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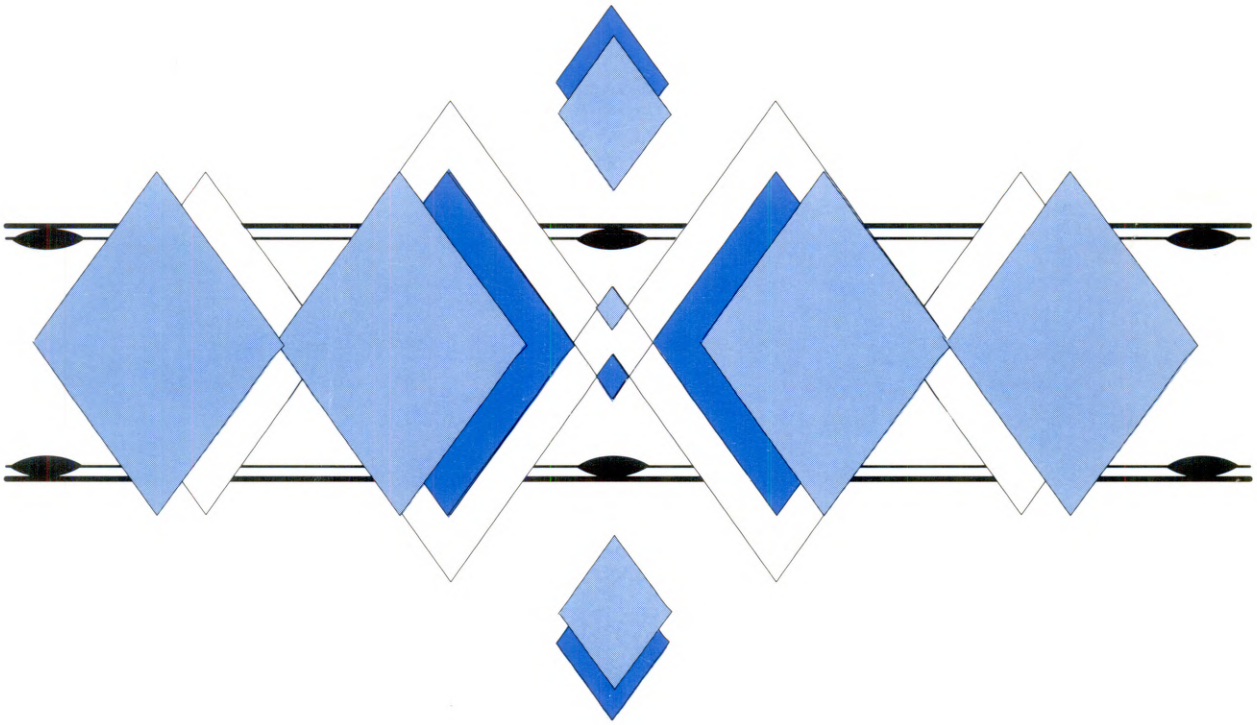
Exploring Alternative Race-Ethnic Comparison Groups in Current Population Surveys



U.S. Department of Commerce
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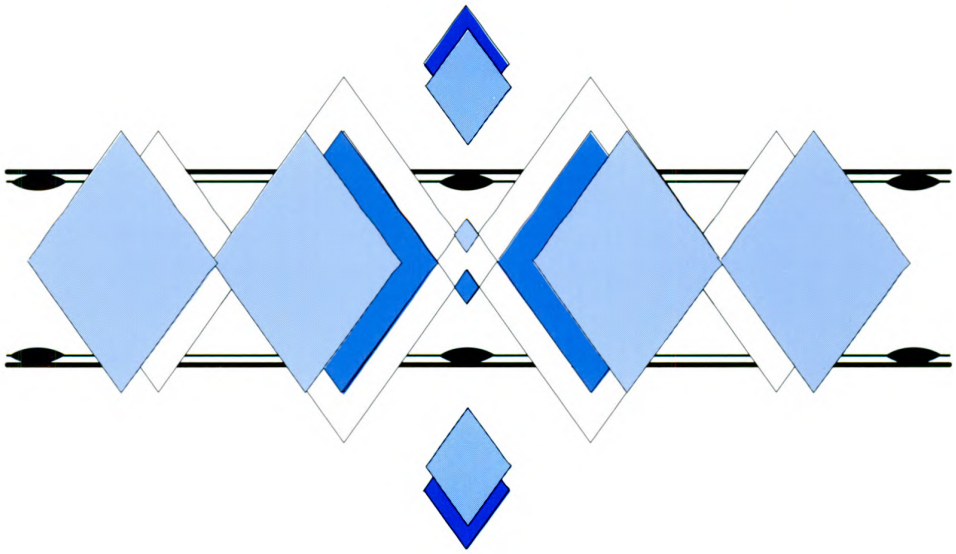

by Jorge H. del Pinal

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U.S. Department of Commerce
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Rockwell A. Schnabel, Deputy Secretary

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Population Division
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Exploring Alternative Race-Ethnic Comparison Groups in Current Population Surveys

by Jorge H. del Pinal

Introduction

One important reason for collecting information on racial and ethnic groups in the United States is to monitor their socioeconomic progress and well-being. These data suggest that not all segments of our diverse population have benefitted equally from the social and economic changes that have occurred during the postwar period. Many analysts agree that federal statistics on race-ethnic groups are important for this purpose. They often disagree, however, on group definitions and the meaning of group differences (cf. Buehler et al. 1990; Gimenez, 1989; Hayes-Bautista and Chapa 1987; Treviño 1987; Weissmann 1990). Group definitions are critical because they can affect the level of social indicators, and consequently, policy decisions based on the indicators.

Federal agencies generally follow the Office of Management and Budget (OMB) directive for the collection of race and ethnic group information.[1] OMB requires the collection of information on race (i.e., "American Indian or Alaskan Native," "Asian or Pacific Islander," "Black," and "White") and ethnicity (i.e., "Hispanic origin," and "Not of Hispanic origin"). OMB requires that Federal statistics distinguish between Whites and Blacks who are not of Hispanic origin, American Indians and Alaska Natives, Asians and Pacific Islanders, and Hispanics provided sample size allows for reliable measurement. Federal agencies are allowed to use one or more questions to collect race-ethnic information as long as it is possible to derive the required groups outlined above.

The Centers for Disease Control (CDC), for example, uses one question with the five required race-ethnic categories for its notifiable disease reporting system.[2] CDC recognizes that this arrangement oversimplifies the population's diversity but feels that these groups are the most relevant for monitoring disease trends and identifying groups at risk (Buehler et al., 1990:103). The Census Bureau, on the other hand, uses separate questions (race and Hispanic origin) because this approach allows data users greater flexibility. However, this arrangement also requires data users to select a classification scheme that best fits the analytical needs.

Although the Census Bureau treats race and Hispanic origin as separate constructs, most researchers are interested in a combination of the two. A recent review of selected journal articles shows a diversity of uses of race and ethnic data. When there are a sufficient number of Hispanic cases, the most common practice is to cross-classify race and Hispanic origin and give preference to Hispanic origin over race in the resulting groups (cf. Chapa 1989; Cooksey 1990; Fein 1990; Hardy and Dawson 1990; Howard et al. 1983; Selik, Castro, and Pappaioanou 1988). Thus, the major groups used are "non-Hispanic White," "non-Hispanic Black," and "Hispanic."[3] Sometimes researchers drop the smaller race-ethnic groups when the number of cases is small (cf. DiMaggio and Ostrower 1990; Hogan, Hoa, and Parish 1990; Sanders 1990). The main comparison group in these studies was "non-Hispanic Whites." Several researchers in the articles reviewed use only race groups, possibly because there are few, if any, Hispanics in the surveys they analyze (cf. Devine et al. 1992; Olson and Carroll 1992; Ritzman and Tomaskovic-Devey 1992; Santi 1990, Tittle and Stafford 1992; Waite and Harrison 1992; Wood and Lovell 1992). Relatively few authors use overlapping groups such as "White," "Black," and "Hispanic" (cf. Kominski 1990; O'Hare 1989).

The authors of these studies do not usually explain the rationale for the particular combination of race and Hispanic ethnicity used in their analyses. Some authors, such as Waite and Harrison 1992; and Tittle and Stafford 1992; use the groups as "controls." Other authors expect "non-White" groups to have different outcomes than "Whites" (cf. Wood and Lovell 1992). Others want to contrast Hispanics with other groups defined by race when the number of Hispanics in the survey allows. O'Hare (1989) for example, states that Hispanics should be compared with Whites who are not Hispanic because in many surveys sizeable proportions of Hispanics are also classified as White by race. However, it is not clear what should be done with other overlapping groups like Black Hispanics or Asian Hispanics. Should Black Hispanics be included with other Hispanics rather than with other Blacks? Should Asian Hispanics be in the Hispanic or the Asian category?

One important goal of classification is to produce a set of exhaustive and mutually exclusive groups. This arrangement also insures the assumption of independent samples which is required for valid statistical testing.[4] In my view, most researchers decide that it is expedient to leave Hispanics in one group and pull the overlap out of the race groups. Perhaps they find it difficult to decide where the small overlapping groups belong, or they may view the overlap as so small that it is unlikely to affect the results of the study. Whatever the reasons authors have for arranging

[1] Office of Management and Budget, Statistical Directive No. 15: "Race and Ethnic Standards for Federal Agencies and Administrative Reporting," Federal Register 43:19269-19270, May 4, 1978. See appendix F for relevant text.

[2] According to Buehler et al. (1989) these groups are "White non-Hispanic, Black non-Hispanic, Hispanic, Native American (includes American Indian, Eskimo, and Aleut groups), Asian and Pacific Islander, and unspecified."

[3] For example, Massey and Eggers (1990:1158) state that "... race-income tabulations therefore had to be adjusted to create *mutually exclusive groups* of non-Hispanic Whites, non-Hispanic Blacks, and non-Hispanic Asians. ... the terms 'White,' 'black,' and 'Asian' refer to estimates of non-Hispanic whites, non-Hispanic Blacks, and non-Hispanic Asians."

[4] According to Blalock (1972:6), "[c]lassification is fundamental to any science. All other levels of measurement, no matter how precise, basically involve classification as a minimal operation. ... We arbitrarily give names to the categories as convenient tags, with no assumptions about the relationships between categories. ... As long as the categories are *exhaustive* (include all cases) and *nonoverlapping or mutually exclusive* (no case in more than one category), we have the *minimal conditions necessary for the application of statistical procedures* [emphasis added]." And "... for purposes of analysis we may conceptualize the data as having come from several *distinct and independent* samples. In most such instances the problem of lack of independence between samples does not arise *unless we have deliberately matched the samples* [emphasis added]." (Blalock 1972:220)

racial-ethnic groups, there are four critical questions which should be addressed before deciding how to combine race and Hispanic origin groups in social research:

1. What is the effect of different racial-ethnic arrangements on socioeconomic indicators?
2. Is it preferable for the specific questions being addressed here to give preference to Hispanic ethnicity or preserve racial groups?
3. Are overlapping groups, such as Black Hispanics, more similar in the characteristics being considered to the race group or to Hispanics?
4. Where should one place small overlapping groups if one decides to merge them with one of the larger groups, or does it make any significant statistical difference?

This paper attempts to answer these questions by exploring the impact of different race-ethnic definitions on the level of selected socioeconomic indicators using Current Population Survey (CPS) data. Following previous research (del Pinal and DeNavas 1989), I examine several socioeconomic indicators to show the effect of varying race-ethnic group combinations. I start by looking at the overlap between race and Hispanic origin in the March 1991 CPS. Next, I examine the effect of various race-Hispanic origin group definitions on labor force participation, unemployment, educational attainment, marital stability,[5] family income, and family poverty. Finally, I suggest a set of racial-ethnic groups generally appropriate for analysis of CPS data.

Data

The Census Bureau designed the basic CPS to collect labor force information on the civilian non-institutional population in all 50 states and the District of Columbia. The March CPS also collects supplementary information about the economic situation of persons and families. About 60,000 occupied housing units were eligible for an interview in March 1991. Interviewers were unable to interview about 2,600 of these units. Also, the Census Bureau increased the March CPS sample to obtain more reliable data for the Hispanic population. About 2,500 eligible housing units with at least one Hispanic sample person interviewed in November 1990 were added to those interviewed in March 1990. The sample also included Armed Forces personnel living off post or with their families on post (U.S. Bureau of the Census 1991b:27).

[5] Measured here by type of family, that is, families maintained by married couples, males without a spouse present, and females without a spouse present.

Variables

The Census Bureau collects race and Hispanic origin in separate questions in the CPS. To obtain race data, the interviewer asked "What is the race of each person in this household?" The interviewer showed the respondent(s) a flashcard with four choices (see appendix C). The respondent(s) selected one category for each household member from the following list: 1. White; 2. Black; 3. American Indian, Aleut, Eskimo; or 4. Asian and Pacific Islander (Japanese, Chinese, Filipino, Korean, Asian Indian, Vietnamese, Hawaiian, Guamanian, Samoan, other Asian). Although there was no category for "Other Race," interviewers accepted that answer when the respondent was unable to choose among the other categories. Census Bureau reports usually show data for Whites, Blacks, and Hispanics separately (see for example, U.S. Bureau of the Census 1992a). A new report shows data for the Asian and Pacific Islander population contrasted with the total White population (cf. U.S. Bureau of the Census 1992b).

The Census Bureau derives Hispanic origin from answers to the question "What is the origin or descent of each person in this household?" The interviewer showed the respondents a flashcard with 20 choices (see appendix C). The Hispanic origin population consists of those respondents who selected one of the seven "Hispanic" categories.[6] Most Census Bureau reports based on the CPS only show data for all Hispanics as a group, although there are many socioeconomic differences among the groups that fall in the Hispanic category (cf. Bean and Tienda 1987). The main reason for this is that the CPS sample size is usually not large enough to consistently provide reliable data for the numerically smaller Hispanic groups.[7] However, one annual report does highlight some of the differences among Hispanic subgroups (cf. U.S. Bureau of the Census 1991b).

Defining Race-Ethnic Groups

Classification of a population by any characteristic often presumes that members of any group so defined are more similar to each other than they are to members of another group. A successful classification scheme often results in groups that show differences with respect to other characteristics.[8] This does not imply that no differences remain within groups, only that the within group differences are less than the between group differences.

Social scientists generally believe that differentiation of race-ethnic groups may occur because of physical (e.g., skin pigmentation, body type, etc.) and cultural characteristics (e.g., language, nationality, religion, etc., cf. Smooha 1985a:267). Through institutional structures and processes, this differentiation leads to varying social and economic outcomes for groups

[6] The Hispanic categories listed on the flashcard are: Mexican-American, Chicano, Mexican, Puerto Rican, Cuban, Central or South American (Spanish Countries), or Other Spanish. Persons of Mexican origin are those who selected either Mexican-American, Chicano, or Mexican. Persons reporting "Other Hispanic" origin are those whose origins are Spain, or they are persons identifying themselves generally as Hispanic, Spanish, Spanish American, Hispano, Latino, etc. (U.S. Bureau of the Census 1990c:1,20).

[7] See U.S. Bureau of the Census 1990c. About 64 percent of Hispanics are in the Mexican origin category. The non-Mexican groups are: Puerto Rican, Cuban, Central or South American, and Other Hispanic.

[8] See for example, Blalock (1972:15): "In classifying we attempt to sort elements with respect to a certain characteristic, making decisions about which elements are most similar and which most different. Our aim is to sort them into categories that are as homogeneous as possible as compared with differences between categories. If the classification is a useful one, the categories will also be found to be homogeneous with respect to *other* variables [emphasis is Blalock's]."

(cf. Smooha 1985b:269). If true, this explains why many researchers take both race and ethnicity into account in their work.

For this paper, I derive race-ethnic groups by crossing two race categories (White and Black) with Hispanic origin (Hispanic and not Hispanic). I examine mutually exclusive groups resulting from this cross and groups that overlap on either the race or ethnic dimension. Normally, we assume statistical independence of samples in making statistical comparisons, but this assumption is not valid if the groups we compare are not mutually exclusive. Statistical inferences drawn from such tests may not be valid unless the lack of independence is taken into account. In these results, I used a correlation coefficient when appropriate for overlaps between groups.[9] The danger in overlapping groups lies in concluding that there is no significant difference between groups in the characteristic of interest when there is a significant difference which only becomes apparent after accounting for the lack of independence. On the other hand, differences that are significant before taking lack of independence into account remain significant.

[9] See Source and Accuracy of Estimates in appendix B.

Overview of Socioeconomic Indicators

Although there are many socioeconomic variables I could have selected to examine, I felt that it was important to choose key indicators of the current status of persons and families. It is quite probable that the analysis of other indicators would yield comparable results. As in previous research on this subject (del Pinal and DeNavas 1989), I examine the effect of varying race-ethnic group definitions on the educational attainment level (the proportion of high school and college graduates), marital stability (measured by type of family), family income, and family poverty. In addition to these indicators, I examine the effect of varying race-ethnic groups on labor force participation and unemployment.

Results

Race-Hispanic Origin Distribution in CPS. Table A shows the March 1991 civilian non-institutional population of the United States cross-classified by race and Hispanic origin. Based on the race question, about 84 percent (209 million) of the population was White, 12 percent (31 million) Black, 1 percent (1.6 million) American Indian, and 3 percent Asian and Pacific Islander (7 million). Based on the Hispanic origin question nearly 9 percent (21 million) of the total population was Hispanic. Almost all Hispanics were White by race (about 96 percent or 20.5 million), about 2 percent (467,000) were Black, and the remaining 2 percent were of other races.[10]

[10] The race-ethnic distribution in the CPS differs from the distribution based on census data because the questions and response categories are quite different (see Appendix D for 1990 census questions). CPS questionnaires are administered by interviewers while the census is primarily sent and returned by mail and is usually filled out by the respondent. The 1990 census shows that 51.7 percent of persons of Hispanic origin were White, 3.4 percent were Black, 0.7 percent American Indian and 1.4 Asian and Pacific Islander, and the remainder, 42.7 percent reported "Other" race. The comparable 1980 census figures were 55.6 percent White, 2.7 percent Black, 1.1 percent Asian or Pacific Islander, 0.6 percent American Indian, Aleut or Eskimo, and 40.0 percent "Other" race (U.S. Bureau of the Census 1982:11). In 1980, the number of Black and White Hispanics may be slightly overstated because of respondents misunderstanding the meaning of the term "Mexican-Amer." on the questionnaire (see U.S. Bureau of the Census 1982:14-17). No comparable analysis exists for 1990 census data.

Table A. Race by Hispanic Origin: March 1991

(For the United States. Numbers in thousands)

Characteristic	Total population	Hispanic	Not Hispanic
Race			
Total	248,885	21,437	227,448
White	208,754	20,514	188,240
Black	30,894	467	30,427
American Indian	1,561	87	1,474
Asian and Pacific Islander	7,023	57	6,967
Other race	652	311	341
Percent by Race			
Total	100.0	100.0	100.0
White	83.9	95.7	82.8
Black	12.4	2.2	13.4
American Indian	0.6	0.4	0.6
Asian and Pacific Islander	2.8	0.3	3.1
Other race	0.3	1.5	0.1
Percent by Origin			
Total	100.0	8.6	91.4
White	100.0	9.8	90.2
Black	100.0	1.5	98.5
American Indian	100.0	5.6	94.4
Asian and Pacific Islander	100.0	0.8	99.2
Other race	100.0	47.7	52.3

Among non-Hispanics, 83 percent (188 million) were White, 13 percent (30 million) Black, and about 4 percent (9 million) were one of the other races. Hispanics made up nearly 10 percent of Whites, 1.5 percent of Blacks, 5.6 percent of American Indians, 0.8 percent of Asians and Pacific Islanders and almost 48 percent of the Other Race category. Thus, the overlap of race and ethnicity as defined here is small, with the possible exception of the overlap between White and Hispanic. The race-ethnic distributions of other recent CPS tabulations are similar to these as can be seen in table E-1 and table E-2 in appendix E.

From the preceding, it is clear that I must limit the discussion to Whites, Blacks, Hispanics, and their respective overlapping groups because of the small number of observations of Hispanics in the "American Indian" and "Asian and Pacific Islander" categories. As I noted earlier, researchers compare Hispanics with other groups because Hispanics differ from other groups, particularly Whites, on many socioeconomic measures (cf. Bean and Tienda 1987). Many Census Bureau reports also show that "Hispanics" differ from "Whites" and "Blacks" in many ways.[11] One important concern is how the presence of Hispanics in the White category affects analytical results when Hispanics differ markedly from other Whites on a particular indicator (O'Hare 1989:9). Consequently, it may be important to remove Hispanics from the White category to avoid confounding analytical results. But what should be done with the remaining overlapping categories?

Relatively little evidence exists on how Black Hispanics and Hispanics of other races differ from other members of their respective race, or how Hispanics themselves differ by race. The small number of observations in many race-ethnic categories in national surveys preclude a large body of empirical evidence. Unfortunately, the CPS is no exception. Only census data offer researchers the possibility of analyzing the smaller race-ethnic combinations. For example, one study using 1980 census data shows that Black Hispanics are more residentially segregated than other Hispanics suggesting that their socioeconomic status is quite different (cf. Massey and Denton 1989). Other authors suggest that Hispanics of color have lower socioeconomic status than do White Hispanics (cf. Arce et al. 1987; Rodriquez 1989). Knowing which groups are most similar could be helpful in deciding how to combine smaller race-ethnic groups with larger ones. Alternatively, their placement may not make much of a difference because of their small size. In the following section, I examine the level of each socioeconomic indicator to determine how Black Hispanics differ from, and how they might be combined with, other Blacks and Hispanics.

Labor Force Participation. I start by examining the effect of the overlapping race-ethnic groups on labor force participation rates of males. I decided to examine male participation because the pattern of female participation differs substantially and should be examined separately from males.[12] Table B shows the labor force status of males age 16 and older. For simplicity, I will refer to this group as working age males or adult males. About 96 percent of Hispanic working age males were White, 2 percent Black, and 2 percent in the other race categories. The racial composition of Hispanic adult males is quite similar to that of the total Hispanic population: Hispanics were about 9 percent of White working age males, about 1.5 percent of Blacks, and 5 percent of the other race categories. The main difference between the two distributions is that the White-Hispanic overlap is about one percentage point less among working age males.

The first question I sought to answer was what effect different racial-ethnic arrangements have on the level of socioeconomic indicators. Although it is theoretically possible to examine all combinations of race-ethnic groups simultaneously, in practice, we need a manageable set of comparison groups with little or no overlap. Therefore, I limit the discussion to selected sets of race-ethnic categories. While I do not intend any implicit comparisons with other sets, I do provide summaries of statistical tests performed for all groups in matrices 2 through 10 corresponding to each socioeconomic indicator. Matrix 1 shows correlation coefficients used to account for the lack of independence resulting from overlapping race-ethnic categories.[13]

In order to answer the first question about the effects race-ethnic categories on the level of socioeconomic indicators, I need to compare several groupings. First, I examine the effect of using "White, not Hispanic" as the comparison group instead of "White" for Blacks and "Not Hispanic" for Hispanics as has been the custom in the Census Bureau's reports on the Black and Hispanic populations (cf. U.S. Bureau of the Census 1991a and 1991b). Table B and figure 1 show that 75.2 percent of adult White males were in the civilian labor force compared with 67.1 percent of Blacks.

The intersection of White and Black in matrix 2 shows an "X" indicating that this 8.1 percentage point difference is statistically significant at the 90 percent confidence level. Similarly, 78.2 percent of Hispanic male adults were in the civilian labor force compared with 73.9 percent of non-Hispanics. Again this 4.3 percentage point difference is statistically significant.

[11] See for example, U.S. Bureau of the Census, 1988a, 1988b, 1989a, 1989b, 1989c, 1989d, 1989e, 1989f, 1989g, 1989h, 1990a, 1990b, and 1990d.

[12] Tables on the labor force participation of the total and female working age populations respectively are in table E-3 and table E-4 in appendix E.

[13] See Appendix B, Source and Accuracy of Estimates, for examples of statistical tests using correlation coefficients.

Table B. Labor Force Status of Males by Race and Ethnicity: March 1991

(For the United States. Numbers in thousands)

Characteristic	Estimate	One standard error	Percent	One standard error
Males, 16 years and over	91,159	(X)	100.0	(X)
White	78,204	(X)	100.0	(X)
White, not Hispanic	71,187	(X)	100.0	(X)
Black	9,811	(X)	100.0	(X)
Black, not Hispanic	9,675	(X)	100.0	(X)
Hispanic	7,310	(X)	100.0	(X)
White Hispanic	7,017	(X)	100.0	(X)
Black Hispanic	136	(X)	100.0	(X)
Not Hispanic	83,849	(X)	100.0	(X)
In civilian labor force	67,701	200	74.3	0.21
White	58,830	217	75.2	0.23
White, not Hispanic	53,327	222	74.9	0.24
Black	6,583	84	67.1	0.70
Black, not Hispanic	6,492	84	67.1	0.70
Hispanic	5,715	49	78.2	0.71
White Hispanic	5,503	52	78.4	0.72
Black Hispanic	91	14	66.9	5.92
Not Hispanic	61,986	212	73.9	0.22
Unemployed	5,455	110	8.1	0.16
White	4,311	98	7.3	0.16
White, not Hispanic	3,721	92	7.0	0.17
Black	964	49	14.6	0.72
Black, not Hispanic	958	49	14.8	0.72
Hispanic	606	39	10.6	0.67
White Hispanic	590	38	10.7	0.69
Black Hispanic	6	4	6.6	4.28
Not Hispanic	4,849	104	7.8	0.17

X Not applicable.

Matrix 1:

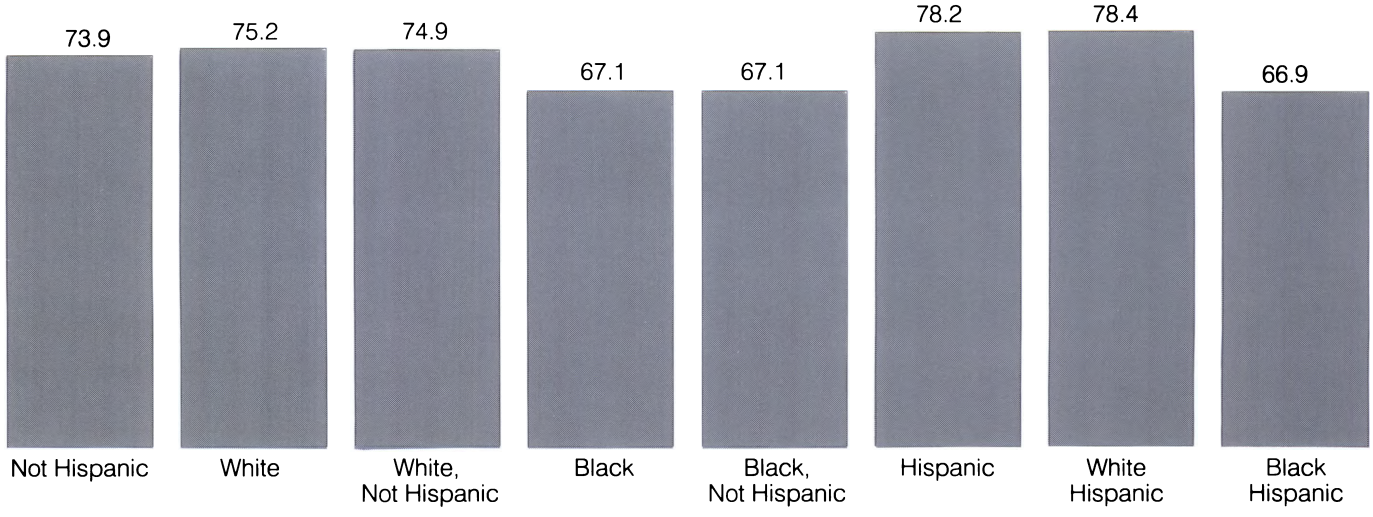
Correlation Factors (Rho) for Race by Hispanic Origin: March 1991

(For the United States. Numbers in thousands)

Percent of the Civilian Noninstitutional Population

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	0.92	0.85	0.40	0.40	0.00	0.00	0.00	91.4	227,448
White		*****	0.93	0.00	0.00	0.33	0.32	0.00	83.9	208,754
White, Not Hispanic			*****	0.00	0.00	0.00	0.00	0.00	75.6	188,240
Black				******	0.99	0.00	0.00	0.11	12.4	30,894
Black, Not Hispanic					******	0.00	0.00	0.00	12.2	30,427
Hispanic						******	0.96	0.14	8.6	21,437
White Hispanic							******	0.00	8.2	20,514
Black Hispanic								******	0.2	467

Figure 1.
Labor Force Participation of Males Age 16 and Over: March 1991
(In percent)



Matrix 2:
Summary of Statistical Tests for Male Civilian Labor Force: March 1991
(For the United States. Numbers in thousands)

Percent of Males Age 16 and Over in the Civilian Labor Force

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	X	X	X	X	X	X	O	73.9	61,986
White	X	*****	X	X	X	X	X	O	75.2	58,830
White, Not Hispanic	X	X	*****	X	X	X	X	O	74.9	53,327
Black	X	X	X	******	O	X	X	O	67.1	6,583
Black, Not Hispanic	X	X	X	O	******	X	X	O	67.1	6,492
Hispanic	X	X	X	X	X	******	O	X	78.2	5,715
White Hispanic	X	X	X	X	X	O	******	X	78.4	5,503
Black Hispanic	O	O	O	O	O	X	X	******	66.9	91

Note: X indicates statistically significant difference.

These differences suggest two related questions: Does the presence of Hispanics in the White category artificially elevate the labor force participation of Whites? Does the presence of Blacks in the non-Hispanic category lower the participation rate of non-Hispanics? Table B shows that 74.9 percent of non-Hispanic White males were in the labor force. The difference between non-Hispanic White and Black participation is 7.8 percentage points compared with 8.1 points when Blacks are compared with all Whites. Similarly, the difference between non-Hispanic White and Hispanic participation is 3.3 percentage points and 4.3 points when Hispanics are compared with all non-Hispanics. If these differences are statistically significant, the answer to both questions is yes. Normally answering each question involves testing for the statistical significance of a difference of differences,[14]

[14] For example, a difference of differences would test whether 8.1 percent is statistically different from 7.8 percent in the case of Blacks and whether 4.3 percent is different from 3.3 percent for Hispanics.

but we can simplify this test by comparing all Whites and all non-Hispanics with non-Hispanic Whites.[15] The intersection of these groups in matrix 2 shows that both these differences are statistically significant at the 90 percent confidence level. I, therefore, conclude that the presence of Hispanics in the White category tends to overstate labor force participation of Whites relative to Blacks when White is used as the comparison group. Similarly, the presence of Blacks in the non-Hispanic category understates the labor participation when all non-Hispanics are used as the comparison group.

As I stated earlier, most Census Bureau CPS reports explicitly or implicitly compare differences between Whites, Blacks, and Hispanics. Using these categories, I would conclude that among males age 16 and over, Hispanics had a higher labor force participation rate (78.2 percent) than Whites (75.2 percent) and Blacks (67.1 percent), and that the White rate also exceeded the Black rate.[16] When I use non-Hispanic Whites as the comparison group, I reach the same conclusion but the size of the difference changes. The Hispanic-White difference would be larger and the Black-White difference would be smaller.

The second question I posed in the introduction was whether it is reasonable to give preference to Hispanic ethnicity over race, or vice versa, in the smaller overlapping race-ethnic groups. Unless one has a theoretical reason for forming groups, one might want to answer this question empirically. However, in order to fully answer the second question, it is important to answer the third and fourth questions I originally posed. The third question was whether the small overlapping groups are more like the balance of the race group or other Hispanics? Table A shows that there are not enough 'Asian and Pacific Islander' or 'American Indian' Hispanics to fully examine this question, but I can examine Black Hispanics. Table B and matrix 2 show that the participation rate of Black Hispanic males (66.9 percent) is not significantly different from the Black non-Hispanic rate (67.1 percent) but is different from the White Hispanics (78.4 percent). Thus, Black Hispanics are more similar in labor force participation to other Blacks than to White Hispanics.

The fourth original question refers to whether it makes any difference where the small overlapping groups are placed. I can answer this question by comparing Blacks and Hispanics with and without the overlapping groups. If the labor force participation of all Blacks is not different from Blacks who are not Hispanic or if the participation of all Hispanics is not different from White Hispanics, I can conclude that it makes little difference where Black Hispanics are placed. Matrix 2 shows that Black participation is not different from non-Hispanic Blacks participation (67.1 percent), suggesting that removing Black Hispanics has no effect on labor force participation of the remaining Blacks. Additionally, participation by all Hispanics (78.2 percent) is not significantly different from White Hispanics (78.4 percent). Thus, removing the small overlapping groups has no perceptible effect on the measurement of labor force participation of their larger counterparts, but it does affect the size of the labor force. Removing Black Hispanic males reduces the size of the remaining Black male labor force by about 91,000 (±22,000) and removing Hispanics of races other than White reduces the size of the Hispanic labor force by about 121 (±26,000; see Table B).

Now we have empirical evidence to help us decide whether to give preference to race or Hispanic origin in the smaller overlapping categories. In terms of labor force participation of males, Black Hispanics are more like other Blacks than other Hispanics, but this is tempered by the finding that removing them does not materially affect the labor force participation rate of the remaining Blacks or Hispanics. In effect, the overlap is so small that it is safe to leave the small overlapping groups with both of their larger counterparts. The overlap of Hispanics and Whites on the other hand, does appear to affect differentials but does not materially change the conclusions about the labor force participation of Whites, Blacks, and Hispanics reached using the traditional Census Bureau reports.

Unemployment. In this and subsequent sections, I use an abbreviated version of the procedure followed in the section on labor force participation. First, I compare the unemployment rate of *all* Whites, *all* Blacks, and *all* Hispanics in the usual Census Bureau fashion. Second, I explore the effects using non-Hispanic Whites as a comparison group to gauge its effect on differentials. Third, I compare Black Hispanics to non-Hispanic Blacks and White Hispanics to see which group the former most resembles in terms of each indicator. And finally, I compare Blacks with and without Hispanics and Hispanics with and without the smaller overlapping race groups.

Table B and figure 2 show unemployment rates among adult males in the civilian labor force. Matrix 3 summarizes the results of testing for unemployment differences among all race-ethnic group combinations. White unemployment in March 1991 (7.3 percent) was less than Hispanic unemployment (10.6 percent). Black unemployment (14.6 percent) was higher than both White and Hispanic unemployment. The unemployment rate of non-Hispanic Whites (7.0 percent) was lower than both the White (7.3 percent)[17] and non-Hispanic (7.8 percent) unemployment. In this case, the presence of Hispanics in the White category and Blacks in the non-Hispanic category attenuate both differentials,[18] but these facts do not materially change the finding that Hispanics and Blacks have higher unemployment than Whites.

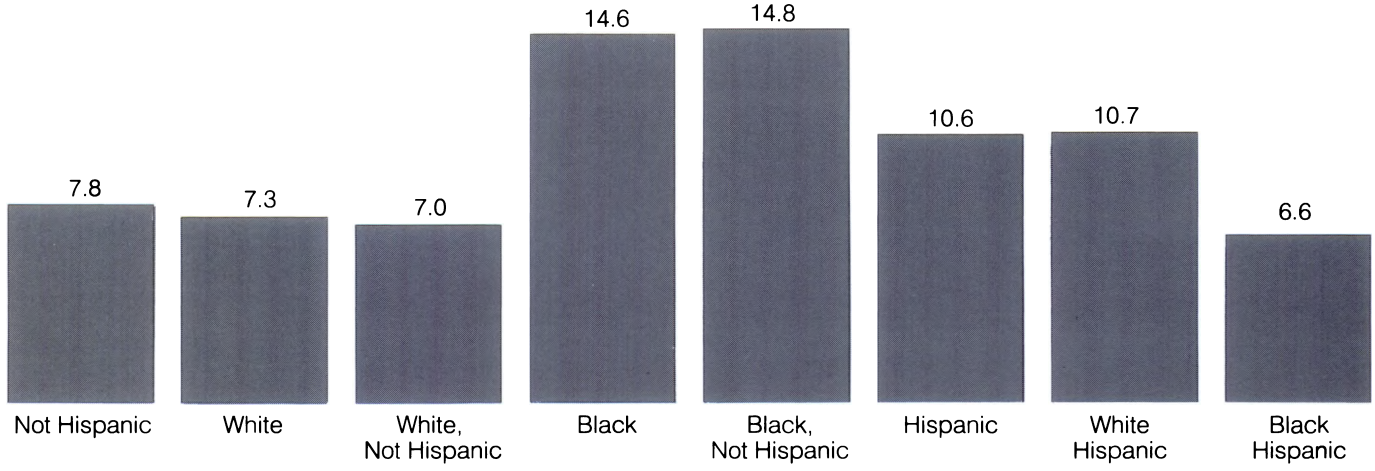
[15] Comparing the difference "White minus Black" with "non-Hispanic White minus Black" is algebraically equivalent to comparing "White" with "non-Hispanic White" after subtracting Black from each side. And in a similar fashion, "non-Hispanic minus Hispanic" compared with "non-Hispanic White minus Hispanic" reduces to comparing "non-Hispanic" and "non-Hispanic White" after subtracting Hispanic from each side.

[16] This simple analysis, of course, ignores different age distributions among these groups which probably should be taken into account. Age-specific rates may show different results. This analysis merely seeks to test the effect of using different comparison groups and not analyze labor force participation per se.

[17] This difference was not significant until I applied the proper correlation coefficient (rho=0.93).

[18] This happens because both Blacks and Hispanics had higher unemployment rates than non-Hispanic Whites.

Figure 2.
Unemployment of Males Age 16 and Over: March 1991
(In percent)



Matrix 3:
Summary of Statistical Tests for Male Unemployment: March 1991
(For the United States. Numbers in thousands)

Percent of Unemployed Males Age 16 and Over in the Civilian Labor Force

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	X	X	X	X	X	X	O	7.8	4,849
White	X	*****	X	X	X	X	X	O	7.3	4,311
White, Not Hispanic	X	X	*****	X	X	X	X	O	7.0	3,721
Black	X	X	X	******	X	X	X	X	14.6	964
Black, Not Hispanic	X	X	X	X	******	X	X	X	14.8	958
Hispanic	X	X	X	X	X	******	O	O	10.6	606
White Hispanic	X	X	X	X	X	O	******	O	10.7	590
Black Hispanic	O	O	O	X	X	O	O	******	6.6	6

Note: X indicates statistically significant difference.

Black Hispanic unemployment (6.6 percent) is lower than non-Hispanic Black unemployment (14.8 percent) but is not statistically different from White Hispanic unemployment (10.7 percent). In terms of unemployment, Black Hispanics appear to be more like White Hispanics than other Blacks. The difference between the unemployment rate of all Blacks (14.6 percent) and non-Hispanic Blacks (14.8 percent) is only 0.2 percentage points but is statistically significant after taking into account the proper correlation coefficient. Even so, this difference is so small that it is analytically unimportant.[19] On the other hand, there is no statistically significant difference in the unemployment rate of all Hispanics (10.6 percent) and White Hispanics (10.7 percent).

In spite of the result for Blacks, this analysis suggests that removing the small overlapping groups would not greatly change the unemployment rate of the remaining groups. It also suggests that it is worthwhile using non-Hispanic Whites as the comparison group because it eliminates some differential attenuation caused by overlapping race-ethnic groups. The unemployment rate of Black

[19] The difference between Black and Black not Hispanic unemployment is small (0.2 percentage points) but statistically significant. See Appendix B, Source and Accuracy of Estimates, for cautions on nonsampling variability, using small estimates, and using correlation coefficients in tests.

Table C. Educational Attainment by Race and Ethnicity: March 1991

(For the United States. Numbers in thousands)

Characteristic	Estimate	One standard error	Percent	One standard error
Total, 25 years and over	158,694	(X)	100.0	(X)
White	136,299	(X)	100.0	(X)
White, not Hispanic	125,578	(X)	100.0	(X)
Black	17,095	(X)	100.0	(X)
Black, not Hispanic	16,849	(X)	100.0	(X)
Hispanic	11,208	(X)	100.0	(X)
White Hispanic	10,721	(X)	100.0	(X)
Black Hispanic	246	(X)	100.0	(X)
Not Hispanic	147,486	(X)	100.0	(X)
4 years of high school or more	124,466	259	78.4	0.16
White	108,891	293	79.9	0.17
White, not Hispanic	103,435	301	82.4	0.17
Black	11,403	111	66.7	0.67
Black, not Hispanic	11,254	112	66.8	0.67
Hispanic	5,752	96	51.3	0.87
White Hispanic	5,456	96	50.9	0.89
Black Hispanic	149	22	60.6	5.77
Not Hispanic	118,714	274	80.5	0.16
4 years of college or more	34,025	260	21.4	0.19
White	30,283	249	22.2	0.20
White, not Hispanic	29,270	246	23.3	0.21
Black	1,966	77	11.5	0.55
Black, not Hispanic	1,933	76	11.5	0.56
Hispanic	1,088	58	9.7	0.72
White Hispanic	1,013	56	9.4	0.73
Black Hispanic	33	11	13.4	5.17
Not Hispanic	32,937	257	22.3	0.19

X Not applicable.

Matrix 4:

Summary of Statistical Tests for High School Completion: March 1991

(For the United States. Numbers in thousands)

Percent of Population Age 25 and Over with Four Years of High School or More

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	X	X	X	X	X	X	X	80.5	118,714
White	X	*****	X	X	X	X	X	X	79.9	108,891
White, Not Hispanic	X	X	*****	X	X	X	X	X	82.4	103,435
Black	X	X	X	******	O	X	X	O	66.7	11,403
Black, Not Hispanic	X	X	X	O	******	X	X	O	66.8	11,254
Hispanic	X	X	X	X	X	******	O	X	51.3	5,752
White Hispanic	X	X	X	X	X	O	******	X	50.9	5,456
Black Hispanic	X	X	X	O	O	X	X	******	60.6	149

Note: X indicates statistically significant difference.

Hispanics is more similar to that of White Hispanics than to other Blacks, but the relatively small overlap between Blacks and Hispanics suggests it is safe to leave Black Hispanics in both the Black and Hispanic categories. In any case, the arrangement of race-ethnic groups does not change the relative position of groups in terms of unemployment.

Educational Attainment. Table C shows the percent of adults (age 25 and over) who have completed four years of high school and four years of college for each race and Hispanic origin combination. For simplicity, I will refer to 'former' as high school graduates and the 'latter' as college graduates. Matrix 4 shows the results of statistical testing for differences in high school completion by different race-ethnic categories.

The percent of high school graduates among Whites (79.9 percent) is substantially greater than among Blacks (66.7 percent; also see Figure 3). Both Whites and Blacks have proportionately more graduates than do Hispanics (51.3 percent). The percent of graduates among non-Hispanic Whites (82.4 percent) was greater than among total Whites (79.9 percent) and total non-Hispanics (80.5 percent).[20] Again this indicates that Hispanics in the White category and Blacks in the non-Hispanic category can attenuate differences and that changing the comparison group does not change the previous conclusion that Whites have the highest percentage of high school graduates followed by Blacks and then Hispanics.

Black Hispanic high school completion (60.6 percent) does not differ statistically from non-Hispanic Blacks (66.8 percent) but is different from White Hispanics (50.9 percent). In terms of high school graduation, Black Hispanics are more like other Blacks than White Hispanics. There is no difference between all Blacks (66.7 percent) and non-Hispanic Blacks (66.8 percent) or between all Hispanics (51.3 percent) and White Hispanics (50.9 percent).

This suggests that removing the small overlapping groups would not change the high school completion rate of the remaining Blacks or Hispanics. Black Hispanics can be left in both the Black and Hispanic categories because the overlap between Blacks and Hispanics is relatively small. On the other hand, non-Hispanic Whites should be used as the comparison group to eliminate the attenuation caused by the presence of Hispanics in the White category and Blacks in the non-Hispanic category.

Table C also shows the percent of persons with four or more years of college (see Figure 4 as well). Matrix 5 shows the results of statistical testing for differences in college completion. The percent of college graduates among Whites (22.2 percent) is greater than among Blacks (11.5 percent). The percentage of Black graduates is greater than the percent of Hispanics (9.7 percent).

[20] Both differences were significant before applying the indicated correlation coefficients.

Figure 3.
Four Years of High School, Population Age 25 and Over: March 1991
(In percent)

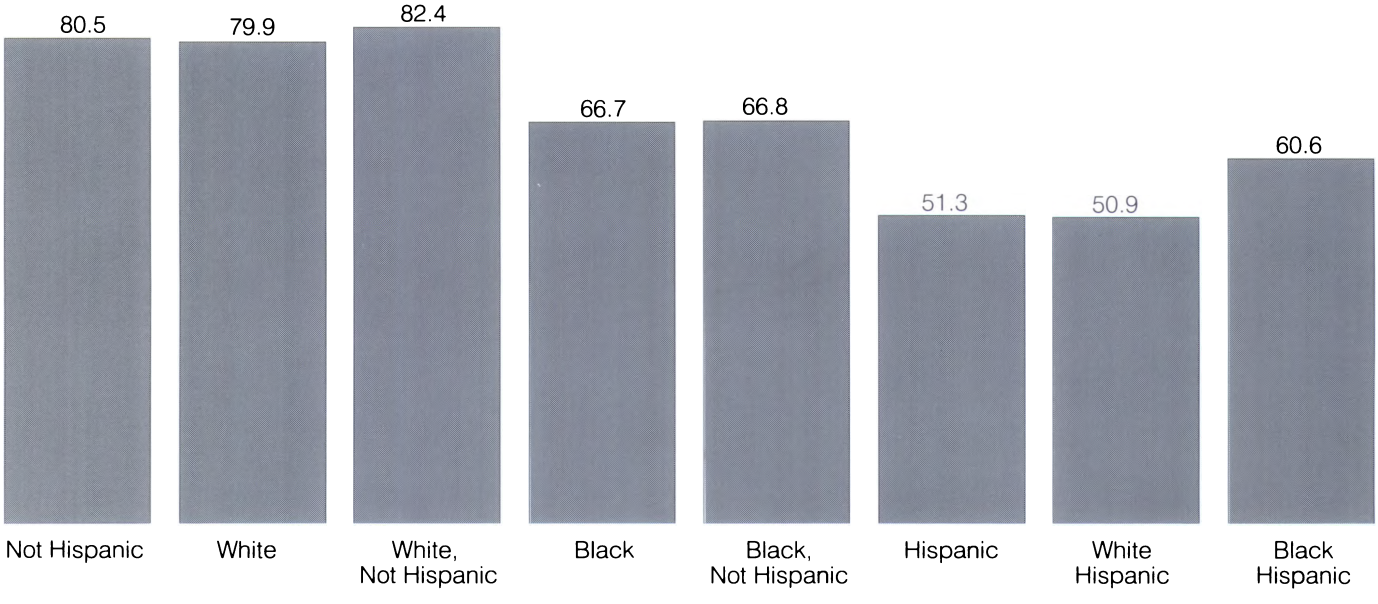
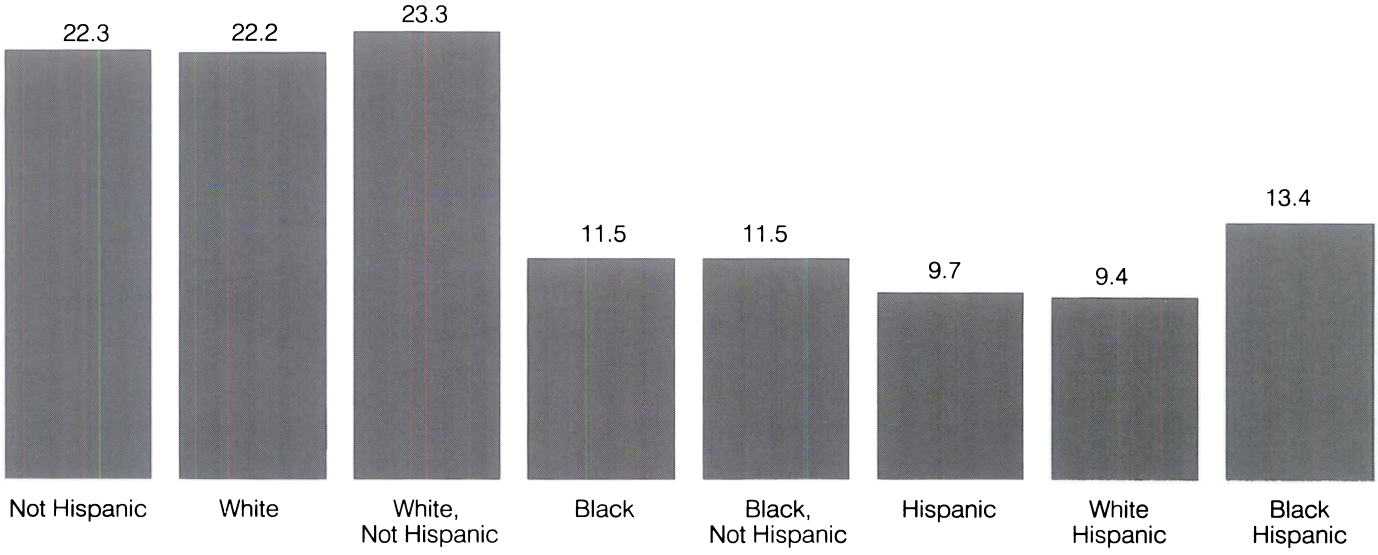


Figure 4.
Four or More Years of College Population Age 25 and Over: March 1991
(In percent)



Matrix 5:
Summary of Statistical Tests for College Completion: March 1991
(For the United States. Numbers in thousands)

Percent of Population Age 25 and Over with Four Years of College

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	O	X	X	X	X	X	X	22.3	32,937
White	O	*****	X	X	X	X	X	X	22.2	30,283
White, Not Hispanic	X	X	*****	X	X	X	X	X	23.3	29,270
Black	X	X	X	******	O	X	X	O	11.5	1,966
Black, Not Hispanic	X	X	X	O	******	X	X	O	11.5	1,933
Hispanic	X	X	X	X	X	******	X	O	9.7	1,088
White Hispanic	X	X	X	X	X	X	******	O	9.4	1,013
Black Hispanic	X	X	X	O	O	O	O	******	13.4	33

Note: X indicates statistically significant difference.

The percent of college graduates among non-Hispanic Whites (23.3 percent) is greater than among both total Whites (22.2 percent) and total non-Hispanics (22.3 percent).[21]

[21] Interestingly, there is no statistically significant difference between the percent of White (22.3 percent) and non-Hispanic (22.2 percent) college graduates. This is a result of the small difference in college graduation rates of Blacks and Hispanics.

Unlike high school graduates, there is no statistical difference between the percent of college graduates among Black Hispanics (13.4 percent) and non-Hispanic Blacks (11.5 percent) or White Hispanics (9.4 percent). Although Black Hispanics appear to be more like other Blacks than Hispanics, we do not detect a statistically significant difference. Removing Black Hispanics from the Black category has no effect on the percentage of college graduates because the total Black rate (11.5 percent) is not different from the non-Hispanic Black rate (11.5 percent). However, removing the small overlapping race groups from Hispanics does make a small significant difference.

The difference between the rate for all Hispanics (9.7 percent) and White Hispanics (9.4 percent) tests as significant after taking into account the rather large intercorrelation but is also small enough to be analytically unimportant.[22]

What conclusions can we draw about college graduation differentials among groups? Whites have the highest percent of college graduates followed by Blacks and then Hispanics. This finding does not change by shifting overlapping race-ethnic groups. The presence of Hispanics in the White group and Blacks in the non-Hispanic group does produce an attenuation of differentials suggesting the desirability of using non-Hispanic Whites as the comparison group. As before, the small overlapping race groups can remain with both their respective race and ethnic group without adversely affecting the analysis.

[22] The difference between Hispanic and White Hispanic college graduation is small but statistically significant. See appendix B, Source and Accuracy of Estimates, for cautions on non-sampling variability, using small estimates, and using correlation coefficients in tests.

Family Type. Table D shows two types of family living arrangements by race and Hispanic origin of the householder: families maintained by married couples and families maintained by females with no spouse present. Matrix 6 shows the results of statistical testing for differences in percent of married couple families. The percent of married couple families among Whites (82.8 percent) is larger than among Hispanics (69.3 percent) which in turn is larger than among Blacks (47.8 percent; also see Figure 5). Non-Hispanic Whites have proportionately more married couples (83.9 percent) than all Whites (82.8 percent) or non-Hispanics (79.4 percent). This indicates that the presence of Hispanic and Black families in the category tends to reduce the percent of married couples among Whites and non-Hispanics respectively.

With respect to married couple families, Black Hispanics are similar to other Blacks (47.8 percent married couple families) and significantly different from White Hispanics (69.9 percent; see Figure 6). Removing Black Hispanic families does not alter the percent of married couples for other Blacks—it remains at 47.8 percent. The difference between Hispanics (69.3 percent) and White Hispanics (69.9 percent) is significant only after applying the correlation coefficient and is so small as to be analytically unimportant.

Table D. Type of Family by Race and Ethnicity: March 1991

(For the United States. Numbers in thousands)

Characteristic	Estimate	One standard error	Percent	One standard error
All Families	66,322	270	100.0	(X)
White	56,803	263	100.0	(X)
White, not Hispanic	52,038	258	100.0	(X)
Black	7,471	83	100.0	(X)
Black, not Hispanic	7,358	83	100.0	(X)
Hispanic	4,981	65	100.0	(X)
White Hispanic	4,765	65	100.0	(X)
Black Hispanic	113	14	100.0	(X)
Not Hispanic	61,340	267	100.0	(X)
Married couple families	52,147	258	78.6	0.22
White	47,015	251	82.8	0.22
White, not Hispanic	43,682	245	83.9	0.22
Black	3,569	69	47.8	0.76
Black, not Hispanic	3,515	69	47.8	0.76
Hispanic	3,454	62	69.3	0.86
White Hispanic	3,333	62	69.9	0.87
Black Hispanic	54	10	47.8	6.16
Not Hispanic	48,694	253	79.4	0.23
Female householder, no husband	11,268	141	17.0	0.20
White	7,512	117	13.2	0.20
White, not Hispanic	6,408	108	12.3	0.20
Black	3,430	68	45.9	0.76
Black, not Hispanic	3,376	68	45.9	0.76
Hispanic	1,186	42	23.8	0.79
White Hispanic	1,104	41	23.2	0.80
Black Hispanic	54	10	47.8	6.16
Not Hispanic	10,082	134	16.4	0.21

X Not applicable.

Matrix 6:
Summary of Statistical Tests for Married Couple Families: March 1991
(For the United States. Numbers in thousands)

Percent of Families Maintained by Married Couple Families

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	X	X	X	X	X	X	X	79.4	48,694
White	X	*****	X	X	X	X	X	X	82.8	47,015
White, Not Hispanic	X	X	*****	X	X	X	X	X	83.9	43,682
Black	X	X	X	******	O	X	X	O	47.8	3,569
Black, Not Hispanic	X	X	X	O	******	X	X	O	47.8	3,515
Hispanic	X	X	X	X	X	******	X	X	69.3	3,454
White Hispanic	X	X	X	X	X	X	******	X	69.9	3,333
Black Hispanic	X	X	X	O	O	X	X	******	47.8	54

Note: X indicates statistically significant difference.

Figure 5.
Married Couple Families: March 1991
(In percent)

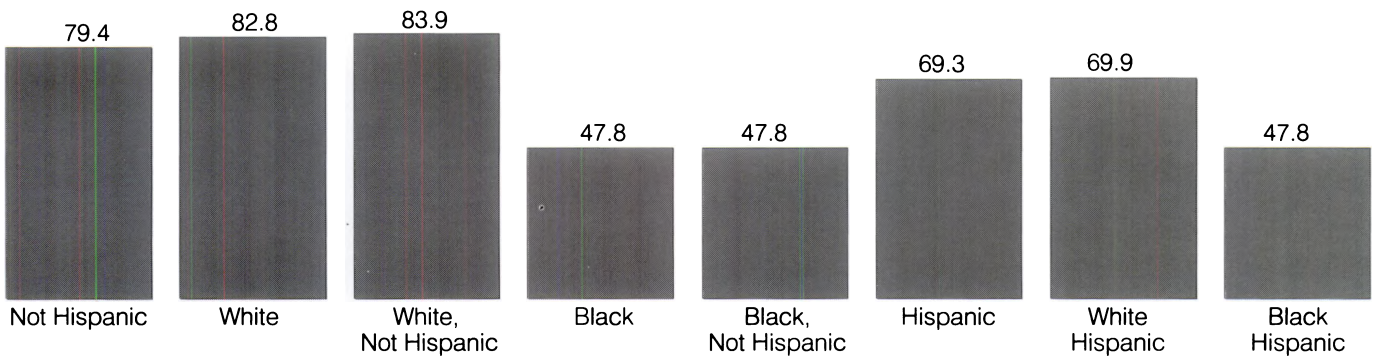
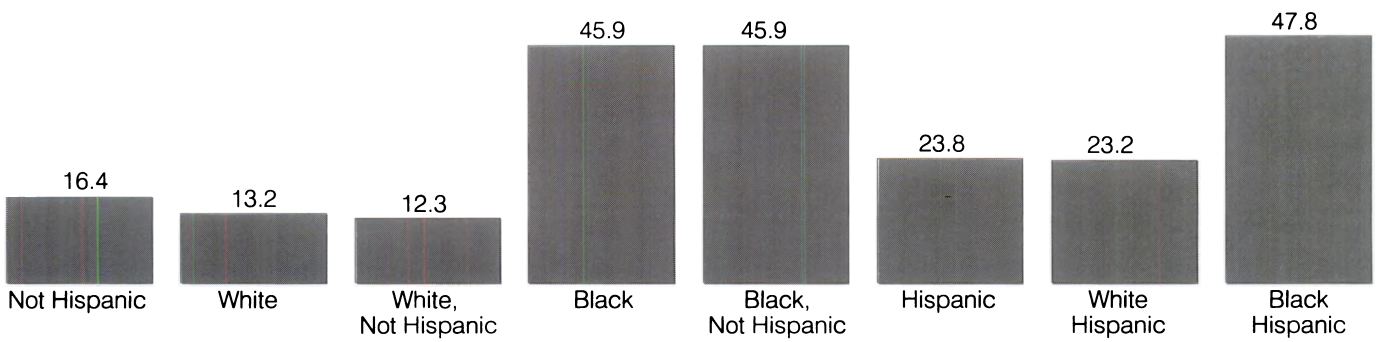


Figure 6.
Female Householder Families: March 1991
(In percent)



Matrix 7 shows the results of statistical tests for differences in percent of female householder families. The percent of female householder families is highest among Blacks (45.9 percent), followed by Hispanics (23.8 percent), and lowest among Whites (13.2 percent; also see Figure 6). The percent among non-Hispanic Whites (12.3) is lower than among all Whites (13.2 percent) or all non-Hispanics (16.4 percent) indicating the attenuating effect of Hispanics and Blacks in the respective category. The percent of female householder families among Black Hispanics (47.8 percent) is not different from non-Hispanic Blacks (45.9 percent) but is higher than among White Hispanics (23.2 percent). Removing Black Hispanics from the Black category does not affect the percent of female householder families—it remains at 45.9 percent. Again the difference between Hispanics (23.8 percent) and White Hispanics (23.2 percent) is significant only after applying the correlation coefficient.

As with educational attainment, shifting race-ethnic overlapping groups does not materially change the finding that Whites have proportionately more married couple families and fewer female householder families than do Hispanics and Blacks. Even so, it seems worthwhile to use non-Hispanic Whites as the comparison group for Blacks and Hispanics. The small overlapping race-ethnic groups can remain in both their respective race and ethnic group without adversely affecting the conclusions.

Family Income. Table E shows the percent of families with annual incomes of less than $10,000 and incomes of $50,000 or more based on 1990 income. Matrix 8 summarizes tests for the percentage of families with incomes below $10,000. I do not discuss the results for low income families because they are much the same as those for families living below the poverty level which I cover in the next section.[23]

[23] The analysis of low-income families differs from that of families living below the poverty level in that the percent of Black Hispanic low income families (29.2 percent) is statistically different from White Hispanics (18.2 percent) and all Hispanics (18.6 percent). Thus, Black Hispanics appear to be more like other Blacks than Hispanics. Also, the percent of families in poverty among White Hispanics (18.2 percent) and all Hispanics (18.6 percent) is statistically different but is so small as to be analytically unimportant. This suggests that the small overlapping race-ethnic categories do not have a sizeable effect on the remaining groups in terms of the percent of low income families.

Matrix 9 shows the results of statistical tests for differences in the percent of high income families and Figure 7 shows the percents graphically. The percent of White families with high incomes (32.5 percent) is higher than that of Black (14.6 percent) or Hispanic (14.7 percent) families. There is no statistically significant difference between the percent of high income families among Blacks or Hispanics. Non-Hispanic Whites (34.1 percent) have proportionately more high income families than do all White or all non-Hispanic families. There is no discernible difference in the proportion of high income families among Black Hispanics (21.2 percent), non-Hispanic Blacks (14.5 percent), and White Hispanics (14.5 percent). There is also no difference between all Blacks (14.6 percent) and non-Hispanic Blacks (14.5 percent) or between all Hispanics (14.7 percent) and White Hispanics (14.5 percent). As a result, the presence of Hispanic and Black families in the category reduces the percent of high income families in the White and non-Hispanic categories respectively, but other overlapping groups have no apparent effects on the percent of high income families.

Matrix 7:

Summary of Statistical Tests for Female Householder Families: March 1991

(For the United States. Numbers in thousands)

Percent of Families Maintained by Female Householder With No Spouse Present

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	X	X	X	X	X	X	X	16.4	10,082
White	X	*****	X	X	X	X	X	X	13.2	7,512
White, Not Hispanic	X	X	*****	X	X	X	X	X	12.3	6,408
Black	X	X	X	******	O	X	X	O	45.9	3,430
Black, Not Hispanic	X	X	X	O	******	X	X	O	45.9	3,376
Hispanic	X	X	X	X	X	******	X	X	23.8	1,186
White Hispanic	X	X	X	X	X	X	******	X	23.2	1,104
Black Hispanic	X	X	X	O	O	X	X	******	47.8	54

Note: X indicates statistically significant difference.

Table E. Family Income in 1990 by Race and Ethnicity: March 1991

(For the United States. Numbers in thousands)

Characteristic	Estimate	One standard error	Percent	One standard error
All Families	66,322	270	100.0	(X)
White	56,803	263	100.0	(X)
White, not Hispanic	52,038	258	100.0	(X)
Black	7,471	83	100.0	(X)
Black, not Hispanic	7,358	83	100.0	(X)
Hispanic	4,981	65	100.0	(X)
White Hispanic	4,765	65	100.0	(X)
Black Hispanic	113	14	100.0	(X)
Not Hispanic	61,340	267	100.0	(X)
Less than $10,000	6,237	111	9.4	0.16
White	4,091	91	7.2	0.16
White, not Hispanic	3,223	81	6.2	0.15
Black	1,914	62	25.6	0.76
Black, not Hispanic	1,881	62	25.6	0.76
Hispanic	926	44	18.6	0.83
White Hispanic	868	43	18.2	0.84
Black Hispanic	33	9	29.2	6.41
Not Hispanic	5,311	103	8.7	0.16
$50,000 or more	20,246	192	30.5	0.26
White	18,442	184	32.5	0.28
White, not Hispanic	17,751	181	34.1	0.30
Black	1,089	48	14.6	0.61
Black, not Hispanic	1,065	48	14.5	0.61
Hispanic	734	39	14.7	0.75
White Hispanic	691	38	14.5	0.76
Black Hispanic	24	7	21.2	5.76
Not Hispanic	19,512	189	31.8	0.27

X Not applicable.

Matrix 8:

Summary of Statistical Tests for Families With Low Incomes: March 1991

(For the United States. Numbers in thousands)

Percent of Families With Incomes of Less than $10,000 in 1990

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	X	X	X	X	X	X	X	8.7	5,311
White	X	*****	X	X	X	X	X	X	7.2	4,091
White, Not Hispanic	X	X	*****	X	X	X	X	X	6.2	3,223
Black	X	X	X	******	O	X	X	O	25.6	1,914
Black, Not Hispanic	X	X	X	O	******	X	X	O	25.6	1,881
Hispanic	X	X	X	X	X	******	X	X	18.6	926
White Hispanic	X	X	X	X	X	X	******	X	18.2	868
Black Hispanic	X	X	X	O	O	X	X	******	29.2	33

Note: X indicates statistically significant difference.

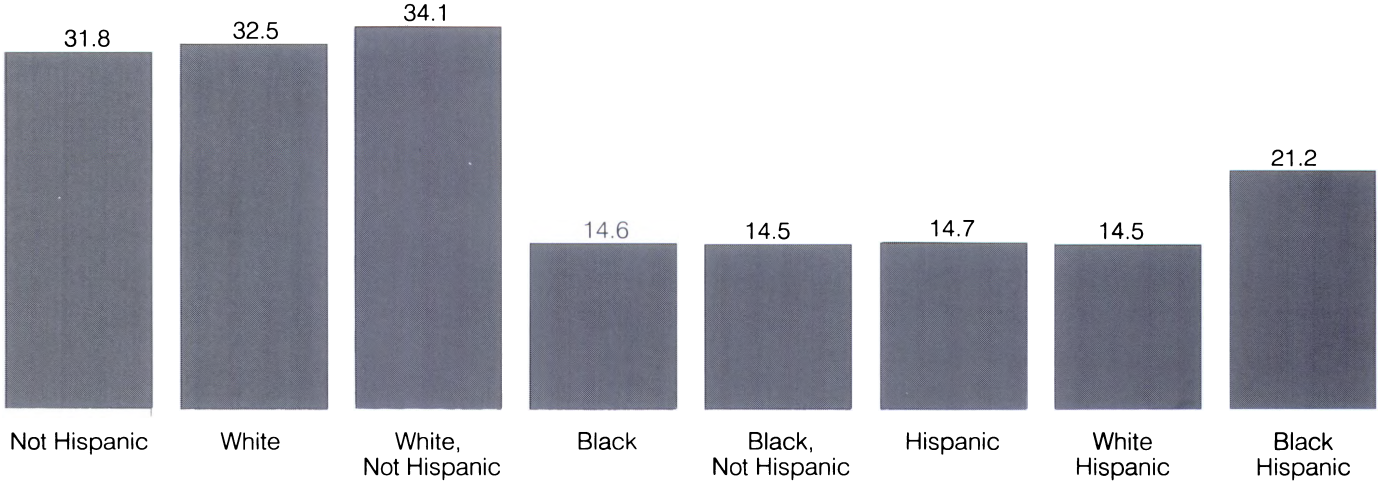
Matrix 9:
Summary of Statistical Tests for Families With High Incomes: March 1991
(For the United States. Numbers in thousands)

Percent of Families With Incomes of $50,000 or More in 1990

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	X	X	X	X	X	X	X	31.8	19,512
White	X	*****	X	X	X	X	X	X	32.5	18,442
White, Not Hispanic	X	X	*****	X	X	X	X	X	34.1	17,751
Black	X	X	X	******	O	O	O	O	14.6	1,089
Black, Not Hispanic	X	X	X	O	******	O	O	O	14.5	1,065
Hispanic	X	X	X	O	O	******	O	O	14.7	734
White Hispanic	X	X	X	O	O	O	******	O	14.5	691
Black Hispanic	X	X	X	O	O	O	O	******	21.2	24

Note: X indicates statistically significant difference.

Figure 7.
Families with $50,000 or More Income in 1990
(In percent)



Poverty. Table F and figure 8 show the percent of families living below the poverty level based on 1990 income. Matrix 10 shows the results of statistical tests for differences in percent of poor families. The poverty rate of White families (8.1 percent) is lower than that of Hispanic families (25.0 percent) which is lower than Black family poverty (29.4 percent). The rate for non-Hispanic White families (6.6 percent) is lower than for all White (8.1 percent) and all non-Hispanic (9.5 percent) families. Black Hispanic poverty (35.4 percent) is not statistically different from that of non-Hispanic Black (29.3 percent) or White Hispanic (24.8 percent) poverty. There is no significant difference between the poverty rate of all Blacks (29.4 percent) and non-Hispanic Blacks (29.3 percent) indicating that removing Black Hispanic families does not affect the level of poverty for Blacks. There is also no difference in the poverty rate of all Hispanics (25.0 percent) and White Hispanics (24.8 percent) all Hispanics (25.0 percent) and White Hispanics (24.8 percent) indicating that removing the non-White groups does not affect the level of poverty among Hispanic families.

These findings suggest that the presence of Hispanic and Black families increases the percent of poor families in the White and non-Hispanic categories respectively, but other overlapping groups have no detectable effects on the percent of poor families.

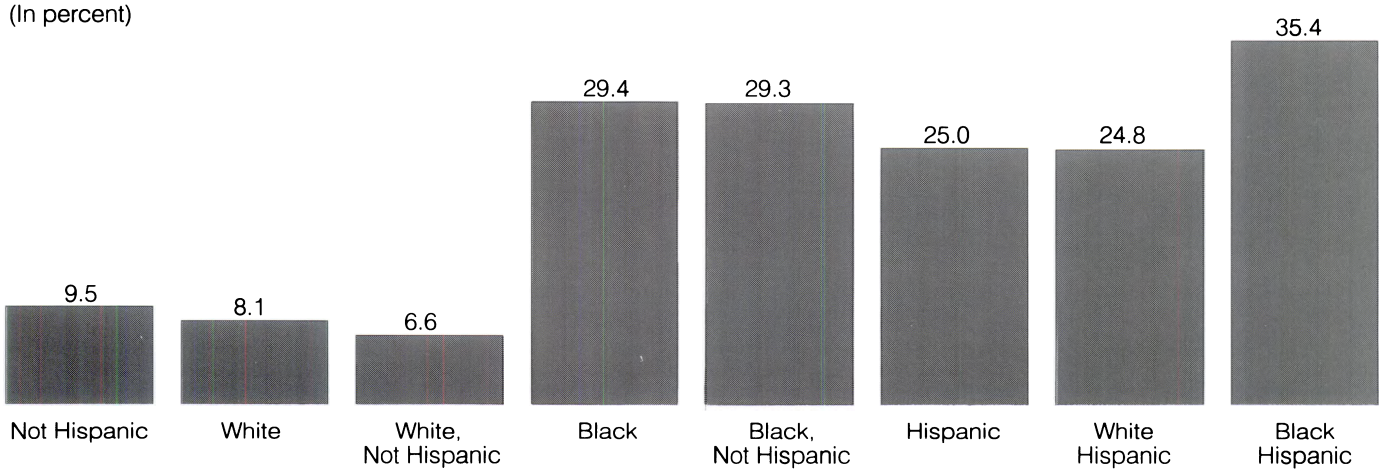
Table F. Families Below Poverty Level in 1990 by Race and Ethnicity: March 1991

(For the United States. Numbers in thousands)

Characteristic	Estimate	One standard error	Percent	One standard error
All Families	66,322	270	100.0	(X)
White	56,803	263	100.0	(X)
White, not Hispanic	52,038	258	100.0	(X)
Black	7,471	83	100.0	(X)
Black, not Hispanic	7,358	83	100.0	(X)
Hispanic	4,981	65	100.0	(X)
White Hispanic	4,765	65	100.0	(X)
Black Hispanic	113	14	100.0	(X)
Not Hispanic	61,340	267	100.0	(X)
Below poverty level	7,098	144	10.7	0.18
White	4,622	111	8.1	0.17
White, not Hispanic	3,442	94	6.6	0.16
Black	2,193	73	29.4	0.79
Black, not Hispanic	2,153	73	29.3	0.79
Hispanic	1,244	54	25.0	0.92
White Hispanic	1,180	53	24.8	0.94
Black Hispanic	40	9	35.4	6.74
Not Hispanic	5,854	128	9.5	0.18

X Not applicable.

Figure 8.
Families Below Poverty Level Based on Income in 1990
(In percent)



Matrix 10:

Summary of Statistical Tests for Family Poverty: March 1991

(For the United States. Numbers in thousands)

Percent of Families With Incomes Below Poverty Level in 1990

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic	Percent	Estimate
Not Hispanic	******	X	X	X	X	X	X	X	9.5	5,854
White	X	*****	X	X	X	X	X	X	8.1	4,622
White, Not Hispanic	X	X	*****	X	X	X	X	X	6.6	3,442
Black	X	X	X	******	O	X	X	O	29.4	2,193
Black, Not Hispanic	X	X	X	O	******	X	X	O	29.3	2,153
Hispanic	X	X	X	X	X	******	O	O	25.0	1,244
White Hispanic	X	X	X	X	X	O	******	O	24.8	1,180
Black Hispanic	X	X	X	O	O	O	O	******	35.4	40

Note: X indicates statistically significant difference.

Discussion and Conclusion

The Census Bureau treats "race" and "Hispanic origin" as different constructs and operationalizes each as a separate question. When combining these constructs in analytical work, many researchers choose to compare Whites and Blacks who are not Hispanic and Hispanics. However, there is no *a priori* reason Black Hispanics should not be left in the Black category and removed from the Hispanic category. Sometimes researchers use overlapping groups, such as "White," "Black," and "Hispanic." These groups are in effect no longer independent of each other. This violates the assumption of statistical independence necessary for making statistical inferences based on these groups. Even though it is possible to take this lack of independence into account, in practice it is seldom done. Fortunately, the danger of this lack of independence is to inadvertently conclude that there is no statistical difference between two groups when one may exist.

In this paper, I explored the effects of varying combinations of race and Hispanic origin categories on the level of selected socioeconomic indicators using CPS data. I examined the effect on labor force participation, unemployment, educational attainment, marital stability, family income, and poverty using the March 1991 Current Population Survey. The results show substantial variations in the socioeconomic characteristics of groupings based on race and Hispanic origin affirming the importance of these variables. Table A shows relatively little overlap in the CPS between race and Hispanic origin categories with the exception of White and Hispanic—Hispanics are nearly 10 percent of the White category and White Hispanics are 96 percent of all Hispanics. Hispanics are about 1.5 percent of all Blacks and about 2 percent of Hispanics are Black. The figures in tables E-1 and E-2 of appendix E show very similar distributions in March 1990 and 1989.

I showed that the placement of small overlapping race-ethnic categories with other Blacks or other Hispanics does not greatly affect the level of the socioeconomic indicator for that group. I also showed that the presence of Hispanics in the White group tends to understate the difference between Whites and Blacks on all the socioeconomic indicators examined here. The presence of Blacks in the non-Hispanic group also attenuates the difference between non-Hispanics and Hispanics. This suggests that "White" is not a desirable comparison group for Blacks, nor is "non-Hispanic" the best choice for comparisons with Hispanics. What does emerge is that "non-Hispanic White" is a better choice for a comparison group with Blacks and Hispanics.

When "White" is used in comparisons with "Black," and "Hispanic," it is important to take into account the lack of independence between Whites and Hispanics. Even so, these results indicate that the use of the 'proper' comparison group does not materially alter conclusions reached with any of the other comparison groups. Only the magnitude of differences change in any significant way.

The overlap of Blacks and Hispanics is less problematic because it is small and has very little impact on the measurement of socioeconomic characteristics of the balance of Blacks or Hispanics. Therefore it makes little difference whether Black Hispanics remain with Blacks, with Hispanics, or with both. While the level of socioeconomic indicators would not change in a significant fashion, group sizes would change. Black Hispanics seem to be more like other Blacks than other Hispanics on the indicators I examined in the CPS. Yet the limited number of observations in this category suggests the need for additional investigation using 1990 Census data to reach a more conclusive finding.

Three conclusions emerge from this analysis. First, it is desirable from a statistical and theoretical perspective to analyze mutually exclusive categories produced by two separate theoretical constructs such as race and Hispanic origin. The cross-classification of race and Hispanic origin does appear to create very distinct groups, which makes it difficult to decide where to place the smaller categories. In practice, however, there are usually insufficient observations in the smaller groups to make much difference. Therefore, small overlapping groups can either remain in both of the larger categories or be left out completely without greatly affecting the analytical results. Although use of overlapping groups violates statistical independence in theory, these groups are virtually independent in practice. In any case, it is possible to take any lack of statistical independence into account as was done in this paper.

Second, in CPS data at least, the overlap between "Whites" and "Hispanics" is large. Because of the relatively disadvantaged position of "Hispanics," their inclusion in the "White" category tends to attenuate the difference between Whites and other race categories on several important socioeconomic characteristics. At a minimum then, Hispanics should be removed from the White category.

Third, the overlap between Black and other numerically smaller race categories with Hispanic origin is small and does not adversely affect the analytical results of any indicator shown here.[24] Even though the evidence presented here is tenuous because of small sample sizes, it does suggest that these groups may be quite different and merit separate analysis when the number of cases permits.

Statistical independence of race and ethnic groups from Census Bureau data can be maintained in one of two ways. The first way is not to mix data from race and ethnicity. Thus, race groups would not be compared with Hispanics. Hispanics would be contrasted with non-Hispanics. Unfortunately, this solution avoids the issue rather than solving it. The second way is to cross-classify race and ethnicity into mutually exclusive groups. However, this may create several classifications with too few observations to analyze.

Some Census Bureau reports use the first approach keeping race separate from ethnicity. This philosophy is

[24] I was not able to analyze the effect of the overlap of Hispanic origin with the Asian and Pacific Islander category or the American Indian and Alaska Native category because of the small sample size. It is conceivable that different results may have emerged had it been possible to examine these overlaps.

reflected in the annual Black and Hispanic reports based on CPS data.[25] Other subject reports attempt to keep race and Hispanic origin separate but present race group data next to Hispanic data.[26] Although the Census Bureau cautions the reader that "Hispanics may be of any race," some race and Hispanic origin categories are explicitly compared and tested statistically. Consequently, there is an implicit shift from two concepts (race and Hispanic origin) to one concept that is a union of the two ("race-ethnicity"). One problem is that the groups created are not mutually exclusive.

[25] See for example, U.S. Census Bureau 1989i and 1990c.

[26] See for example, U.S. Bureau of the Census, 1988a, 1988b, 1989a, 1989b, 1989c, 1989d, 1989e, 1989f, 1989g, 1989h, 1990a, and 1990b.

One reason overlapping groups are used is that there may be no *a priori* way of deciding where to place small overlapping categories. Another reason, as this study confirms, is that the overlap is small, and therefore unlikely to greatly affect the independence assumption. At least for the purposes of analyzing CPS data, researchers wishing to combine race and Hispanic origin should consider showing a minimum of three categories: "non-Hispanic Whites," "Blacks," and "Hispanics."[27] The presence of Hispanics in the "White" category does attenuate the differentials of interest and the large overlap between "White" and "Hispanic" requires us to take this lack of independence into account. As the numbers in the overlapping categories increase, it will be important to re-evaluate these conclusions. At this time, the overlap between "Black" and "Hispanic" tends to be very small and can be treated by leaving the overlap in both, removing it from one category, removing it from both, or using an appropriate correlation coefficient to take into account the lack of independence. Fortunately, all of these methods are likely to produce very similar analytical results.

[27] In most analyses a residual category like "Other Race," meaning race groups that are not White or Black, is not usually shown. Future reports may separate "Asian and Pacific Islander," and "American Indian" from this residual category. These groups should also be contrasted to non-Hispanic Whites. The small overlap with Hispanics can either be ignored for the reasons given in the text, or can be left in the smaller groups without affecting the Hispanic category greatly.

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Appendix A.
Definitions and Explanations

Population coverage. This report includes the civilian noninstitutional population of the United States and members of the Armed Forces in the United States living off post or with their families on post, but excludes all other members of the Armed Forces.

Revised estimating procedure. The Bureau of the Census adjusted the Hispanic population totals from the 1991 CPS to conform with independently derived estimates of the Hispanic population. This general procedure was used on an experimental basis for the first time in the March 1982 CPS.[1] The Census Bureau subsequently revised the methodology and used it to develop post-census estimates of Hispanics for 1983 through 1985.[2] The procedure will be refined further as new data on births, deaths, emigration, and immigration become available.

Beginning with population estimates and CPS controls for January 1986, the Census Bureau made two major modifications in the methods used to produce national estimates for the population by age, sex, race, and Hispanic origin. The first change was an allowance for net undocumented immigration into the United States that had occurred since the 1980 census. This change added 200,000 persons per year to the estimate for the total population. The second change was an increase in the estimate of migration out of the United States by legal residents from 36,000 per year to 160,000. The net effect of these two changes was to add 76,000 persons per year to the estimate for the total population.[3]

Some undocumented immigrants from Spanish culture countries (approximately 1.4 million) were counted in the 1980 census.[4] These undocumented immigrants were, therefore, reflected in the post-census independent estimates for Hispanics that were used for 1982 to 1985. These previous post-census estimates, however, included no allowance for net undocumented immigration that occurred after 1980 because there were no empirically-based estimates available. More recent research has suggested that the overall undocumented population has grown annually by between 100,000 and 300,000 since 1980.[5] About 70 percent of the undocumented population is estimated to be Hispanic. As a result of the inclusion of this component in the estimation procedure (instituted in January 1986), about 141,000 persons were added to the current independent estimates of the Hispanic population for each year since 1980.

Research over the last decade suggests that emigration of legal foreign-born residents from the United States was much higher than the figures being used. In order to avoid understating net immigration, these higher estimates of legal emigration were not incorporated into the international migration component of the post-census population estimates until an allowance for net undocumented immigration could be incorporated. The effect of the new figures for legal emigration is a decrease of about 31,000 per year in the estimated Hispanic population for years since 1980.

The net effect on the Hispanic population of the new figures for legal emigration and net undocumented immigration is an increase of about 110,000 per year.

Symbols. A dash (-) represents zero or rounds to zero. The symbol "B" means that the base for the derived figure is less than 75,000. An "X" means not applicable, and "NA" means not available.

Rounding. Percentages are rounded to the nearest tenth of a percent; therefore, the percentages in a distribution do not always add to exactly 100.0 percent. The totals, however, are always shown as 100.0. Moreover, individual figures are rounded to the nearest thousand without being adjusted to group totals, which are independently rounded; percentages are based on the unrounded numbers.

Race. Respondents were asked to select a race (and a race for other household members) from a "flashcard" listing five groups: (1) White, (2) Black, (3) Asian or Pacific Islander, (4) American Indian, Aleut or Eskimo, and (5) other race. (See Race Flashcard in appendix C).

Persons of Hispanic origin. Persons of Hispanic origin were identified by a question that asked for self-identification of the person's origin or descent. Respondents were asked to select their origin (and the origin of other household members) from a "flashcard" listing ethnic origins (See Origin or Descent Flashcard in appendix C). Persons of Hispanic origin, in particular, were those who indicated that their origin was Mexican, Puerto Rican, Cuban, Central or South American (Spanish countries), or some other Spanish origin.

Age. This classification is based on the age of the person at his or her last birthday.

Marital status. The marital status classification identifies four major categories: single (never married), married, widowed, and divorced. These terms refer to the marital status at the time of the enumeration.

The category "married" is further divided into "married, spouse present," and "married, spouse absent." A person was classified as "married, spouse present" if the husband or wife was reported as a member of the household, even though he or she may have been temporarily

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[1] See appendixes A and B, Current Population Reports, Series P-20, No. 396, Persons of Spanish Origin in the United States: March 1982.

[2] See U.S. Bureau of the Census report, Current Population Reports, Series P-20, No. 422, The Hispanic Population in the United States: March 1985, for a detailed explanation of the methodology used in 1983 through 1985

[3] Jeffrey S. Passel, "Changes in the Estimation Procedure in the Current Population Survey Beginning in January 1986," Employment and Earnings 33 (2, February 1986), pp. 7-10.

[4] Jeffrey S. Passel and Karen A. Woodrow, "Geographic Distribution of Undocumented Immigrants: Estimates of Undocumented Aliens Counted in the 1980 Census by State," International Migration Review 18 (Fall 1984), pp. 642-671. See appendixes A and B, Current Population Reports, Series P-20, No. 396, Persons of Spanish Origin in the United States: March 1982.

[5] Jeffrey S. Passel and Karen A. Woodrow, "Change in Undocumented Alien Population in the United States, 1979-1983," International Migration Review 21 (Winter 1987), pp.1304-1334, and Karen A. Woodrow, Jeffrey S. Passel, and Robert Warren, "Preliminary Estimates of Undocumented Immigration to the United States, 1980-1986: Analysis of the June 1986 Current Population Survey." Paper presented at the 1987 annual meeting of the American Statistical Association, San Francisco, California, August 1987.

absent on business or vacation, visiting, in a hospital, etc., at the time of the enumeration. The group "married, spouse absent" includes married persons living apart because either the husband or wife was employed and living at a considerable distance from home; was serving away from home in the Armed Forces, was residing in an institution, had moved to another area, had separated from their spouse because of marital discord, or had a different place of residence for any other reason.

Family. A family is a group of two persons or more (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such persons (including related subfamily members) are considered as members of one family. Beginning with the 1980 CPS, unrelated subfamilies (referred to in the past as secondary families) are no longer included in the count of families, nor are the members of unrelated subfamilies included in the count of family members.

Hispanic family. A Hispanic family is defined as a family in which the family householder (defined below) is of Hispanic origin.

Household. A household consists of all the persons who occupy a housing unit. A house, an apartment or other group of rooms, or a single room, is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters; that is, when the occupants do not live and eat with any other persons in the structure and there is direct access from the outside or through a common hall.

A household includes the related family members and all the unrelated persons, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated persons sharing a housing unit as partners, is also counted as a household. The count of households excludes group quarters.

Group quarters. As of 1983 group quarters were defined in the Current Population Survey as noninstitutional living arrangements for groups not living in conventional housing units or groups living in housing units containing nine or more persons (or prior to 1983 five or more persons) unrelated to the person in charge. Since 1972, inmates of institutions have not been included in the Current Population Survey.

Householder. The term "householder" refers to the person (or one of the persons) in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly by a married couple, the householder may be either the husband or the wife. The person designated as the householder is the "reference person" to whom the relationship of all other household members, if any, is recorded. Prior to 1980, the husband was always considered the householder in married-couple households. The number of householders is equal to the number of households. Also, the number of family householders is equal to the number of families.

Head versus householder. Beginning with the 1980 CPS, the Bureau of the Census discontinued the use of the terms "head of household" and "head of family." Instead, the terms "householder" and "family householder" are used. Recent social changes have resulted in greater sharing of household responsibilities among the adult members and, therefore, have made the term "head" increasingly inappropriate in the analysis of household and family data. Specifically, the Census Bureau has discontinued its longtime practice of always classifying the husband as the reference person (head) when he and his wife are living together.

In this report, the term "householder" is used in the presentation of data that had previously been presented with the designation "head." The householder is the first adult household member listed on the questionnaire. The instructions call for listing first the person (or one of the persons) in whose name the home is owned or rented. If a home is owned jointly by a married couple, either the husband or the wife may be listed first, thereby becoming the reference person, or householder, to whom the relationship of other household members is to be recorded.

Reference person. The reference person is the person to whom the relationship of other persons is recorded. The household reference person is the person listed as the householder (see definition of "Householder"). The subfamily reference person is the single parent or the husband/wife in a married-couple situation. (Prior to 1989, the husband was always designated the reference person in a married-couple subfamily.)

Family household. A family household is a household maintained by a family (as defined above), and any unrelated persons (unrelated subfamily members and/or secondary individuals) who maybe residing there are included. The number of family households is equal to the number of families. The count of family household members differs from the count of family members, however, in that the family household members include all persons living in the household, whereas family members include only the householder and his/her relatives. (See the definition of Family.)

Related subfamily. A related subfamily is a married couple with or without children, or one parent with one or more own single (never married) children under 18 years old, living in a household and related to, but not including, the persons or couple who maintains the household. The most common example of a related subfamily is a young married couple sharing the home of the husband's or wife's parents. The number of related subfamilies is not included in the count of families.

Unrelated subfamily. An unrelated subfamily (formerly called a secondary family) is a married couple with or without children, or a single parent with one or more of their own never-married children under 18 years old living in a household, none of whom are related to the householder. The unrelated subfamily may include persons such as guests, partners, roomers, boarders, or resident employees and their spouses and/or children. The number of unrelated subfamily members is included in the total number of household members, but is not included in the count of family members.

Beginning in 1989, persons in unrelated subfamilies other than the reference

person, spouse, and own children are counted as secondary individuals in households. Prior to 1989, these persons were included in the count of subfamily members.

Persons living with relatives in group quarters were formerly classified as members of unrelated subfamilies. However, the number of such unrelated subfamilies became so small (37,000 in 1967) that beginning with CPS data for 1968 (and beginning with census data for 1960) the Bureau of the Census included persons in these unrelated subfamilies in the count of secondary individuals.

Married couple. A married couple, as defined for census purposes, is a husband and wife enumerated as members of the same household. The married couple may or may not have children living with them. The expression "husband-wife" or "married-couple" before the term "household," "family," or "subfamily" indicates that the household, family, or subfamily is maintained by a husband and wife. The number of married couples equals the count of married-couple families plus related and unrelated married-couple subfamilies.

Unrelated individuals. Unrelated individuals are persons of any age (other than inmates of institutions) who are not living with any relatives. An unrelated individual may be (1) a person living alone or with non-relatives only, (2) a roomer, boarder, or resident employee with no relatives in the household, or (3) a group quarters member who has no relatives living with him/her. Thus, a widow who occupies her house alone or with one or more other persons not related to her, a roomer not related to anyone else in the housing unit, a maid living as a member of her employer's household with no relatives in the household, and a resident staff member in a hospital living apart from any relatives are all examples of unrelated individuals.

Nonfamily householder. A nonfamily householder (formerly called a primary individual) is a person maintaining a household while living alone or with non-relatives only.

Secondary individual. A secondary individual is a person in a household or group quarters such as a guest, roomer, boarder, or resident employee (excluding non-family householders and inmates of institutions) who is not related to any other person in the household or group quarters. (See section on unrelated subfamily for slight change in coverage of secondary individuals in 1968.)

Own children and related children. "Own" children in a family are sons and daughters, including stepchildren and adopted children, of the householder. Similarly, "own" children in a subfamily are sons and daughters of the married couple or parent in the subfamily. (All children shown as members of related subfamilies are own children of the person(s) maintaining the subfamily.) "Related" children in a family include own children and all other children in the household who are related to the householder by birth, marriage, or adoption. For each type of family unit identified in the CPS, the count of own children under 18 years old is limited to single (never married) children; however, "own children under 25" and "own children of any age," as the terms are used here, include all children regardless of marital status. The totals include never-married children living away from home in college dormitories.

Years of school completed. In this report, data on years of school completed were derived from the combination of answers to two questions, (a) "What is the highest grade of school that this person has ever attended?" and (b) "Did this person finish this grade?"

The questions on educational attainment apply only to progress in "regular" schools. Such schools include graded public, parochial or other private elementary and high schools (both junior and senior high), colleges, universities, and professional schools, whether day schools or night schools. Thus, regular schooling is that which may advance a person toward an elementary school certificate or high school diploma, or a college, university, or professional school degree. Schooling in other than regular schools was counted only if the credits obtained were regarded as transferable to a school in the regular school system.

Labor force. Persons are classified as in the labor force if they were employed as civilians, unemployed, or in the Armed Forces during the survey week. The "civilian labor force" is comprised of all civilians 15 years old and over classified as employed or unemployed.

Paid labor force. Persons are classified as in the paid labor force if they were employed as wage and salary workers or self-employed workers during the survey week or were looking for work at the time and had last worked as wage and salary or self-employed workers.

Employed. Employed persons comprise (1) all civilians who, during the survey week, did any work at all as paid employees or in their own business or profession, or on their own farm, or who worked 15 hours or more as unpaid workers on a farm or in a business operated by a member of the family, and (2) all those who were not working but who had jobs or businesses from which they were temporarily absent because of illness, bad weather, vacation, or labor-management dispute, or because they were taking time off for personal reasons, whether or not they were paid by their employers for time off, and whether or not they were seeking other jobs. Excluded from the employed group are persons whose only activity consisted of work around the house (such as own home housework, painting or repairing own home) or volunteer work for religious, charitable, and similar organizations.

Unemployed. Unemployed persons are those civilians who, during the survey week, had no employment but were available for work and (1) had engaged in any specific job seeking activity within the past 4 weeks, such as registering at a public or private employment office, meeting with prospective employers, checking with friends or relatives, placing or answering advertisements, writing letters of application, or being on a union or professional register; (2) were waiting to be called back to a job from which they had been laid off; or (3) were waiting to report to a new wage or salary job within 30 days.

Occupation. The data on occupation of employed persons 16 years old and over refer to the civilian job held during the survey week. Persons employed at two

or more jobs were reported in the job at which they worked the greatest number of hours during the week.

In 1980, the Bureau of the Census revised the Standard Occupational Classification System (SOC) for use in its tabulation program for the 1980 census and subsequent published reports on occupational data. Consequently, the new classification system was incorporated into the CPS tabulation program in January 1983. While the new system provides comparability between the CPS and other data sources, it causes a break in continuity for all CPS series containing occupational data.

Differences between the 1970 and 1980 occupational systems affect classifications at all levels. Such commonly used identifiers as white-collar, blue-collar, professional and technical, craft workers, and operative occupations have been eliminated. These identifiers have been replaced with new categories which represent conceptual as well as language changes. Moreover, many of the components of the former groupings have been shifted to such an extent that they cannot be made to correspond readily to the new categories. For a more complete explanation and description of the changes from the old to the new occupational classification system see the February 1983 issue of "Employment and Earnings" by the Bureau of Labor Statistics.

The occupation classification system developed for the 1980 census consists of 503 specific occupation categories arranged into 6 summary and 13 major occupation groups. The major occupation groups are combined in this report into 6 summary groups as follows:

Managerial and professional specialty occupations

- Executive, administrative, and managerial occupations
- Professional specialty occupations

Technical, sales, and administrative support occupations

- Technicians, and related support occupations
- Sales occupations
- Administrative support occupations, including clerical

Service occupations

- Private household occupations
- Protective service occupations
- Service occupations, except protective and household

Farming, forestry, and fishing occupations

Precision production, craft, and repair occupations

Operators, fabricators, and laborers

- Machine operators, assemblers, and inspectors
- Transportation and material moving occupations
- Handlers, equipment cleaners, helpers, and laborers

Income. For each person 15 years old and over in the sample, questions were asked on the amount of money income received in the preceding calendar year from each of the following sources: (1) money wages or salary; (2) net income from nonfarm self-employment; (3) net income from farm self-employment; (4) Social Security or railroad retirement; (5) Supplemental Security income; (6) public assistance or welfare payments; (7) interest (on savings or other investments which pay interest); (8) dividends, income from estates or trusts, or net rental income; (9) veterans' payments or unemployment and worker's compensation; (10) private pensions or government employee pensions; (11) alimony or child support, regular contributions from persons not living in the household, and other periodic income.

Although the income statistics refer to receipts during the preceding year the characteristics of the person, such as age, labor force status, etc., and the composition of families refer to the time of the survey. The income of the family does not include amounts received by persons who were members of the family during all or part of the income year if these persons no longer resided with the family at the time of enumeration. However, family income includes amounts reported by related persons who did not reside with the family during the income year but who were members of the family at the time of enumeration.

Data on consumer income collected in the CPS by the Bureau of the Census cover money income received (exclusive of certain money receipts such as capital gains) before payments for personal income taxes, Social Security, union dues, Medicare deductions, etc. Therefore, money income data do not reflect the fact that some families receive part of their income in the form of noncash benefits such as food stamps, health benefits, and subsidized housing; that some farm families receive noncash benefits in the form of rent-free housing and goods produced and consumed on the farm; or that non-cash benefits are also received by some nonfarm residents which often take the form of the use of business transportation and facilities, full or partial payments by business for retirement programs, and medical and educational expenses, etc. These elements should be considered when comparing income levels. (For a detailed explanation of noncash benefits, see Current Population Reports, Series P-60, No. 155, Receipt of Selected Noncash Benefits: 1985.) Moreover, for many different reasons, there is a tendency in household surveys for respondents to underreport their income. From an analysis of independently derived income estimates, it has been determined that income earned from wages or salaries is much better reported than other sources of income, and is nearly equal to independent estimates of aggregate income. For a detailed explanation, see Current Population Reports, Series P-60 No. 174, Money Income of Households, Families, and Persons in the United States: 1990.

Money earnings. Money earnings are the algebraic sum of money wages or salary and net income from farm and nonfarm self-employment. For a detailed explanation, see Current Population Reports, Series P-60, No. 174, Money Income of Households, Families, and Persons in the United States: 1990.

Number of earners. This number includes all persons in the family with $1 or more in wages and salaries, or $1 or more or a loss in net income from farm or nonfarm self-employment.

Poverty definition. Families and unrelated individuals are classified as being above or below the poverty level using the poverty index originated at the

Social Security Administration in 1964 and revised by Federal Interagency Committees in 1969 and 1980. The poverty index is based solely on money income and does not reflect the fact that many low-income persons receive noncash benefits such as food stamps, Medicaid, and public housing. The index is based on the Department of Agriculture's 1961 Economy Food Plan and reflects the different consumption requirements of families based on their size and composition. It was determined from the Department of Agriculture's 1955 Survey of Food Consumption that families of three or more persons spend approximately one-third of their income on food; the poverty level for these families was, therefore, set at three times the cost of the Economy Food Plan. For smaller families and persons living alone, the cost of the Economy Food Plan was multiplied by factors that were slightly higher in order to compensate for the relatively larger fixed expenses of these smaller households. The poverty thresholds are updated every year to reflect changes in the Consumer Price Index (CPI-U). For example, the average poverty threshold for a family of four was $13,359 in 1990, $12,674 in 1989, and $12,092 in 1988. For a detailed explanation of the poverty definition, see Current Population Reports, Series P-60, No. 175, Poverty in the United States: 1990.

Median. The median is presented in connection with the data on age, years of school completed, and income. It is the value which divides the distribution into two equal parts, one-half of the cases falling below this value and one-half of the cases exceeding this value.

Mean. The mean (average) is presented in connection with data on number of persons per family, income of persons, and income of families. The mean number of persons per family is the value obtained by dividing the number of persons in families having the characteristic under consideration by the appropriate number of families. The mean income is the amount obtained by dividing the total income of a group by the number of units in that group. The mean for families are based on all families. The mean for persons are based on persons with income.

Appendix B.

Source and Accuracy of Estimates

Source of Data

All estimates in this report come from data obtained in March of 1991 in the Current Population Survey (CPS). The Bureau of the Census conducts the survey every month, although this report uses only March data for its estimates. The March survey uses two sets of questions, the basic CPS and the supplement.

Basic CPS. The basic CPS collects primarily labor force data about the civilian noninstitutional population. Interviewers ask questions concerning labor force participation about each member 15 years old and over in every sample household.

The March 1991 CPS sample was selected from the 1980 decennial census files with coverage in all 50 states and the District of Columbia. The sample is continually updated to account for new residential construction. It is located in 729 areas comprising 1,973 counties, independent cities, and minor civil divisions. About 60,000 occupied households are eligible for interview every month. Interviewers are unable to obtain interviews at approximately 2,600 of these units because the occupants are not home after repeated calls or are unavailable for some other reason.

Since the introduction of the CPS, the Bureau of the Census has redesigned the CPS sample several times to improve the quality and reliability of the data and to satisfy changing data needs. The most recent changes were completely implemented in July 1985.

March Supplement. In addition to the basic CPS questions, interviewers asked supplementary questions in March about the economic situation of persons and families for the previous year.

To obtain more reliable data for the Hispanic origin population, the March CPS sample was increased by about 2,500 eligible housing units, which were interviewed the previous November and that contained at least one sample person of Hispanic origin. In addition, the sample included persons in the Armed Forces living off post or with their families on post.

Estimation Procedure. This survey's estimation procedure inflates weighted sample results to independent estimates of the civilian noninstitutional population of the United States by age, sex, race and Hispanic/non-Hispanic categories. The independent estimates were based on statistics from decennial censuses of population; statistics on births, deaths, immigration and emigration; and statistics on the size of the Armed Forces. The independent population estimates used in this report were based on updates to controls established by the 1980 decennial census.

The independent population estimates include some, but not all, undocumented immigrants. The estimation procedure for the March supplement included a further adjustment so husband and wife of a household received the same weight.

Accuracy of the Estimates

Since the CPS estimates come from a sample, they may differ from figures from a complete census using the same questionnaires, instructions, and enumerators. A sample survey estimate has two possible types of error: sampling and non-sampling. The accuracy of an estimate depends on both types of error, but the full extent of the nonsampling error is unknown. Consequently, one should be particularly careful when interpreting results based on a relatively small number of cases or on small differences between estimates. The standard errors for CPS estimates primarily indicate the magnitude of sampling error. They also partially measure the effect of some nonsampling errors in responses and enumeration, but do not measure systematic biases in the data. (Bias is the average over all possible samples of the differences between the sample estimates and the desired value.)

Nonsampling Variability. Nonsampling errors can be attributed to many sources. These sources include the inability to obtain information about all cases in the sample, definitional difficulties, differences in the interpretation of questions, respondents' inability or unwillingness to provide correct information or to recall information, errors made in data collection such as in recording or coding the data, errors made in processing the data, errors made in estimating values for missing data, and failure to represent all units with the sample (undercoverage).

CPS undercoverage results from missed housing units and missed persons within sample households. Compared to the level of the 1980 decennial census, overall CPS undercoverage is about 7 percent. CPS undercoverage varies with age, sex, and race. Generally, undercoverage is larger for males than for females and larger for Blacks and other races combined than for Whites. As described previously, ratio estimation to independent age-sex-race-Hispanic population controls partially corrects for the bias due to undercoverage. However, biases exist in the estimates to the extent that missed persons in missed households or missed persons in interviewed households have different characteristics from those of interviewed persons in the same age-sex-race-Hispanic group. Furthermore, the independent population controls have not been adjusted for undercoverage in the 1980 census.

For additional information on nonsampling error including the possible impact on CPS data when known, refer to Statistical Policy Working Paper 3, *An Error Profile: Employment as Measured by the Current Population Survey,* Office of Federal Statistical Policy and Standards, U.S. Department of Commerce, 1978 and Technical Paper 40, *The Current Population Survey: Design and Methodology*, Bureau of the Census, U.S. Department of Commerce.

Sampling Variability. Sampling variability is variation that occurred by chance because a sample was surveyed rather than the entire population. Standard errors, as calculated by methods described later in *"Standard Errors and Their Use,"* are primarily measures of sampling variability, although they may include some nonsampling error.

Comparability of Data. Data obtained from the CPS and other sources are not entirely comparable. This results from differences in interviewer training and experience and in differing survey processes. This is an example of nonsampling variability not reflected in the standard errors. Use caution when comparing results from different sources.

Caution should also be used when comparing estimates in this report, which

reflect 1980 census-based population controls, with estimates for 1980 (1979 for income estimates) and earlier years, which reflect 1970 census-based population controls. This change in population controls had relatively little impact on summary measures such as means, medians, and percentage distributions but did have a significant impact on levels. For example, use of 1980 based population controls results in about a 2-percent increase in the civilian noninstitutional population and in the number of families and households. Thus, estimates of levels for data collected in 1981 and later years will differ from those for earlier years by more than what could be attributed to actual changes in the population. These differences could be disproportionately greater for certain subpopulation groups than for the total population.

Since no independent population control totals for persons of Hispanic origin were used before 1982, compare Hispanic estimates over time cautiously.

Note When Using Small Estimates. Summary measures (such as medians and percentage distributions) are shown only when the base is 75,000 or greater. Because of the large standard errors involved, summary measures would probably not reveal useful information when computed on a smaller base. However, estimated numbers are shown even though the relative standard errors of these numbers are larger than those for corresponding percentages. These smaller estimates permit combinations of the categories to suit data users' needs. Take care in the interpretation of small differences. For instance, even a small amount of non-sampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test.

Standard Errors and Their Use. A number of approximations are required to derive, at a moderate cost, standard errors applicable to all the estimates in this report. Instead of providing an individual standard error for each estimate, parameters are provided from which the precise standard errors can be calculated by using the formulas described later.

The sample estimate and its standard error enable one to construct a confidence interval, a range that would include the average result of all possible samples with a known probability. For example, if all possible samples were surveyed under essentially the same general conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.645 standard errors below the estimate to 1.645 standard errors above the estimate would include the average result of all possible samples.

A particular confidence interval may or may not contain the average estimate derived from all possible samples. However, one can say with specified confidence that the interval includes the average estimate calculated from all possible samples.

Some statements in the report may contain estimates followed by a number in parentheses. This number can be added to and subtracted from the estimate to calculate upper and lower bounds of the 90-percent confidence interval. For example, if a statement contains the phrase "grew by 1.7 percent (±1.0)," the 90-percent confidence interval for the estimate, 1.7 percent, is 0.7 percent to 2.7 percent.

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The most common type of hypothesis appearing in this report is that the population parameters are different. An example of this would be comparing the unemployment rate of Hispanics and White non-Hispanics in 1991.

Tests may be performed at various levels of significance, where a significance level is the probability of concluding that the characteristics are different when, in fact, they are the same. All statements of comparison in the text have passed a hypothesis test at the 0.10 level of significance or better. This means that the absolute value of the estimated difference between characteristics is greater than or equal to 1.645 times the standard error of the difference.

Standard Errors of Estimated Numbers. To calculate the standard error of an estimated number shown in this report, use the formula shown below.

$$s_x = \sqrt{ax^2 + bx} \qquad (1)$$

Here x is the size of the estimate and a and b are the parameters in table B-1 associated with the particular type of characteristic. When calculating standard errors for numbers from cross-tabulations involving different characteristics, use the set of parameters for the characteristic which will give the largest standard error.

Illustration

Table B of the report shows that in 1991 there were 5,715,000 Hispanic males in the civilian labor force. Using formula (1) with the parameters a = -0.000303 and b = 2,150 from Table B-1, the approximate standard error is

$$s_x = \sqrt{-0.000303 \times 5{,}715{,}000^2 - 2{,}150 \times 5{,}715{,}000} = 49{,}000$$

So the 90-percent confidence interval for the number of Hispanic males in the labor force in 1991 would be from 5,634,000 to 5,796,000, i.e., 5,715,000 ±, 1.645x49,000. Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all possible samples.

Standard Errors of Estimated Percentages. The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends on the size of the percentage and its base. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. When the numerator and denominator of the percentage are in different categories, use the parameter from table B-1 indicated by the numerator.

The approximate standard error, $s_{x,p}$, of an estimated percentage can be obtained by use of the formula

$$s_{x,p} = \sqrt{\frac{b}{x} p(100 - p)} \qquad (2)$$

Here x is the total number of persons, families, households, or unrelated individuals which is the base of the percentage, p is the percentage ($0 \leq p \leq 100$), and b is the parameter in table B-1 associated with the characteristic in the numerator of the percentage.

Illustration

Table B shows that in 1991, 10.6 percent of the 5,715,000 Hispanic males in the labor force were unemployed. Using formula (2) and b = 2,708 from table B-1, the standard error is approximately

$$s_{x,p} = \sqrt{\frac{2,708}{5,715,000} \text{ x10.6x(100.0 - 10.6)}}$$

$$= 0.7$$

The 90-percent confidence interval for the estimated percentage of Hispanic males in the labor force who are unemployed is from 9.4 percent to 11.8 percent, i.e., 10.6 ± 1.645x0.7.

Standard Error of a Difference. The standard error of the difference between two sample estimates is approximately equal to

$$s_{x-y} = \sqrt{s_x^2 + s_y^2 - 2rs_xs_y} \qquad (3)$$

where s_x and s_y are the standard errors of the estimates, x and y. The estimates can be numbers, percentages, ratios, etc. The correlation coefficient, r, can be determined from table B-2 for comparisons of race-ethnic groups. For comparisons not listed in table B-2, assume that equals zero. This will represent the actual standard error quite accurately for the difference between estimates of the same characteristic in two different areas, or for the difference between separate and uncorrelated characteristics in the same area. However, if there is a high positive (negative) correlation between the two characteristics, the formula will overestimate (underestimate) the true standard error.

Correlation Coefficients. The correlation coefficient, r, is a measure of the degree of linear dependence between two estimates, X and Y. The value for the correlation coefficient is $-1 \leq r \leq 1$. A value of r near +1 or -1 indicates a high degree of linear dependence between X and Y, whereas a value near 0 indicates a lack of linear dependence. A positive value of r indicates that Y tends to increase when X does, whereas a negative value indicates that Y tends to decrease when X increases. If r = 0, then X and Y are said to be uncorrelated.

Illustration

Table B of this report shows that in 1991, 7.3 percent of the 58,830,000 White males in the civilian labor force were unemployed. Table 2 also shows that 10.6 percent of the Hispanic males and in the civilian labor force (5,715,000) were unemployed. The apparent difference between the unemployment rate of White males and Hispanic males is 3.3 percentage points. Using formula (2) with b = 2,357 from table B-2, the approximate standard error, s_x, for White males is 0.2. The standard error, s_y, for Hispanic males is 0.7 (b = 2,708). Using formula (3) with r=0.33 from table B, the standard error for the estimated difference between percentage of White and Hispanic unemployed males is about

$$s_{x-y} = \sqrt{-0.2^2 + 0.7^2 - 2x0.33x0.2x0.7} = 0.7$$

This means that the 90-percent confidence interval around the difference is from 2.1 to 4.5, i.e., 3.3 ± 1.645x0.7. Because this interval does not contain zero, we can conclude with 90-percent confidence that the unemployment rate for White males is lower than the unemployment rate for Hispanic males.

Table B-1.
Parameters for Total/White, Black/Other Races, and Hispanic Populations

Characteristic	Parameters	
	a	b
Educational Attainment		
Total, White	-0.000016	2,532
Black, Other Races	-0.000206	3,425
Hispanic	-0.000315	3,425
Families		
Total, White	-0.000012	1,899
Black, Other Races	-0.000107	1,716
Hispanic	-0.000172	1,716
Family Income		
Total, White	-0.000012	2,058
Black, Other Races	-0.000109	2,243
Hispanic	-0.000175	2,243
Family Poverty		
Total, White	+0.000093	2,243
Black, Other Races	+0.000093	2,243
Hispanic	+0.000093	2,243
Labor Force, Employment Status		
Total, White	-0.000014	2,485
Black, Other Races	-0.000120	2,485
Hispanic	-0.000176	2,485
Male		
Total, White	-0.000023	2,150
Black, Other Races	-0.000164	2,150
Hispanic	-0.000303	2,150
Female		
Total, White	-0.000020	1,843
Black, Other Races	-0.000118	1,843
Hispanic	-0.000260	1,843
Unemployed		
Total, White	-0.000012	2,357
Black, Other Races	-0.000094	2,708
Hispanic	-0.000224	2,708
Male		
Total, White	-0.000026	2,357
Black, Other Races	-0.000207	2,708
Hispanic	-0.000382	2,708
Female		
Total, White	-0.000123	1,357
Black, Other Races	-0.000173	1,708
Hispanic	-0.000382	1,708

Table B-2.
Correlation Coefficients for Race-Ethnic Comparisons.

Group	Not Hispanic	White	White, Not Hispanic	Black	Black, Not Hispanic	Hispanic	White Hispanic	Black Hispanic
Not Hispanic	1.00	0.92	0.85	0.40	0.40	0.00	0.00	0.00
White		1.00	0.93	0.00	0.00	0.33	0.00	0.00
White, Not Hispanic			1.00	0.00	0.00	0.00	0.00	0.00
Black				1.00	0.99	0.00	0.00	0.11
Black, Not Hispanic					1.00	0.00	0.00	0.00
Hispanic						1.00	0.96	0.14
White Hispanic							1.00	0.00
Black Hispanic								1.00

Appendix C.

Facsimilies of March 1991 CPS Questionnaires

Facsimile I. Form CPS-260 Control Card

At the time of the first CPS interview, the interviewer prepares a list of all persons who are staying in the selected sample unit. The roster is constructed using the field Control Card, Form CPS-260. The roster and questions on the control card are used to identify the living space constituting the sample unit. A control card is prepared for each housing unit. It provides for recording the personal characteristics of each person who is determined to be a member of a sample household, i.e., a person for whom the sample unit is the usual place of residence. This record of members, which is brought up to date at each subsequent interview to take account of new or departed residents, changes in age, marital status, etc., and constitutes the complete sample of persons from which subsamples, having specified characteristics, are selected for specific studies.

Facsimile II. Race Flashcard

The race of individuals was identified by a question that asked for self-identification of the persons's race. Respondents were asked by select their race (and the origin of other household members) from the flashcard. The population is divided into five groups on the basis of race: White; Black; American Indian, Eskimo or Aleut; Asian or Pacific Islander; and Other races beginning with March 1989. The last category includes any other race except the four mentioned. In most of the published tables, "Other races" is shown in total population.

Facsimile III. Origin or Descent Flashcard

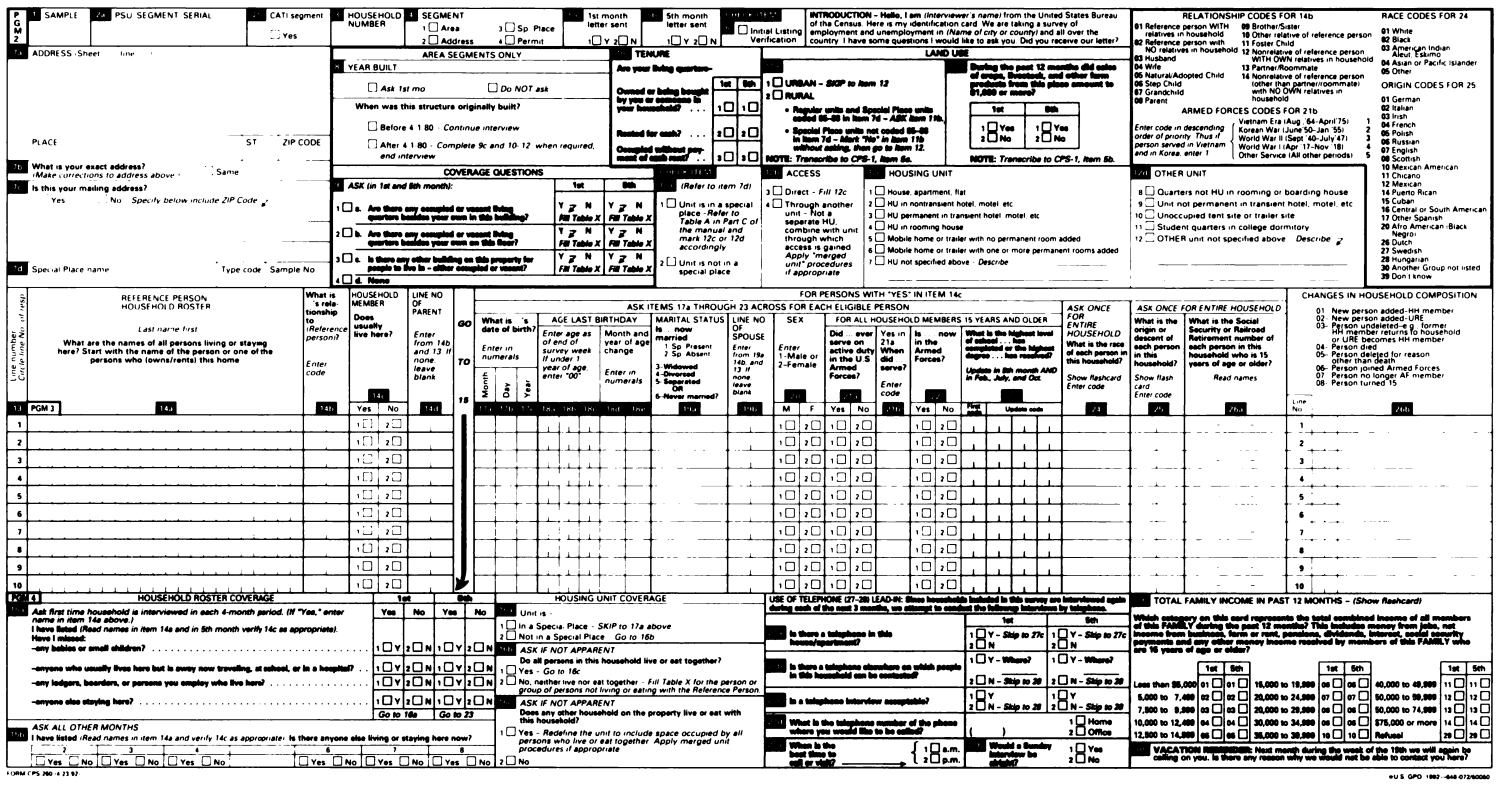
Hispanic persons were identified by a question that asked for self-identification of the person's origin or descent. Respondents were asked to select their origin (and the origin of other household members) from the flashcard. Hispanic persons were those who indicated that their origin was Mexican-American, Chicano, Mexican, Puerto Rican, Cuban, Central or South American (Spanish countries), or other Spanish origin.

Facsimile IV. CPS-1—Basic Questionnaires

For each household and for each civilian household member 15 years old and over, the interviewer completes a CPS questionnaire that asks the household respondent a series of structured questions concerned with economic activity during the week containing the 12th day of the month. This week, referred to as the survey week, is the week preceding interview week. These questions appear as items 19-24 on the CPS questionnaire. The primary purpose of these questions is to classify the sample population into three basic groups—the employed, the unemployed, and those not in the labor force. Interviewers are trained to ask the questions as they appear on the questionnaire.

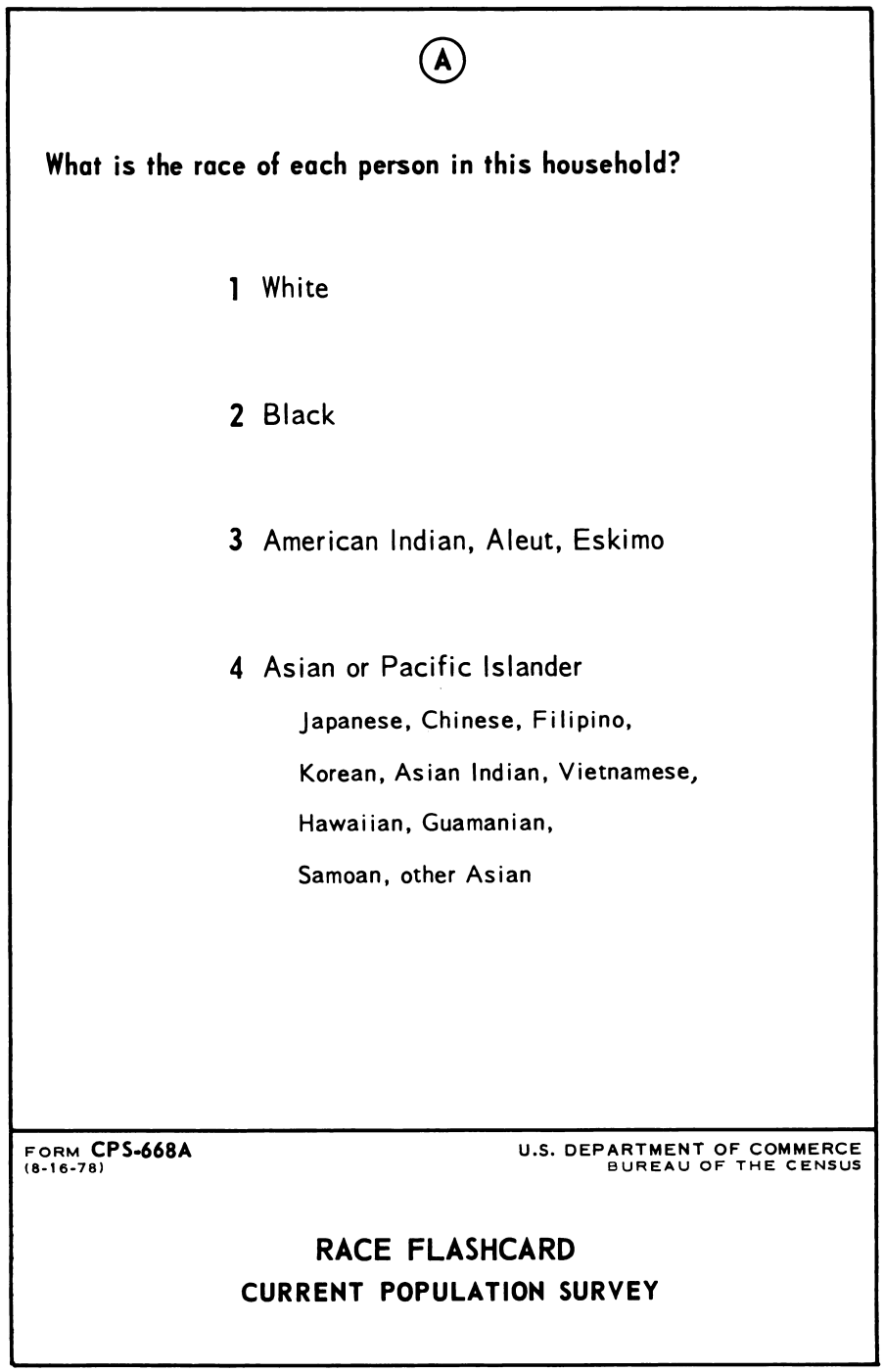
Facsimilie I.

CPS-260—Control Card


CPS-2
1 SAMPLE
2a PSU SEGMENT SERIAL
2b CATI segment
Yes
3 HOUSEHOLD NUMBER
4 SEGMENT
1 Area
2 Address
3 Sp. Place
4 Permit
5 1st month letter sent
6 5th month letter sent
7 Initial Listing Verification
INTRODUCTION - Hello, I am (interviewer's name) from the United States Bureau of the Census. Here is my identification card. We are taking a survey of employment and unemployment in (Name of city or county) and all over the country. I have some questions I would like to ask you. Did you receive our letter?
RELATIONSHIP CODES FOR 14b
01 Reference person WITH relatives in household
02 Reference person with NO relatives in household
03 Husband
04 Wife
05 Natural/Adopted Child
06 Step Child
07 Grandchild
08 Parent
09 Brother/Sister
10 Other relative of reference person
11 Foster Child
12 Nonrelative of reference person WITH OWN relatives in household
13 Partner/Roommate
14 Nonrelative of reference person (other than partner/roommate) with NO OWN relatives in household
ARMED FORCES CODES FOR 21b
Enter code in descending order of priority. Thus if person served in Vietnam and in Korea, enter 1
Vietnam Era (Aug. 64-April 75) 1
Korean War (June 50-Jan. 55) 2
World War II (Sept. 40-July 47) 3
World War I (Apr. 17-Nov. 18) 4
Other Service (All other periods) 5
RACE CODES FOR 24
01 White
02 Black
03 American Indian Aleut, Eskimo
04 Asian or Pacific Islander
05 Other
ORIGIN CODES FOR 25
01 German
02 Italian
03 Irish
04 French
05 Polish
06 Russian
07 English
08 Scottish
09 Mexican American
10 Mexican
11 Chicano
12 Mexican
13 Puerto Rican
14 Puerto Rican
15 Cuban
16 Central or South American
17 Other Spanish
20 Afro American (Black Negro)
26 Dutch
27 Swedish
28 Hungarian
30 Another Group not listed
99 Don't know
9a ADDRESS - Sheet
PLACE
ST
ZIP CODE
9b What is your exact address? (Make corrections to address above) Same
9c Is this your mailing address? Yes No - Specify below include ZIP Code
9d Special Place name
Type code
Sample No
AREA SEGMENTS ONLY
10 YEAR BUILT
Ask 1st mo
Do NOT ask
When was this structure originally built?
Before 4 1 80 - Continue interview
After 4 1 80 - Complete 9c and 10-12 when required, and interview
11 TENURE
Are you living quarters-
1st
5th
Owned or being bought by you or someone in your household?
Rented for cash?
Occupied without payment of cash rent?
12 LAND USE
1 URBAN - SKIP to Item 13
3 RURAL
• Regular units and Special Place units coded 05-08 in Item 7d - ASK Item 12b.
• Special Place units not coded 05-08 in Item 7d - Mark "No" in Item 12b without asking, then go to Item 13.
NOTE: Transcribe to CPS-1, Item 6a.
12b During the past 12 months did sales of crops, livestock, and other farm products from this place amount to $1,000 or more?
1st
5th
Yes
No
NOTE: Transcribe to CPS-1, Item 6b.
COVERAGE QUESTIONS
8 ASK (in 1st and 5th month):
1st
5th
1 a. Are there any complete or vacant living quarters besides your own in this building?
2 b. Are there any complete or vacant living quarters besides your own on this floor?
3 c. Is there any other building on this property for people to live in - either occupied or vacant?
4 d. None
Y N
Fill Table X
13 (Refer to item 7d)
1 Unit is in a special place - Refer to Table A in Part C of the manual and mark 12c or 12d accordingly
2 Unit is not in a special place
14 ACCESS
3 Direct - Fill 12c
4 Through another unit - Not a separate HU, combine with unit through which access is gained. Apply "merged unit" procedures if appropriate
15 HOUSING UNIT
1 House, apartment, flat
2 HU in nontransient hotel, motel, etc.
3 HU permanent in transient hotel, motel, etc.
4 HU in rooming house
5 Mobile home or trailer with no permanent room added
6 Mobile home or trailer with one or more permanent rooms added
7 HU not specified above - Describe
16 OTHER UNIT
8 Quarters not HU in rooming or boarding house
9 Unit not permanent in transient hotel, motel, etc.
10 Unoccupied tent site or trailer site
11 Student quarters in college dormitory
12 OTHER unit not specified above - Describe
REFERENCE PERSON HOUSEHOLD ROSTER
Last name first
What are the names of all persons living or staying here? Start with the name of the person or one of the persons who (owns/rents) this home
Line number (Cross out No. of resp.)
What is 's relationship to (Reference person)?
Enter code
HOUSEHOLD MEMBER
Does usually live here?
LINE NO OF PARENT
Enter from 14b and 13 if none, leave blank
GO TO 18
FOR PERSONS WITH "YES" IN ITEM 14c
ASK ITEMS 17a THROUGH 23 ACROSS FOR EACH ELIGIBLE PERSON
What is 's date of birth?
Enter in numerals
Month
Day
Year
AGE LAST BIRTHDAY
Enter age as of end of survey week. If under 1 year of age, enter "00"
Month and year of age change
Enter in numerals
MARITAL STATUS
Is now married
1 Sp. Present
2 Sp. Absent
3-Widowed
4-Divorced
5-Separated OR
6-Never married
LINE NO OF SPOUSE
Enter from 19a 14b, and 13 if none, leave blank
SEX
Enter 1-Male or 2-Female
FOR ALL HOUSEHOLD MEMBERS 15 YEARS AND OLDER
Did ever serve on active duty in the U.S. Armed Forces?
Yes in 21a When did serve?
Enter code
Is now in the Armed Forces?
What is the highest level of school ... has completed or the highest degree ... has received?
Update in 5th month AND in Feb., July, and Oct.
First
Update code
ASK ONCE FOR ENTIRE HOUSEHOLD
What is the race of each person in this household?
Show flashcard
Enter code
ASK ONCE FOR ENTIRE HOUSEHOLD
What is the origin or descent of each person in this household?
Show flash card
Enter code
What is the Social Security or Railroad Retirement number of each person in this household who is 15 years of age or older?
Read names
CHANGES IN HOUSEHOLD COMPOSITION
01 New person added-HH member
02 New person added-URE
03- Person undeleted-e.g. former HH member returns to household or URE becomes HH member
04- Person died
05- Person delayed for reason other than death
06- Person joined Armed Forces
07 Person no longer AF member
08 Person turned 15
Line No
PGM 3
HOUSEHOLD ROSTER COVERAGE
17 Ask first time household is interviewed in each 4-month period. (If "Yes," enter name in item 14a above.)
I have listed (Read names in item 14a and in 5th month verify 14c as appropriate).
Have I missed:
-any babies or small children?
-anyone who usually lives here but is away now traveling, at school, or in a hospital?
-any lodgers, boarders, or persons you employ who live here?
-anyone else staying here?
1st
5th
Yes
No
Go to 18a
Go to 23
ASK ALL OTHER MONTHS
18 I have listed (Read names in item 14a and verify 14c as appropriate). Is there anyone else living or staying here now?
2 3 4 6 7 8
Yes No
HOUSING UNIT COVERAGE
19 Unit is -
1 In a Special Place - SKIP to 17a above
2 Not in a Special Place - Go to 16b
20a ASK IF NOT APPARENT
Do all persons in this household live or eat together?
1 Yes - Go to 16c
2 No, neither live nor eat together - Fill Table X for the person or group of persons not living or eating with the Reference Person.
20b ASK IF NOT APPARENT
Does any other household on the property live or eat with this household?
1 Yes - Redefine the unit to include space occupied by all persons who live or eat together. Apply merged unit procedures if appropriate
2 No
USE OF TELEPHONE (27-28) LEAD-IN: Since households included in this survey are interviewed again during each of the next 3 months, we attempt to conduct the followup interviews by telephone.
1st
5th
21 Is there a telephone in this house/apartment?
Y - Skip to 27c
N
22 Is there a telephone elsewhere on which people in this household can be contacted?
Y - Where?
N - Skip to 28
23 Is a telephone interview acceptable?
Y
N - Skip to 28
24 What is the telephone number of the phone where you would like to be called?
( )
25 When is the best time to call or visit?
a.m.
p.m.
26 Would a Sunday interview be okay?
Yes
No
Home
Office
27a TOTAL FAMILY INCOME IN PAST 12 MONTHS - (Show flashcard)
Which category on this card represents the total combined income of all members of this FAMILY during the past 12 months? This includes money from jobs, net income from business, farm or rent, pensions, dividends, interest, social security payments and any other money income received by members of this FAMILY who are 16 years of age or older?
1st
5th
Less than $5,000 01
5,000 to 7,499 02
7,500 to 9,999 03
10,000 to 12,499 04
12,500 to 14,999 05
15,000 to 19,999 06
20,000 to 24,999 07
25,000 to 29,999 08
30,000 to 34,999 09
35,000 to 39,999 10
40,000 to 49,999 11
50,000 to 59,999 12
60,000 to 74,999 13
$75,000 or more 14
Refuse! 29
27b VACATION REMINDER: Next month during the week of the 19th we will again be calling on you. Is there any reason why we would not be able to contact you here?
FORM CPS 260 4 23 92
U.S. GPO 1992-648 072/60080

Facsimilie II.

Race Flashcard



(A)

What is the race of each person in this household?

1 White

2 Black

3 American Indian, Aleut, Eskimo

4 Asian or Pacific Islander

Japanese, Chinese, Filipino,

Korean, Asian Indian, Vietnamese,

Hawaiian, Guamanian,

Samoan, other Asian

FORM CPS-668A
(8-16-78)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

RACE FLASHCARD

CURRENT POPULATION SURVEY

Facsimilie III.

Origin or Descent Flashcard

Ⓑ

What is the origin or descent of each person in this household?

01 German

02 Italian

03 Irish

04 French

05 Polish

06 Russian

07 English

08 Scottish

09 Welsh

10 Mexican-American

11 Chicano

12 Mexican

14 Puerto Rican

15 Cuban

16 Central or South American (Spanish Countries)

17 Other Spanish

20 Afro-American (Black, Negro)

OR

30 Another group not listed

FORM CPS-668B
(8-16-78)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

ORIGIN OR DESCENT FLASHCARD
CURRENT POPULATION SURVEY

Facsimilie IV.

CPS-1—Basic Questionnaires

CHECK ITEM

Only CPS-1 for household ☐

First CPS-1 of continuation h'hold. ☐

Second CPS-1 of continuation h'hold ☐

Third, fourth, and 5th CPS-1 ☐

FORM CPS-1

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census

CONTROL NUMBER

PSU | SEGMENT | SERIAL

CURRENT POPULATION SURVEY

Form Approved – O.M.B. No. 1220-0100 – Expires 11-30-91

Fosdic 28.1:1

LINE NO. OF H'HOLD RESP. ____

NON H'HOLD RESPONDENT ☐
(Specify and Send Intercomm for interviewed household)

INTERVIEW

Do ITEMS 23A–E in this CPS–1 contain ANY ENTRY OTHER THAN *NEVER WORKED* (Yes ☐ / No ☐)

NONINTERVIEW

TYPE A ☐

TYPE B ☐

TYPE C ☐

(SEND INTER COMM FOR TYPE A AND C)

TELEPHONE HOLD
(Mark this box for office "telephone hold" cases only)

☐

CHECK ITEM

CPS-665 being held for follow-up ☐

CURRENT POPULATION SURVEY

MARCH 1991

CHILDREN'S *(0–14 years old)* TRANSCRIPTION ITEMS

(If more than 4 children in household, use continuation CPS-1 document.)

FIRST CHILD

18A. LINE NO.	18B. RELATIONSHIP TO REFERENCE PERSON *(Control Card item 14b)*	18C. PARENT'S LINE NUMBER	18D. AGE	18G1. SEX	18J. RACE	18K. ORIGIN
00 11 22 33 44 55 66 77 88 99	Natural/Adopted Child ..... 05 O Step Child ..... 06 O Grandchild ..... 07 O Brother/Sister ..... 09 O Other Rel. of ref. person .... 10 O Foster Child ..... 11 O Non-rel. of Ref. Person WITH OWN rel. in H'hld. .. 12 O Non-rel. of Ref. Person with NO OWN rel. in H'hld. 14 O	00 11 22 33 44 55 66 77 88 99 None O	00 11 22 33 44 55 66 77 88 99	Male ..... 1 Female ... 2	White ... 1 Black ... 2 Amer. Indian, Aleut, Eskimo 3 Asian or Pacific Islander 4 Other ... 5	00 11 22 33 44 55 66 77 88 99

SECOND CHILD

18A. LINE NO.	18B. RELATIONSHIP TO REFERENCE PERSON *(Control Card item 14b)*	18C. PARENT'S LINE NUMBER	18D. AGE	18G1. SEX	18J. RACE	18K. ORIGIN
00 11 22 33 44 55 66 77 88 99	Natural/Adopted Child ..... 05 O Step Child ..... 06 O Grandchild ..... 07 O Brother/Sister ..... 09 O Other Rel. of ref. person .... 10 O Foster Child ..... 11 O Non-rel. of Ref. Person WITH OWN rel. in H'hld. .. 12 O Non-rel. of Ref. Person with NO OWN rel. in H'hld. 14 O	00 11 22 33 44 55 66 77 88 99 None O	00 11 22 33 44 55 66 77 88 99	Male ..... 1 Female ... 2	White ... 1 Black ... 2 Amer. Indian, Aleut, Eskimo 3 Asian or Pacific Islander 4 Other ... 5	00 11 22 33 44 55 66 77 88 99

THIRD CHILD

18A. LINE NO.	18B. RELATIONSHIP TO REFERENCE PERSON *(Control Card item 14b)*	18C. PARENT'S LINE NUMBER	18D. AGE	18G1. SEX	18J. RACE	18K. ORIGIN
00 11 22 33 44 55 66 77 88 99	Natural/Adopted Child ..... 05 O Step Child ..... 06 O Grandchild ..... 07 O Brother/Sister ..... 09 O Other Rel. of ref. person .... 10 O Foster Child ..... 11 O Non-rel. of Ref. Person WITH OWN rel. in H'hld. .. 12 O Non-rel. of Ref. Person with NO OWN rel. in H'hld. 14 O	00 11 22 33 44 55 66 77 88 99 None O	00 11 22 33 44 55 66 77 88 99	Male ..... 1 Female ... 2	White ... 1 Black ... 2 Amer. Indian, Aleut, Eskimo 3 Asian or Pacific Islander 4 Other ... 5	00 11 22 33 44 55 66 77 88 99

FOURTH CHILD

18A. LINE NO.	18B. RELATIONSHIP TO REFERENCE PERSON *(Control Card item 14b)*	18C. PARENT'S LINE NUMBER	18D. AGE	18G1. SEX	18J. RACE	18K. ORIGIN
00 11 22 33 44 55 66 77 88 99	Natural/Adopted Child ..... 05 O Step Child ..... 06 O Grandchild ..... 07 O Brother/Sister ..... 09 O Other Rel. of ref. person .... 10 O Foster Child ..... 11 O Non-rel. of Ref. Person WITH OWN rel. in H'hld. .. 12 O Non-rel. of Ref. Person with NO OWN rel. in H'hld. 14 O	00 11 22 33 44 55 66 77 88 99 None O	00 11 22 33 44 55 66 77 88 99	Male ..... 1 Female ... 2	White ... 1 Black ... 2 Amer. Indian, Aleut, Eskimo 3 Asian or Pacific Islander 4 Other ... 5	00 11 22 33 44 55 66 77 88 99

ARMED FORCES MEMBERS TRANSCRIPTION ITEMS

(Fill only in interviewed households for persons with "AF" in CC item 22.
If more than 2 AF persons in household, use continuation CPS-1 document.)

FIRST ARMED FORCES MEMBER

18A. LINE NO.	18B. RELATIONSHIP TO REFERENCE PERSON	18C. PARENT'S LINE NUMBER	18D. AGE	18E. MARITAL STATUS
00 11 22 33 44 55 66 77 88 99	Ref. Person WITH rel. in H'hld. 01 O Ref. person with NO rel. in H'hld 02 O Husband ..... 03 O Wife ..... 04 O Natural/Adopted Child ..... 05 O Step Child ..... 06 O Grandchild ..... 07 O Parent ..... 08 O Brother/Sister ..... 09 O Other rel. of Ref. Person ..... 10 O Foster Child ..... 11 O Non-rel. of Ref. Person WITH OWN rel. in H'hld. ..... 12 O Partner/Roommate ..... 13 O Non-rel. of Ref. Person (other than partner/roommate) with NO OWN rel. in H'hld. ... 14 O	00 11 22 33 44 55 66 77 88 99 None O	00 11 22 33 44 55 66 77 88 99	Married — spouse present 1 Married — spouse absent *(Exclude separated)* ..... 2 Widowed ..... 3 Divorced ..... 4 Separated ..... 5 Never married .. 6

18F. SPOUSE'S LINE NO.	18G1. SEX	18H. HIGHEST GRADE ATTENDED	18I. GRADE COMPLETED	18J. RACE	18K. ORIGIN
00 11 22 33 44 55 66 77 88 99 None O	Male 1 Female 2	00 11 22 33 44 55 66 77 88 99	Yes 1 No 2	White ..... 1 Black ..... 2 Amer. Indian, Aleut, Eskimo 3 Asian or Pacific Isl.. 4 Other 5	00 11 22 33 44 55 66 77 88 99

SECOND ARMED FORCES MEMBER

18A. LINE NO.	18B. RELATIONSHIP TO REFERENCE PERSON	18C. PARENT'S LINE NUMBER	18D. AGE	18E. MARITAL STATUS
00 11 22 33 44 55 66 77 88 99	Ref. Person WITH rel. in H'hld. 01 O Ref. person with NO rel. in H'hld 02 O Husband ..... 03 O Wife ..... 04 O Natural/Adopted Child ..... 05 O Step Child ..... 06 O Grandchild ..... 07 O Parent ..... 08 O Brother/Sister ..... 09 O Other rel. of Ref. Person ..... 10 O Foster Child ..... 11 O Non-rel. of Ref. Person WITH OWN rel. in H'hld. ..... 12 O Partner/Roommate ..... 13 O Non-rel. of Ref. Person (other than partner/roommate) with NO OWN rel. in H'hld. ... 14 O	00 11 22 33 44 55 66 77 88 99 None O	00 11 22 33 44 55 66 77 88 99	Married — spouse present 1 Married — spouse absent *(Exclude separated)* ..... 2 Widowed ..... 3 Divorced ..... 4 Separated ..... 5 Never married .. 6

18F. SPOUSE'S LINE NO.	18G1. SEX	18H. HIGHEST GRADE ATTENDED	18I. GRADE COMPLETED	18J. RACE	18K. ORIGIN
00 11 22 33 44 55 66 77 88 99 None O	Male 1 Female 2	00 11 22 33 44 55 66 77 88 99	Yes 1 No 2	White ..... 1 Black ..... 2 Amer. Indian, Aleut, Eskimo 3 Asian or Pacific Isl.. 4 Other 5	00 11 22 33 44 55 66 77 88 99

MARCH 1991 — U.S. Department of Commerce, BUREAU OF THE CENSUS

CURRENT POPULATION SURVEY

FORM CPS-1

1. CHECK ITEM
- Only CPS-1 for household ..... ○
- First CPS-1 of continuation h'hld. ... ○ *(Fill all applicable items on this page)*
- Second CPS-1 of continuation h'hold ○
- Third, fourth, etc. CPS-1 ..... ○ *(Transcribe items 1–13 from first CPS-1)*

2.

3. CONTROL NUMBER

MONTH ○○●○○○○○○○○○ | **YEAR** ○●○○○

10. FIELD REPRESENTATIVE CODE
A B C D E F G H J K L M
○○○○○○○○○○○○
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9

11. DAY COMPLETED
S M T W TH F S — After interview week
○ ○ ○ ○ ○ ○ ○ ○

12. LINE NO. OF H'HOLD RESP.
1 2 3 4 5 6 +
Non. h'hld. resp. *(Specify)* ○ *(Send Inter Comm Interviewed Households Only)*

4. TYPE OF LIVING QUARTERS

HOUSING UNIT		OTHER UNIT	
House, apartment, flat	1 ○	Quarters not HU in rooming or boarding house	8 ○
HU in nontransient hotel, motel, etc.	2 ○	Unit not permanent in transient hotel, motel, etc.	9 ○
HU, permanent, in transient hotel, motel, etc.	3 ○	Tent site or trailer site	10 ○
HU in rooming house	4 ○	Student quarters in college dormitory	11 ○
Mobile home or trailer with no permanent room added	5 ○	Other not HU *(Describe below)*	12 ○
Mobile home or trailer with one or more permanent rooms added	6 ○		
HU not specified above *(Describe below)*	7 ○		

5a. LAND USAGE
Urban 1
Rural 2 *(Fill 5b)*

5b. FARM SALES
$1000 or more *(Yes)* 1
Less than $1000 *(No)* 2

6. PSU NO. 0 0 0 / 1 1 1 / 2 2 2 / 3 3 3 / 4 4 4

7. SEGMENT NO. 0 0 0 / 1 1 1 / 2 2 2 / 3 3 3 / 4 4 4

8. SERIAL NO. 0 0 / 1 1 / 2 2 / 3 3 / 4 4

9. HOUSEHOLD NO. 1 / 2 / 3 / 4 *(Go to 10)*

13. TYPE INTERVIEW
- Noninterview ○
- Personal ..... ○
- Tel. – regular ○
- Tel. – callback ○
- ICR filled .... ○

13A. CHECK ITEM
Telephone Hold
(Fill circle for office "telephone hold" cases only) ○

NONINTERVIEW

TYPE A
14. *(Mark reason and race.)*

REASON		RACE	
No one home	○	White	1
Temporarily absent	○	Black	2
Refused	○	All other	3
Other – Occ. *(Describe below)*	○		

TYPE B
15.
- Vacant – regular ○
- Vacant – storage of h'hld furniture ○ *(Fill 16)*
- Temp. occ. by persons with URE ○
- Unfit or to be demolished ○
- Under construction, not ready ○
- Converted to temp. business or storage ○
- Occ. by Armed Force members or persons under 15 ○ *(Omit 16–17)*
- Unoccupied tent site or trailer site ○
- Permit granted, construction not started ○
- Other *(Specify below)* ○

TYPE C *(Send Inter Comm)*
- Demolished ○
- House or trailer moved ○
- Outside segment ○
- Converted to permanent business or storage ○
- Merged ○
- Condemned ○ *(Omit 16–17)*
- Built after April 1, 1980 ○
- Unused line of listing sheet ○
- Other *(Describe below)* ○

SEASONAL STATUS
18. This unit is intended for occupancy:
- Year round ○ *(Fill HVS if HU in Item 4)*
- By migratory workers ○ *(Fill Item 17 below if HU in Item 4)*
- Seasonally ○

17. This unit is intended for occupancy:
- Summers only ○
- Winters only ○ *(Transcribe as instructed on back of Control Card.)*
- Other *(Describe below)* ○

TRANSCRIPTION ITEMS
Fill for interviewed households only. (If continuation CPS-1's required, only fill on first CPS-1 each month.)

27A. TENURE *(Transcribe from cc item 10)*
- Owned or being bought 1
- Rented 2
- No cash rent 3

27B. HOUSEHOLD STATUS CHANGE
Is this a replacement household this month?
Yes ○ / No ○

28. TOTAL FAMILY INCOME *(Transcribe from cc item 29)*

01 ○	05 ○	09 ○	13 ○
02 ○	06 ○	10 ○	14 ○
03 ○	07 ○	11 ○	29 ○
04 ○	08 ○	12 ○	

USE OF TELEPHONE

29A. Telephone in Household *(Transcribe from C.C. Item 27a)*
Yes 1 *(Skip to 29c)*
No 2 *(Fill 29b)*

29B. Telephone Available *(Transcribe from C.C. item 27b)*
Yes 1 *(Fill 29c)*
No 2 *(Skip to 30)*

29C. Telephone Interview Acceptable *(Transcribe from C.C. Item 27c)*
Yes 1 / No 2 *(Fill 30)*

(Fill for noninterviewed and interviewed households)

30. NUMBER OF CONTACTS – ACTUAL AND ATTEMPTED *(Transcribe from C.C. item 31)*
Personal 1 2 3 4 5 6 + *(C.C. item 31c)*
Telephone 1 2 3 4 5 6 7 8 9 + *(C.C. items 31 d & e)*

31. TIME OF INTERVIEW *(Mark the time period in which the majority of the labor force interview was obtained or noninterview classification was determined.)*
- Midnight to 6 a.m. ○
- 6 to 9 a.m. ..... ○
- 9 a.m. to Noon ... ○
- Noon to 3 p.m. ... ○
- 3 to 6 p.m. ○
- 6 to 9 p.m. ○
- 9 p.m. to Midnight ○

REMINDER
Fill items 18A–18L on pages 2, 5, 7, 9, and 11.

HOUSEHOLD ITEMS Fill after basic labor force interview and proceed to CPS-665

32A. CHECK ITEM *(From Control Card Item 25)* Is Spanish origin *(codes 10 through 17)* entered on the Control Card for any person 15+ in this household?
Yes ○ *(Ask 32B)*
No ○ *(Go to CPS-665)*

32B. Did *(Read names of Reference Person)* live at this address during the week of November 19, 1990?
Yes ○ *(Fill 32C)*
No ○ *(Go to CPS-665)*

32C. CHECK ITEM *(From Control Card Item 25)* Is reference person's origin code 10 through 17?
Yes ○ *(Go to CPS-665)*
No ○ *(Ask 32D)*

32D. Did any of the following household members live here during the week of November 19, 1990? *(Read all household member names with codes 10–17 in cc Item 25.)*
Yes ○ / No ○ *(Go to CPS-665)*

CODER NUMBER
A B C D E F G H J K L M
○○○○○○○○○○○○
0 1 2 3 4 5 6 7 8 9

18. LINE NUMBER

19. What was . . . doing most of LAST WEEK — Working / Keeping house / Going to school / or something else?

Working *(Skip to 20A)* . . . . WK ○
With a job but not at work . . . J ○
Looking for work . . . . . LK ○
Keeping house . . . . . H ○
Going to school . . . . . S ○
Unable to work *(Skip to 24)* . . U ○
Retired . . . . . R ○
Other *(Specify)* . . . . . OT ○

20. Did . . . do any work at all LAST WEEK, not counting work around the house? *(Note: If farm or business operator in hh., ask about unpaid work.)*

Yes ○ No ○ *(Go to 21)*

20A. How many hours did . . . work LAST WEEK at all jobs? ⊘⊘ 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9

20B. CHECK ITEM

49+ ○ *(Skip to Item 23)*
1–34 ○ *(Go to 20C)*
35–48 ○ *(Go to 20D)*

20C. Does . . . USUALLY work 35 hours or more a week at this job?

Yes ○ What is the reason . . . worked less than 35 hours LAST WEEK?

No ○ What is the reason . . . USUALLY works less than 35 hours a week?

(Mark the appropriate reason)

Slack work . . . . . ○
Material shortage . . . . . ○
Plant or machine repair . . . . . ○
New job started during week . . ○
Job terminated during week . . ○
Could find only part-time work ○
Holiday *(Legal or religious)* . . . . ○
Labor dispute . . . . . ○
Bad weather . . . . . ○
Own illness . . . . . ○
On vacation . . . . . ○
Too busy with housework, school, personal bus., etc. . . ○
Did not want full-time work . . ○
Full-time work week under 35 hours . . . . . ○
Other reason *(Specify)* . . . . . ○

(Skip to 23 and enter job worked at last week)

20D. Did . . . lose any time or take any time off LAST WEEK for any reason such as illness, holiday or slack work?

Yes ○ How many hours did . . . take off?

(Correct 20A if lost time not already deducted; If 20A reduced below 35, correct 20B and fill 20C)

No ○

20E. Did . . . work any overtime or at more than one job LAST WEEK?

Yes ○ How many extra hours did . . . work?

(Correct 20A and 20B as necessary if extra hours not already included and skip to 23.)

No ○ *(Skip to 23)*

21. *(If J in 19, skip to 21A.)* Did . . . have a job or business from which he/she was temporarily absent or on layoff LAST WEEK?

Yes ○ No ○ *(Go to 22)*

21A. Why was . . . absent from work LAST WEEK?

Own illness . . . . . ○
On vacation . . . . . ○
Bad weather . . . . . ○
Labor dispute . . . . ○
New job to begin within 30 days ○ *(Skip to 22B and 22C2)*
Temporary layoff *(Under 30 days)* ○
Indefinite layoff *(30 days or more or no def. recall date)* . . . . . ○ *(Skip to 22C3)*
Other *(Specify)* . . ○

21B. Is . . . receiving wages or salary from his/her employer for any of the time off LAST WEEK?

Yes ○
No ○

21C. Does . . . usually work 35 hours or more a week at this job?

Yes ○
No ○

(Skip to 23 and enter job held last week)

22. *(If LK in 19, Skip to 22A.)* Has . . . been looking for work during the past 4 weeks?

Yes ○ No ○ *(Go to 24)*

22A. What has . . . been doing in the last 4 weeks to find work? *(Mark all methods used; do not read list.)*

Checked with— pub. employ. agency ○
pvt. employ. agency ○
employer directly . . . ○
friends or relatives . . ○
Placed or answered ads . . . . . ○
Nothing *(Skip to 24)* . . . . . ○
Other *(Specify in notes, e.g., JTPA, union or prof. register, etc.)* . . . . . ○

22B. At the time . . . started looking for work, was it because he/she lost or quit a job or was there some other reason?

- Lost job . . . . . ○
- Quit job . . . . . ○
- Left school . . . . . ○
- Wanted temporary work . . ○
- Change in home or family responsibilities ○
- Left military service . . . . . ○
- Other *(Specify in notes)* . . . . ○

22C. 1) How many weeks has . . . been looking for work? ⊘⊘ 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9

2) How many weeks ago did . . . start looking for work?

3) How many weeks ago was . . . laid off?

22D. Has . . . been looking for full-time or part-time work?

Full ○ Part ○

22E. Could . . . have taken a job LAST WEEK if one had been offered?

Yes ○ No ○ Why not?

Already has a job . . . . ○
Temporary illness . . . . ○
Going to school . . . . . ○
Other *(Specify in notes)* ○

22F. When did . . . last work at a full-time job or business lasting 2 consecutive weeks or more?

Within last 12 months *(Specify)* . . ○
(Month) _____
One to five years ago . . . . . ○
More than 5 years ago . . . . . ○
Never worked full-time 2 wks. or more . . . . . ○
Never worked at all . . . . . ○

(SKIP to 23. If layoff entered in 21A, enter job, either full or part time, from which laid off. Else enter last full time job lasting 2 weeks or more, or "never worked.")

24. CHECK ITEM *(Rotation number)*

First digit of SEGMENT number is:

○ 2, 3, 4, 6, 7 or 8 *(Skip to 26)*
○ 1 or 5 *(Go to 24A)*

24A. When did . . . last work for pay at a regular job or business, either full- or part-time?

Within past 12 months ○
1 up to 2 years ago . . . ○
2 up to 3 years ago . . . ○
3 up to 4 years ago . . . ○
4 up to 5 years ago . . . ○ *(Go to 24B)*
5 or more years ago . . . ○
Never worked . . . . . ○ *(Skip to 24C)*

24B. Why did . . . leave that job?

Personal, family *(Incl. pregnancy)* or school . . . . ○
Health . . . . . ○
Retirement or old age . . . . . ○
Seasonal job completed . . . . . ○
Slack work or business conditions ○
Temporary nonseasonal job completed . . . ○
Unsatisfactory work arrangements *(Hours, pay, etc.)* ○
Other . . . . . ○

24C. Does . . . want a regular job now, either full- or part-time?

Yes . . . . . ○ *(Go to 24D)*
Maybe — it depends ○ *(Specify in notes)*
No . . . . . ○ *(Skip to 24E)*
Don't know . . . . . ○

24D. What are the reasons . . . is not looking for work? *(Mark each reason mentioned)*

- Believes no work available in line of work or area ○
- Couldn't find any work . . . . . ○
- Lacks nec. schooling, training, skills or experience . . . . ○
- Employers think too young or too old . . . . . ○
- Other pers. handicap in finding job ○
- Can't arrange child care . . . . . ○
- Family responsibilities . . . . . ○
- In school or other training . . . . . ○
- Ill health, physical disability . . . . . ○
- Other *(Specify in notes)* . . . . . ○
- Don't know . . . . . ○

24E. Does . . . intend to look for work of any kind in the next 12 months?

Yes . . . . . ○
It depends *(Specify in notes)* ○
No . . . . . ○
Don't know . . . . . ○

(If entry in 24B, describe job in 23, otherwise, skip to 26)

25. CHECK ITEM *(Rotation number)*

First digit of SEGMENT number is:

○ 2, 3, 4, 6, 7 or 8 *(Skip to 26)*
○ 1 or 5 *(Go to 25A)*

25A. How many hours per week does . . . USUALLY work at this job? ⊘⊘ 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9

25B. Is . . . paid by the hour on this job?

Yes ○ *(Go to 25C)*
No ○ *(Skip to 25D)*

25C. How much does . . . earn per hour?

	Dollars	Cents
	⊘⊘ 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9	⊘⊘ 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9

$ ____ . ____

(Ask 25D) REF ○

25D. How much does . . . USUALLY earn per week at this job BEFORE deductions? Include any overtime pay, commissions, or tips usually received.

$ ____ REF ○

25E. On this job, is . . . a member of a labor union or of an employee association similar to a union?

Yes ○ *(Skip to 26)*
No ○ *(Ask 25F)*

25F. On this job, is . . . covered by a union or employee association contract?

Yes ○
No ○ *(Go to 26)*

23. DESCRIPTION OF JOB OR BUSINESS

23A. For whom did . . . work? *(Name of company, business, organization or other employer.)*

23B. What kind of business or industry is this? *(For example: TV and radio mfg., retail shoe store, State Labor Dept.)*

23C. What kind of work was . . . doing? *(For example: electrical engineer, stock clerk, typist, farmer.)*

23D. What were . . .'s most important activities or duties at this job? *(For example: types, keeps account books, files, sells cars, operates printing press, finishes concrete.)*

OFFICE USE ONLY

INDUSTRY	OCCUPATION
⊘⊘⊘ 1 1 1 2 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9	⊘⊘ 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9
Ref. ○	Ref. ○
Unc. ○	Unc. ○

23E. Was this person

An employee of a PRIVATE Co, bus., or individual for wages, salary or comm. . . P ○
A FEDERAL government employee . . . . . F ○
A STATE government employee . . . . . S ○
A LOCAL government employee . . . . . L ○ *(Go to 23F)*

Self-empl. in OWN bus., prof. practice, or farm
Is the business incorporated? Yes . . . . . I ○ / No . . . . . SE ○ *(Skip to 26)*

Working WITHOUT PAY in fam. bus. or farm. . . . WP ○
NEVER WORKED . . . . . NEV ○

23F. CHECK ITEM

Entry (or NA) in item 20A ○
Entry (or NA) in item 21B ○ *(Go to 25 at top of page)*

All other cases ○ *(Skip to 26)*

18A. LINE

0 0
1 1
2 2
3 3
4
5
6
7
8
9

18B. RELATIONSHIP TO REFERENCE PERSON

Ref. Person WITH rel. in H'hld ..... 01 O
Ref. person with NO rel. in H'hld ..... 02 O
Husband ..... 03 O
Wife ..... 04 O
Natural/Adopted Child ..... 05 O
Step Child ..... 06 O
Grandchild ..... 07 O
Parent ..... 08 O
Brother/Sister ..... 09 O
Other Rel. of Ref. Person ..... 10 O
Foster Child ..... 11 O
Non-rel. of Ref. Person WITH OWN rel. in H'hld ..... 12 O
Partner/Roommate ..... 13 O
Non-rel. of Ref. Person (other than partner/roommate) with NO OWN rel. in H'hld ..... 14 O

18C. PAR'S LINE NO.

0 0
1 1
2 2
3 3
4
5
6
7
8
9
None O

18D. AGE

0
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9

18E. MARITAL STATUS

Married—spouse present 1
Married—spouse absent *(Exclude separated)* 2
Widowed 3
Divorced 4
Separated 5
Never married 6

18F. SPOUSE'S LINE NUMBER

0 0
1 1
2 2
3 3
4
5
6
7
8
9
None O

18G1. SEX

Male 1
Female 2

18G2. VETERAN STATUS

Veteran
Vietnam Era 1
Korean War 2
World War II 3
World War I 4
Other Service 5
Nonveteran 6

18H. HIGHEST GRADE ATTENDED

0 0
1 1
2 2
3
4
5
6
7
8
9

18I. GRADE COMPLETED

Yes 1
No 2

18J. RACE

White 1
Black 2
Amer. Indian, Aleut. Eskimo 3
Asian or Pacific Isl. ... 4
Other 5

18K. ORIGIN

0 0
1 1
2 2
3 3
4
5
6
7
8
9

26. CHECK ITEM
(Transcribe from control card item 18)
This person is
16–24 years of age O *(Ask 26A)*
All others ..... O *(Skip to 26C)*

26A. *(If 'School' in 19, Verify)* LAST WEEK was . . . attending or enrolled in a high school, college, or university? *(Mark "Yes" if currently on holiday or seasonal vacation. Mark "No" for summer vacation).*

Yes O *(Verify)* No O *(Skip to 26C)*
High school . . . O
College or Univ. O *(Ask 26B)*

26B. Is . . . enrolled in school as a full-time or part-time student?

Full time O
Part time O *(Fill 26C)*

26C. CHECK ITEM Who responded to the labor force items for this person?

Self O
Other O
Self/Other O

REMINDER:
ASK THE L.F. ITEM FOR ALL H.H. MEMBERS BEFORE ASKING THE SUPPLEMENT.
If last person, go to item 32A on page 3.

18L. SOCIAL SECURITY NUMBER
(Transcribe from cc item 26a)

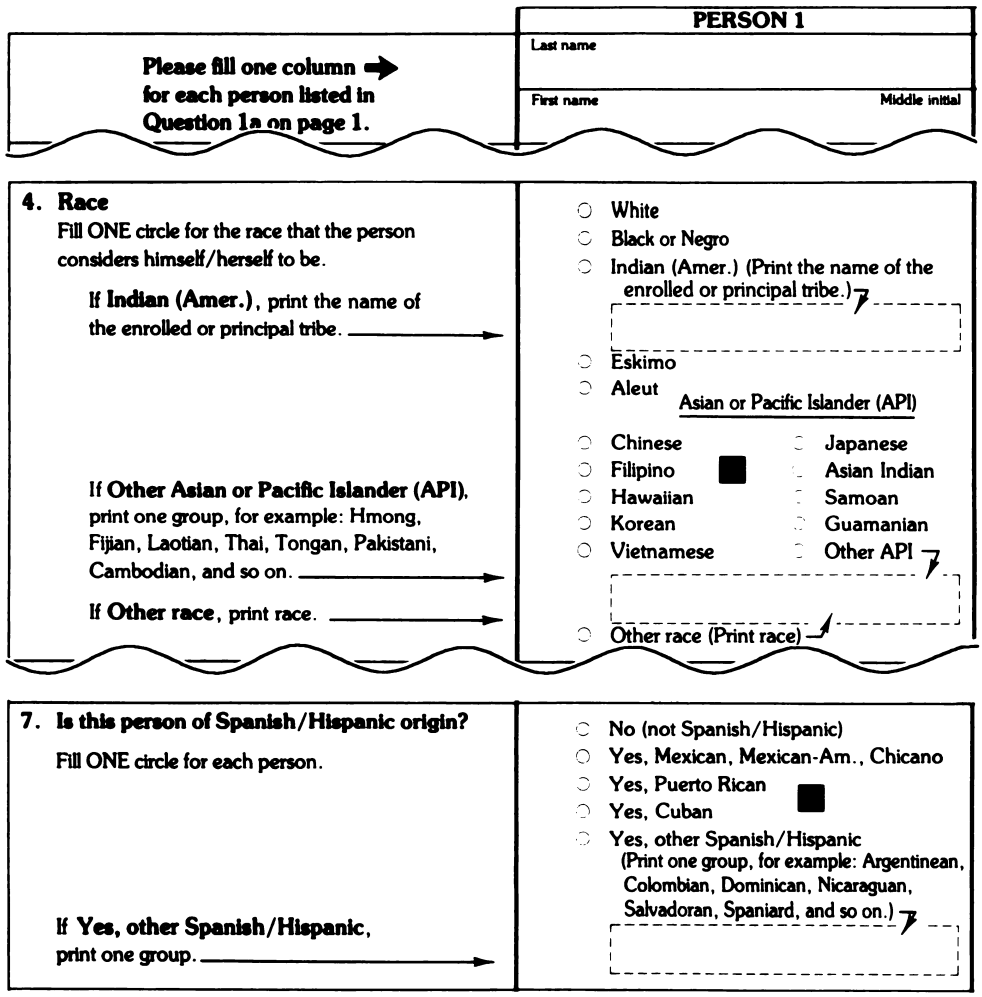
– –

O None

0 0 0 0 0 0 0 0 0
1 1 1 1 1 1 1 1 1
2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6
7 7 7 7 7 7 7 7 7
8 8 8 8 8 8 8 8 8
9 9 9 9 9 9 9 9 9

Appendix D.

Facsimiles of 1990 Census Questionnaires



Please fill one column ➡ for each person listed in Question 1a on page 1.

PERSON 1

Last name

First name | Middle initial

4. Race

Fill ONE circle for the race that the person considers himself/herself to be.

If **Indian (Amer.)**, print the name of the enrolled or principal tribe. ——→

If **Other Asian or Pacific Islander (API)**, print one group, for example: Hmong, Fijian, Laotian, Thai, Tongan, Pakistani, Cambodian, and so on. ——→

If **Other race**, print race. ——→

- White
- Black or Negro
- Indian (Amer.) (Print the name of the enrolled or principal tribe.)
- Eskimo
- Aleut

Asian or Pacific Islander (API)

- Chinese
- Filipino
- Hawaiian
- Korean
- Vietnamese
- Japanese
- Asian Indian
- Samoan
- Guamanian
- Other API

- Other race (Print race)

7. Is this person of Spanish/Hispanic origin?

Fill ONE circle for each person.

If **Yes, other Spanish/Hispanic**, print one group. ——→

- No (not Spanish/Hispanic)
- Yes, Mexican, Mexican-Am., Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, other Spanish/Hispanic (Print one group, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.)

Appendix E.

Table E-1. Race by Hispanic Origin: March 1990

(For the United States. Numbers in thousands)

Characteristic	Total Population	Hispanic	Not Hispanic
Race			
Total	246,192	20,779	225,414
White	206,983	19,905	187,078
Black	30,393	382	30,011
American Indian	1,449	68	1,381
Asian and Pacific Islander	6,679	49	6,630
Other race	688	375	314
Percent by Race			
Total	100.0	100.0	100.0
White	84.1	95.8	83.0
Black	12.3	1.8	13.3
American Indian	0.6	0.3	0.6
Asian and Pacific Islander	2.7	0.2	2.9
Other race	0.3	1.8	0.1
Percent by Origin			
Total	100.0	8.4	91.6
White	100.0	9.6	90.4
Black	100.0	1.3	98.7
American Indian	100.0	4.7	95.3
Asian and Pacific Islander	100.0	0.7	99.3
Other race	100.0	54.4	45.6

Table E-2. Race by Hispanic Origin: March 1989

(For the United States. Numbers in thousands)

Characteristic	Total Population	Hispanic	Not Hispanic
Race			
Total	243,683	20,075	223,608
White	205,332	19,285	186,047
Black	29,904	431	29,473
American Indian	1,456	56	1,400
Asian and Pacific Islander	6,447	73	6,374
Other race	544	231	313
Percent by Race			
Total	100.0	100.0	100.0
White	84.3	96.1	83.2
Black	12.3	2.1	13.2
American Indian	0.6	0.3	0.6
Asian and Pacific Islander	2.6	0.4	2.9
Other race	0.2	1.1	0.1
Percent by Origin			
Total	100.0	8.2	91.8
White	100.0	9.4	90.6
Black	100.0	1.4	98.6
American Indian	100.0	3.8	96.2
Asian and Pacific Islander	100.0	1.1	98.9
Other race	100.0	42.4	57.6

Table E-3. Labor Force Status by Race and Ethnicity: March 1991

(For the United States.Numbers in thousands)

Characteristic	Estimate	One standard error	Percent	One standard error
Total, 16 years and over	190,216	(X)	100.0	(X)
White	161,931	(X)	100.0	(X)
White, not Hispanic	147,875	(X)	100.0	(X)
Black	21,678	(X)	100.0	(X)
Black, not Hispanic	21,361	(X)	100.0	(X)
Hispanic	14,688	(X)	100.0	(X)
White Hispanic	14,056	(X)	100.0	(X)
Black Hispanic	317	(X)	100.0	(X)
Not Hispanic	175,528	(X)	100.0	(X)
In civilian labor force	124,074	305	65.2	0.17
White	106,544	325	65.8	0.19
White, not Hispanic	97,435	330	65.9	0.19
Black	13,338	109	61.5	0.52
Black, not Hispanic	13,155	109	61.6	0.52
Hispanic	9,505	88	64.7	0.62
White Hispanic	9,109	90	64.8	0.64
Black Hispanic	183	21	57.7	4.37
Not Hispanic	114,569	318	65.3	0.18
Unemployed	8,887	141	7.2	0.11
White	6,855	125	6.4	0.12
White, not Hispanic	5,936	116	6.1	0.12
Black	1,718	66	12.9	0.48
Black, not Hispanic	1,699	66	12.9	0.48
Hispanic	955	49	10.0	0.51
White Hispanic	919	48	10.1	0.52
Black Hispanic	19	7	10.4	3.71
Not Hispanic	7,932	134	6.9	0.12

X Not applicable.

Table E-4. Labor Force Status of Females by Race and Ethnicity: March 1991

(For the United States. Numbers in thousands)

Characteristic	Estimate	One standard error	Percent	One standard error
Females, 16 years and over	99,057	(X)	100.0	(X)
White	83,726	(X)	100.0	(X)
White, not Hispanic	76,687	(X)	100.0	(X)
Black	11,867	(X)	100.0	(X)
Black, not Hispanic	11,686	(X)	100.0	(X)
Hispanic	7,378	(X)	100.0	(X)
White Hispanic	7,039	(X)	100.0	(X)
Black Hispanic	181	(X)	100.0	(X)
Not Hispanic	91,679	(X)	100.0	(X)
In civilian labor force	56,373	201	56.9	0.21
White	47,714	206	57.0	0.23
White, not Hispanic	44,108	206	57.5	0.24
Black	6,755	84	56.9	0.62
Black, not Hispanic	6,663	84	57.0	0.62
Hispanic	3,791	57	51.4	0.79
White Hispanic	3,606	57	51.2	0.81
Black Hispanic	92	13	50.8	5.04
Not Hispanic	52,583	204	57.4	0.22
Unemployed	3,432	81	6.1	0.15
White	2,544	72	5.3	0.16
White, not Hispanic	2,216	68	5.0	0.16
Black	754	44	11.2	0.63
Black, not Hispanic	741	44	11.1	0.63
Hispanic	350	30	9.2	0.77
White Hispanic	328	29	9.1	0.79
Black Hispanic	13	6	14.1	5.98
Not Hispanic	3,083	78	5.9	0.16

X Not applicable.

DIRECTIVE NO. 15 [16]

RACE AND ETHNIC STANDARDS FOR FEDERAL STATISTICS AND ADMINISTRATIVE REPORTING

This Directive provides standard classifications for recordkeeping, collection, and presentation of data on race and ethnicity in Federal program administrative reporting and statistical activities. These classifications should not be interpreted as being scientific or anthropological in nature, nor should they be viewed as determinants of eligibility for participation in any Federal program. They have been developed in response to needs expressed by both the executive branch and the Congress to provide for the collection and use of compatible, nonduplicated, exhangeable racial and ethnic data by Federal agencies.

1. Definitions

The basic racial and ethnic categories for Federal Statistics and program administrative reporting are defined as follows:

a. *American Indian or Alaskan Native.* A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

b. *Asian or Pacific Islander.* A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.

c. *Black.* A person having origins in any of the black racial groups of Africa.

d. *Hispanic.* A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

e. *White.* A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

[16] Directive No. 15 supersedes section 7(h) and Exhibit F of OMB Circular No. A-46 dated May 3, 1974 and as revised May 12, 1977.

2. Utilization for Recordkeeping and Reporting

To provide flexibility, it is preferable to collect data on race and ethnicity separately. If separate race and ethnic categories are used, the minimum designations are:

a. *Race:*
–American Indian or Alaskan Native
–Asian or Pacific Islander
–Black
–White

b. *Ethnicity:*
–Hispanic origin
–Not of Hispanic origin

When race and ethnicity are collected separately, the number of White and Black persons who are Hispanic must be identifiable, and capable of being reported in that category.

If a combined format is used to collect racial and ethnic data, the minimum acceptable categories are:
American Indian or Alaskan Native
Asian or Pacific Islander
Black, not of Hispanic origin
Hispanic
White, not of Hispanic origin.

The category which most closely reflects the individual's recognition in his community should be used for purposes of reporting on persons who are of mixed racial and/or ethnic origins.

In no case should the provisions of this Directive be construed to limit the collection of data to the categories described above. However, any reporting required which uses more detail shall be organized in such a way that the additional categories can be aggregated into these basic racial/ethnic categories.

The minimum standard collection categories shall be utilized for reporting as follows:

a. *Civil rights compliance reporting.* The categories specified above will be used by all agencies in either the separate or combined format for civil rights compliance reporting and equal employment reporting for both the public and private sectors and for all levels of government. Any variation requiring less detailed data or data which cannot be aggregated into the basic categories will have to be specifically approved by the Office of Federal Statistical Policy and Standards for executive agencies. More detailed reporting which can be aggregated to the basic categories may be used at the agencies' discretion.

b. *General program administrative and grant reporting.* Whenever an agency subject to this Directive issues new or revised administrative reporting or recordkeeping requirements which include racial or ethnic data, the agency will use the racial/ethnic categories described above. A variance can be specifically requested from the Office of Federal Statistical Policy and Standards, but such a variance will be granted only if the agency can demonstrate that it is not reasonable for the primary reporter to determine the racial or ethnic background in terms of the specified categories, and that such determination is not critical to the administration of the program in question, or if the specific program is directed to only one or a limited number of race/ethnic groups, e.g., Indian tribal activities.

c. *Statistical reporting.* The categories described in this Directive will be used as [sic] a minimum for federally sponsored statistical data collection where race and/or ethnicity is required, except when: the collection involves a sample of such size that the data on the smaller categories would be unreliable, or when the collection effort focuses on a specific racial or ethnic group. A repetitive survey shall be deemed to have an adequate sample size if the racial and ethnic data can be reliably aggregated on a biennial basis. Any other variation will have to be specifically authorized by OMB through the reports clearance process (see OMB Circular No. A-40). In those cases where the data collection is not subject to the reports clearance process, a direct request for a variance should be made to the OFSPS.

3. Effective Date

The provisions of this Directive are effective immediately for all *new* and *revised* recordkeeping or reporting requirements containing racial and/or ethnic information. All *existing* recordkeeping or reporting requirements shall be made consistent with this Directive at the time they are submitted for extension, or not later than January 1, 1980.

4. Presentation of Race/Ethnic Data

Displays of racial and ethnic compliance and statistical data will use the category designations listed above. The designation "nonwhite" is not acceptable for use in the presentation of Federal Government data. It is not to be used in any publication of compliance or statistical data or in the text of any compliance or statistical report.

In cases where the above designations are considered inappropriate for presentation of statistical data on particular programs or for particular regional areas, the sponsoring agency may use:

(1) The designations "Black and Other Races" or "All Other Races," as collective descriptions of minority races when the most summary distinction between the majority and minority races is appropriate;

(2) The designations "White," "Black," and "All Other Races" when the distinction among the majority race, the principal minority race and other races is appropriate; or

(3) The designation of a particular minority race or races, and the inclusion of "Whites" with "All Other Races," if such a collective description is appropriate.

In displaying detailed information which represents a combination of race and ethnicity, the description of the data being displayed must clearly indicate that both bases of classification are being used.

When the primary focus of a statistical report is on two or more specific identifiable groups in the population, one or more of which is racial or ethnic, it is acceptable to display data for each of the particular groups separately and to describe data relating to the remainder of the population by an appropriate collective description.

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