the change in any straightforward way. More robust measures of race and ethnicity than are presently employed by the Census Bureau urgently need to be developed.

Finally, our findings suggest that caution is appropriate when interpreting, or designing questionnaires to obtain official data on race and ethnicity in other countries as well as the United States. Although we are unable to find evidence of similar questionnaire effects on measurements of race and ethnicity in other countries, that does not imply that race and ethnic identification would not be vulnerable to methodological artifacts were similar experiments conducted. We hypothesize that such measurement difficulties may be especially likely in countries where racial and ethnic diversity exists and high rates of immigration have occurred, or where for other reasons racial and ethnic identities are not historically stable.

Figure 1. Illustration of race and Hispanic origin questions from the classroom experiment forms

CONTROL

4. Race

Fill ONE circle for each person.

AND

If "Indian (Amer.)," print enrolled or principal tribe.

If "Other Asian or Pacific Islander," print one group.

If "Other race," print race.

Report the race the person considers him./herself to be.

- ○ White
- ○ Black or Negro
- ○ Indian (Amer.) – Print enrolled or principal tribe
- ○ Eskimo   ○ Hawaiian
- ○ Aleut   ○ Other Asian or Pacific
- ○ Chinese   Islander (Print one group,
- ○ Filipino ▪   for example: Korean,
- ○ Japanese   Asian Indian, Laotian,
- ○ Vietnamese   Samoan. etc.)
- ○ Other race - Print race

7. Is this person of Spanish/Hispanic origin?

Fill ONE circle for each person.

AND

If "Yes, other Spanish/Hispanic" print one group.

- ○ No (not Spanish/Hispanic)
- ○ Yes, Mexican, Mex.-Am., Chicano
- ○ Yes, Puerto Rican ▪
- ○ Yes, Cuban
- ○ Yes, other Spanish/Hispanic (Print one group, for example: Argentinean, Colombian, Costa Rican, Dominican, Spaniard, etc.)

REVISED

7. Is this person of Spanish or Hispanic origin?

Fill in one circle for each person. If this person is NOT of Spanish or Hispanic origin, fill in the circle for "No."

- ○ Yes, Person A is of Spanish or Hispanic origin — What group?

    (For example: Mexican, Mexican-American, Puerto Rican, Cuban, Argentine, Dominican, Spaniard, etc.)
- ○ No ▪

9. What is this person's race?

Fill in one circle for the race each person considers himself or herself to be.

Person A is —

- ○ White
- ○ Black or Negro
- ○ Eskimo ▪
- ○ Aleut
- ○ Asian or Pacific Islander — What group?

    (For example: Chinese, Asian Indian, Hawaiian, Laotian, Vietnamese, etc.)
- ○ Indian (American) — What tribe?

    (Enrolled or principal tribe)
- ○ Other race — What race?

Fig 2. Illustration of race and Hispanic origin questions from the National Census Test Forms

CONTROL

REVISED I: wording, format changes

REVISED II: order reversed

Fig 3. Illustration of race and Hispanic origin questions from the Alternative Questionnaire Experiment Revised Forms

CONTROL   REVISED I: wording, format, instruction   REVISED II: order reversed

Fig 4. Illustration of race and Hispanic origin questions from the Simplified Questionnaire Test revised form

(It is important to answer *both* Questions 5 and 6)

5. **Is this person of Spanish/Hispanic origin?**
   ☐ No, not Spanish/Hispanic
   ☐ Yes, Mexican, Mexican-Am., Chicano
   ☐ Yes, Puerto Rican
   ☐ Yes, Cuban
   ☐ Yes, other Spanish/Hispanic
      (Please print group) _____

6. **What is this person's race?**
   ☐ White
   ☐ Black or Negro
   ☐ Eskimo
   ☐ Aleut
   ☐ American Indian *(Print name of enrolled or principal tribe)* _____
   ☐ Chinese
   ☐ Japanese
   ☐ Filipino
   ☐ Asian Indian
   ☐ Hawaiian
   ☐ Samoan
   ☐ Korean
   ☐ Guamanian
   ☐ Vietnamese
   ☐ Other Asian or Pacific Islander
      (Print race) _____
   ☐ Some other race
      (Print race) _____

Fig 5. Illustration of race and Hispanic origin questions from the Appeals and Long Form Experiment Revised Forms

REVISED I

REVISED II

Table 1 - Manipulation of Variables
in the Classroom Tests, NCT, AQE, SQT and ALFE Experiments

EXPERIMENT	SPANISH ORG. BEFORE RACE?	CONTIGUOUS PLACEMENT?[11]	NEW INSTRUCTION TO SPANISH ORIGIN	Q'NNAIRE FORMAT	METHOD-OLOGY	MAIL RESP. RATE	Total N =
CLASSROOM:					Group Sessions		
CNTRL FORM	No	No	None	Matrix Long Form		N.A.	1,446
REVISED FORM	Yes	No	"Fill in NO if not Spanish.."	Matrix Long Form			
NCT:					Mailout/ Mailback		
CNTRL FORM	No	No	"Fill the NO if not Spanish.."	Matrix Long Form		46%	10,669
REV. I FORM	No	No	"Fill the NO if not Spanish.."	Matrix Long Form			
REV. II FORM	Yes	No	"If NOT Spanish...fill NO.."	Matrix Long Form			
AQE:					Mailout/ Mailback		
CNTRL FORM	No	No	None	Matrix Long Form		51%	25,333
REV. I FORM	No	No	"Fill in NO if not Spanish.."	Matrix Long Form			
REV. II FORM	Yes	No	"Fill in NO if not Spanish.."	Matrix Long Form			
SQT:					Mailout/ Mailback		
CNTRL FORM	No	No	None	Matrix Short Form		68%	9,465
REVISED FORM	Yes	Yes	"..answer both questions.."	Booklet Short Form			
ALFE:					Mailout/ Mailback		
CNTRL FORM	No	No	None	Matrix Long Form		54%	16,162
REV. I FORM	Yes	Yes	"Mark NO if not Spanish..."	Booklet Long Form			
REV. II FORM	Yes	Yes	"Mark NO if not Spanish..."	Matrix Long From			

[11] Indicates whether race and Spanish origin were placed next to each other.

TABLE 2 - Item Nonresponse Rates for Race
and Hispanic Origin

QUESTION	CLASSROOM EXPERIMENTS		
	Control Form	Revised Form	
RACE[a] HISPANIC ORIGIN[b]	3% 18%	4% 9%	
	NATIONAL CENSUS TEST		
	Control Form	Revised I	Revised II
RACE[c] HISPANIC ORIGIN[d]	1% 14%	2% 10%	2% 10%
	ALTERNATIVE QUESTIONNAIRE EXPERIMENT		
	Control Form	Revised I	Revised II
RACE[e] HISPANIC ORIGIN[f]	4% 19%	3% 8%	4% 5%
	SIMPLIFIED QUESTIONNAIRE TEST		
	Control Form	Revised	
RACE[g] HISPANIC ORIGIN[h]	2% 18%	3% 7%	
	APPEALS AND LONG FORM EXPERIMENT		
	Control Form	Revised I	Revised II
RACE[i] HISPANIC[j]	3% 18%	2% 4%	4% 13%

[a]:X^2=1.31, d.f.=1, n.s.;[b]:J^2=2.78, d.f.=1 p<.01; [c]:X^2=5.77, d.f.=3. n.s.; [d]:J^2=3.6, df.=3, p<.05 (available statistics from NCT based on X^2's from all 4 panels) [e]:Cntrl vs. R1, t=1.0 n.s., Cntrl vs. RII, t=0.68, n.s., RI vs. RII, t=1.74, p<.05; [f]:Cntrl vs. R1, t=13.3, p<.001, Cntrl vs. RII, t=17.6, p<.001; R1 vs.RII, t=4.9, p<.001; [g]:t=1.29, n.s.; [h]: t=8.7, p<.001; [i]:J^2=5.52, d.f.=2, p<.001;[j]:J^2=19.7, d.f.=2, p<.001.

TABLE 3 - Item Nonresponse to Hispanic Origin by Race

CLASSROOM EXPERIMENTS[a]			
WHITE	BLACK	API	OTHER
Control Form	7%	36%	41%	4%
Revised Form	8%	11%	0%	5%

NATIONAL CENSUS TEST			
WHITE	BLACK	API	OTHER
Control Form	13%	29%	2%	0%
Rev. I Form	8%	16%	10%	5%
Rev. II Form	9%	18%	8%	5%

ALTERNATIVE QUESTIONNAIRE EXPERIMENT[b]			
WHITE	BLACK	API	OTHER
Control Form	14%	40%	26%	4%
Revised Form I	4%	18%	6%	2%
Revised Form II	3%	11%	6%	3%

SIMPLIFIED QUESTIONNAIRE TEST[c]			
WHITE	BLACK	API	OTHER
Control Form	17%	35%	9%	8%
Revised Form	4%	12%	5%	3%

APPEALS AND LONG FORM EXPERIMENT[d]			
WHITE	BLACK	API	OTHER
Control Form	16%	32%	12%	13%
Revised Form I	3%	15%	3%	3%
Revised Form II	10%	28%	17%	24%

[a]: $L^2=25.6$, d.f.=2, p<.001, [b]: $L^2=27.6$, d.f.=8, p<.001, [c]: $J^2=-1.26$, d.f.=4, n.s.
[d]: $J^2=1.27$, d.f.=8, p<.10.

TABLE 4 - Reporting of "White" (versus "Other") Race
Among Hispanics

Race Selection:	CLASSROOM EXPERIMENTS	
	Control	Revised
WHITE[a]	25%	39%
"OTHER"	75%	61%
	NATIONAL CENSUS TEST	
	Control	Revised II
WHITE[b]	60%	80%
"OTHER"	40%	20%
	ALTERNATIVE QUESTIONNAIRE EXPERIMENT	
	Control/Rev.I	Revised II
WHITE[c]	52%	59%
"OTHER"	48%	41%
	SIMPLIFIED QUESTIONNAIRE TEST	
	Control	Revised
WHITE[d]	49%	70%
"OTHER"	51%	30%
	APPEALS AND LONG FORM EXPERIMENT	
	Control	Revised I & II
WHITE[e]	47%	74%
"OTHER"	53%	26%

[a]:$X^2=4.76$, d.f.=1, p<.05, $J^2=.81$, d.f.=1, n.s.; [b]:J2=.46, d.f.=3, n.s. (only available jackknife based all 4 NCT panels) [c]:$X^2=20.0$, d.f.=1, p<.001; [d]:t=2.17, p<.05; [e]:$J^2=3.9$, d.f.=1, p<.001.

Table 5 - Percent Reporting "White" (versus "Other") Race by
Spanish Subgroup

ALTERNATIVE QUESTIONNAIRE EXPERIMENT[a]			
MEXICAN	PUERTO RICAN	CUBAN	OTHER
	Control/Rev. I		
38%	42%	89%	46%
	Revised II		
48%	50%	100%	60%
APPEALS AND LONG FORM EXPERIMENT[b]			
MEXICAN	PUERTO RICAN	CUBAN	OTHER
	Control		
41%	55%	74%	64%
	Revised I&II		
71%	81%	99%	70%

[a]:L^2=21.6, d.f.=3, p<.001; [b]:J^2=-0.11 d.f.=3, n.s.

TABLE 6 -
Reporting of "White" (versus "Other") Race among Hispanics by U.S Birth

CLASSROOM EXPERIMENTS[a]					
Born in a U.S. State			Born Outside a U.S. State		
	Control	Revised		Control	Revised
White	22%	74%	White	17%	18%
Other Race	78%	26%	Other Race	83%	82%
ALTERNATIVE QUESTIONNAIRE EXPERIMENT[b]					
Born in a U.S. State			Born Outside a U.S. State		
	Control/Rev.I	Revised II		Control/Rev.I	Revised II
White	54%	58%	White	52%	63%
Other Race	46%	42%	Other Race	48%	37%
APPEALS AND LONG FORM EXPERIMENT[c]					
Born in a U.S. State			Born Outside a U.S. State		
	Control	Rev.I/Rev.II		Control	Rev.I/Rev.II
White	42%	73%	White	53%	75%
Other Race	58%	27%	Other Race	47%	25%

[a]: L^2=8.34, d.f.=1, p<.01, J^2=1.04, p<.01; [b]: L^2=2.68, d.f.=1, n.s.; [c]: J^2=-.57, d.f.=1, n.s.

TABLE 7 -
Percent Reporting of "White" among Immigrant Hispanics by Recency of Immigration

ALTERNATIVE QUESTIONNAIRE EXPERIMENT[a]				
Been in U.S. Less Than 20 Years			Been in U.S. 20 Years or More	
Control/Rev.I[12]	Revised II		Control/Rev.I	Revised II
White 45%	62%	White	68%	71%
Other Race 55%	37%	Other Race	32%	29%

APPEALS AND LONG FORM EXPERIMENT[b]				
Been in U.S. Less Than 20 Years			Been in U.S. 20 Years or More	
Control	Rev.I/Rev.II		Control	Rev.I/Rev.II
White 50%	70%	White	61%	83%
Other Race 50%	30%	Other Race	39%	17%

[a]: $L^2=4.32$, d.f.=1, p<.05; [b]:$J^2=-.98$, d.f.=1, n.s.

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[12] In this instance, the difference between the control and Revised I form was significant, but are still shown combined.

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