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THE CENSUS

Coverage of the National Population in the 1980 Census, by Age, Sex, and Race:

Preliminary Estimates by Demographic Analysis



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**Coverage of the
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in the 1980 Census,
by Age, Sex, and Race:**

**Preliminary Estimates by
Demographic Analysis**

by
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Issued February 1982



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Coverage of the National Population in the 1980 Census, by Age, Sex, and Race:

Preliminary Estimates by Demographic Analysis

INTRODUCTION

The Census Bureau's Evaluation and Research Program for the 1980 census includes three programs or methodologies designed to measure the coverage of the population: demographic analysis, the Post-Enumeration Program, and the CPS-IRS match study. All three programs are designed to produce estimates of net underenumeration at the national level for the total population. Demographic analysis is also being used to estimate net census errors, combining errors of net omission and classification, for age, sex, and race (White, Black, and other races) groups nationally. The Post-Enumeration Program (PEP) is the most extensive part of the Evaluation and Research Program. Estimates of the components of net census error, including omissions, erroneous inclusions, and classification errors, will be developed from a case-by-case match of samples of the Current Population Survey with the census and a reenumeration of a sample of households included in the census. The PEP is also designed to produce coverage estimates for States and some major cities and SMSA's. The CPS-IRS match study, based on the February 1978 CPS, is being employed principally to produce national estimates of coverage of the Hispanic population at an early date. This report presents the preliminary results of demographic analysis, an initial assessment of these results, a brief description of the methodology, and a description of current and future research efforts.

As a tool for census evaluation, demographic analysis involves combining various types of demographic data to develop expected values for the population in various categories (such as total population, age, sex, and race) as of the census date and then comparing these values with the corresponding census counts. These data are drawn from sources essentially independent of the current census, such as birth, death, and immigration records, prior censuses, and sample surveys. The data are corrected for various types of errors and, as such, are assumed to be more accurate than the census data being evaluated. The accuracy of the results obviously depends on the quality of the demographic data as corrected and the design of the estimating method.

Estimates for 1970 presented in this document are refinements of the "preferred" national estimates of coverage of the 1970 census.¹ The estimates for 1980 presented here are

preliminary in nature and represent essentially demographic extensions of the estimates for 1970. The particular procedure used to estimate coverage for the various demographic subgroups, notably age groups, depends on the nature of the available data. For the population under age 45 in 1980, i.e., persons born after 1935, estimates of the resident population have been developed directly from birth, death, immigration, and emigration statistics and estimates. For the population aged 45 to 74, the coverage estimates are based on extensions of the estimated resident population aged 35 to 64 in 1970; the latter estimates were derived from analysis of previous censuses, use of recent death statistics, official life tables, and expected sex ratios, and application of stable population theory. For the population over 75, extensions of adjusted Medicare data in 1970 provide the basis for the coverage estimates. Research in progress will later provide coverage estimates for the population aged 65 and over in 1980 on the basis of more recent Medicare data. Subsequent reports on the analytic estimates will provide more detailed methodological statements together with an assessment of the probable accuracy of the results.

INTERPRETATION OF RESULTS

Differences between the estimated resident population and the counted population as shown in this report cannot be directly interpreted as undercounts for a number of reasons. Most important, the principal estimates presented in this document make no allowance for illegal immigration into the United States even though there were undoubtedly many illegal residents in the country at the census date and some were counted in the census. In addition, differences between the estimated population and the counted population represent, in general, the net effect of omissions, erroneous inclusions (including duplications), and reporting errors (for age, sex, race/Hispanic categories) in the census data; inconsistencies between the reporting of race in the census and the reporting of race in the components of the population estimates; and errors in the estimation of the population.

For many population groups, comparison of the estimated populations with the census counts suggests an excess in the census or an implied net overcount. Actual overcounts can occur in a census, particularly for subgroups of the population such as age-sex-race groups. Duplications and reporting errors, such as age misstatements, are two common mechanisms which can result in net overcounts. However, in prac-

¹U.S. Bureau of the Census, Census of Population and Housing: 1970, *Evaluation and Research Program*, PHC(E)-4, "Estimates of Coverage of Population by Sex, Race, and Age: Demographic Analysis," by Jacob S. Siegel, Washington, D.C., 1974.

tically every case shown in this report, we expect that the excess of the census over the estimate will ultimately prove to represent an artifact of the procedure used to develop these estimates, not a true overcount. The estimated overcounts probably result in large part from counting a substantial number of illegal aliens in the 1980 census but making no allowance for this group in the estimated population.

To make the estimates of the resident population and the census data fully comparable for measuring net underenumeration, it would be necessary to add the estimated total number of illegal residents in the United States on April 1, 1980, to the population estimates. Satisfactory estimates for illegal residents are not available, but research in this area is currently in progress. However, to enable users of estimates shown in this report to assess the impact of illegal immigrants on the coverage of the census, the results of several model calculations are presented for illustrative purposes. For population groups which are believed to have few illegal residents (e.g., Blacks), the differences between the principal estimates and the counts closely approximate the net undercount. For other groups, the difference as shown provides a minimal estimate or lower bound for the net undercount. (In the subsequent discussion, the terms "net undercount" and "net overcount" are used to represent the measured net error even though the estimates understate the actual amount of net undercount.)

Another problem in comparing the estimates with the census is the result of changes in the practice of reporting race, particularly on the part of the Hispanic population, and in coding and classifying racial groups in the 1980 census. One particular change has created a major inconsistency between the 1980 census data and historical data series, including censuses, vital statistics, and immigration records. About 40 percent of the Hispanic population counted in 1980, or over 5.8 million persons, did not mark one of the specified races listed on the census questionnaire but marked the "other" category instead. In the 1980 census, a modification was made in the census coding procedures in the treatment of persons who marked "other" race and wrote in a national origin designation of a Latin American country (e.g., Mexican, Venezuelan, or Cuban) or a specific Hispanic origin group (e.g., Puerto Rican, Chicano, or Hispano) in response to the race question. These persons remain in the "Other races" category in 1980 census data; in previous censuses and in vital statistics, such responses were almost always coded into the "White" category. In another change in the 1980 census, "Asian Indian" was added as a separate response category to the race question; this category is included in the "Asian and Pacific Islander" grouping or the "Other races" category in combined tabulations. In past censuses and in vital statistics, persons of Asian Indian descent have been classified as "White." (This group numbered about 362,000 in 1980.)

Because of the need for comparability between the racial groupings in the population as estimated from demographic analysis and as classified in the census, either the estimated

population or the census population must be modified to conform to the other. Since the data do not exist for modifying the estimated population, it has been necessary to redistribute the 1980 census data to conform to the historical categories.

The figures shown in this document relate primarily to the Black and White-and-other-races populations. Since most of the redistribution of the 1980 census figures to achieve consistency with other sets of data involves reclassifying persons of "Other races" as White, the effect on the undercount rates is relatively small. About 136,000 persons have been reclassified as Black. This shift adds about 0.5 percent to the Black population and reduces the estimated undercount by the same amount, while subtracting less than 0.1 percent from the White-and-other-races population. These figures are referred to in the tables as modified census counts. The preliminary estimates of undercount as derived by demographic analysis given in this report are consistent with the racial groupings of the modified census data rather than the data as compiled and published in the standard census reports.

COVERAGE OF TOTAL POPULATION

Coverage of the 1980 census relative to the 1970 census. An initial assessment of the quality of the 1980 census can be obtained by comparing the overall census total in 1980 with the estimate based on the 1970 census count and estimates of the intercensal population change between 1970 and 1980 based on births, deaths, and net immigration. The difference between the 1980 census count and the estimate for 1980 based on the 1970 census, designated as the "error of closure," provides an assessment of the *relative coverage* of the 1970 and 1980 censuses and does not indicate a level of coverage in the 1980 census exclusively.

The estimated intercensal population change from 1970 to 1980 based on births, deaths, and net immigration is 17,762,000, but the difference between the two census counts shows a much greater increase of 23,270,000:

1970 census	203,235,000
Births (corrected for underregistration)	+33,499,000
Deaths	-19,322,000
Net legal civilian immigration	+3,018,000
Net military movement to the United States	+567,000
Net increase	<u>+17,762,000</u>
1980 estimate based on 1970 census	220,997,000
1980 census	226,505,000
Difference of 1980 census count from estimate (error of closure)	+5,508,000

These figures imply that the 1980 census count was roughly 5.5 million greater than expected on the basis of the 1970 census count, i.e., the error of closure was 5.5 million. There are several possible explanations for this difference; and it is likely that no one factor can explain all of it. First, the coverage of the 1980 census may have been better than the coverage of the 1970 census, i.e., omission rates of many age-sex-race categories may have been lower than in 1970. Second, the 1980 census could include a number of persons who were counted more than once (i.e., duplications) or erroneously enumerated. An erroneous enumeration occurs when a person who should not have been counted is counted. This category includes persons born after April 1, 1980, persons who died before April 1, 1980, and nonresidents of the United States. Third, a number of illegal residents could have been counted in the 1980 census. Since no allowance was made for such persons in the estimated figures, any illegals counted in the 1980 census (in excess of the number counted in the 1970 census) would be included as part of the "error of closure." Finally, errors in estimates of the components of change could account for part of the error of closure.

On the basis of the results derived so far, no definitive statement regarding the relative contribution of these factors to the error of closure can be made. At a later date, the Post-Enumeration Program should provide insights into the accounting of the error of closure. Furthermore, tabulations of data on nativity from the 1980 census, together with the results of research in progress, may aid in assessing the contribution of illegal immigration to the error of closure or, alternatively, may make possible the inclusion of illegal immigration in the estimated intercensal population change.

Coverage of the 1980 census relative to the 1970 estimated population. If the components of change shown in the previous section are added to the estimate of the "true" population for 1970 rather than to the 1970 census count, the result is an estimate of the total population expected in 1980 which, when compared with the census count, yields an estimate of census coverage. Preliminary estimates of the total U.S. population in 1980 derived in this manner, but excluding illegal residents, are shown in table 1. Also shown are revised estimates for 1970 consistent with the 1980 estimates. The estimated population for 1980 of 225,653,000 falls 851,000 or 0.4 percent below the 1980 census count; a difference of this kind suggests the possibility of a net overcount and indicates an apparent improvement in coverage of 5.53 million persons over the 1970 census. Although some improvement in coverage would be expected on the basis of the large positive error of closure, this figure undoubtedly overstates the degree of improvement because neither the estimate for 1970, the estimate for 1980, nor the estimates of the components of change include an allowance for illegal immigration.

Table 2 presents illustrative figures which can be used to assess the impact of illegal immigration on the undercount estimates shown in tables 1, 3, and 4. The number of illegal

aliens added to the 1980 estimates varies from 1 to 6 million. These figures are not meant to be alternative estimates of the size of the illegal alien population. Rather, they represent arbitrary numbers, chosen for illustrative purposes only, which are consistent with broad empirical evidence regarding the size of the illegal alien population.²

The illustrative results in table 2 indicate that the coverage of the 1980 census would show an improvement over coverage in 1970 even if as many as 6 million illegal aliens were in the country in 1980. It should be noted that the 2.2 percent overall undercount in 1970, as shown in table 1, includes no allowance for illegals. Thus, even though there were probably many fewer illegal aliens in the country in 1970 than in 1980, it is likely that the undercount in 1970 was larger than the estimate of 2.2 percent. In other words, coverage of the 1980 census would be better than that of the 1970 census even if more than 6 million illegal aliens were in the country in 1980, provided that the additional illegals in 1980 (i.e., the number over 6 million) did not exceed the number in the country in 1970. Every 1 million illegal aliens in the country adds about 0.4-0.5 percent to the undercount of either the 1980 or the 1970 census.

ESTIMATES OF NET CENSUS ERRORS BY SEX, RACE, AND AGE

The preliminary population estimates for 1980 and revised estimates for 1970 displayed in tables 1, 2, and 4 suggest broad improvements in coverage for the 1980 census over the 1970 census. Lower omission rates in 1980 appear to have occurred for Blacks (7.6 percent vs. 4.8 percent) as well as for White-and-other-races population (1.5 percent undercount vs. 1.1 percent "overcount") and for each sex. The improvement is overstated to the extent that the estimated population for each group fails to include illegal residents. This limitation would apply mainly to the White-and-other-races population and to young adults. The improvement for Blacks is especially notable; if the number of Black illegal aliens is small, as is believed, the change for this group is likely to represent a real improvement in coverage.

Model calculations were also carried out to assess the impact of illegal immigration on the undercount estimates for the broad race groups (table 2). Because even less is known about the numbers of Black illegal aliens than about the total illegal population, 5 percent of the illegals were arbitrarily assumed to be Black. The illustrative assumptions result in a range of 50,000 to 300,000 illegals for Blacks and 0.95 to 5.7 million for the White-and-other-races population.

The illustrative model calculations including the illegal alien population show a substantially larger effect on the

²J.S. Siegel, J.S. Passel, and J.G. Robinson, "Preliminary Review of Existing Studies of the Number of Illegal Residents in the United States," *U.S. Immigration Policy and the National Interest, The Staff Report of the Select Commission on Immigration and Refugee Policy, Appendix E: Papers on Illegal Immigration to the U.S.*, 1980.

undercount of the White-and-other-races population than of the Black population. Every 950,000 White-and-other-races illegal aliens adds 0.4-0.5 percent to the undercount of the White-and-other-races population. If there were 2.2 million White-and-other-races illegals in 1980, there would be no undercount for this population. Assumptions one to five (0.95 to 4.75 million illegals) indicate improvements in White-and-other-races coverage over the 1.5 percent undercount estimated for 1970, which excludes illegals and so is likely to be somewhat too low. For the Black population, every 50,000 illegals assumed adds 0.1-0.2 percent to the undercount in 1980. Even assumption six represents a substantial improvement in coverage for Blacks from 7.6 percent in 1970 (without illegals) to 5.8 percent in 1980 (with 300,000 illegal Blacks assumed).

The remaining discussion will be based on the estimates shown in tables 1, 3, and 4, which exclude illegal aliens. Differences of the census counts from the estimates shown in the tables understate the true undercount by the (unknown) number of illegal aliens in the age-sex-race group. For example, an estimated overcount for a particular age-sex-race group, shown as a negative number, does not represent a true overcount unless the number of illegal aliens in the country with the particular characteristic is less than the magnitude of the overcount shown.

Although little definite information is available about illegal aliens, some broad generalizations can be offered as guidance in interpreting the estimates of coverage. The vast majority of illegal aliens are believed to be White or other races. Thus, differences in coverage between the White-and-other-races population and the Black population may be smaller than indicated. Furthermore, the coverage rates shown for Blacks are probably good approximations to the true rates. Although the majority of illegal aliens are thought to be male, substantial numbers, perhaps 40 percent, are female. As a consequence, while the female rates are affected, male-female differences are generally larger than shown. There are probably illegal aliens in every age group but the largest concentrations probably fall in the young adult ages, roughly 18-44, but especially 20-29.

The estimates in table 1 show a 1.2 percent overcount for females and 0.5 percent undercount for males; the difference of 1.7 percentage points between the sexes is the same as in 1970 and may be affected only slightly by illegal immigrants. The superior coverage of females applies to each of the two principal racial categories. For Blacks, the male-female gap widened slightly as coverage of Black males improved by 2.6 percentage points to a 7.5 percent undercount, and coverage of Black females improved by 3.5 percentage points to a 2.1 percent undercount. For the White-and-other-races population, both sexes showed small percentage overcounts in 1980 (0.5 percent for males and 1.7 percent for females), following coverage improvements of 2.6 percentage points for each sex.

The age pattern of coverage for Blacks in 1980, shown in table 3, indicates that a disproportionate share of the omissions occurred among children under 5 and males aged 20 to

54, as in 1970. Both males and females have high undercounts at ages 0 to 4, moderate undercounts at ages 5 to 9, small undercounts at ages 10 to 14, and small overcounts at ages 15 to 19. For ages 20 to 64, Black females have rather low undercount rates, ranging from 1.4 to 3.2 percent. On the other hand, Black males in the same age range have rather high undercounts, with the rates for ages 35 to 54 exceeding 15 percent. For both sexes at ages 65 to 74, Blacks show moderate net overcounts.

Table 4 compares undercount rates for each age-sex-race group in 1980 with the rates for the same groups in 1970. The undercount rate in 1980 is smaller than in 1970 for every group except Black males aged 45 to 54. The greatest improvements are for Black males aged 15 to 34; they equal or exceed 5 percentage points. Many of the coverage improvement activities were aimed especially at these age groups in 1980 and apparently succeeded to some extent. However, the undercount rates remain large for ages 20 to 34. Black females aged 15 to 34 also showed substantial improvements in coverage.

The pattern of improvement between 1970 and 1980 for Blacks of middle and older age is rather irregular. For Black males, the age groups over age 55 showed moderate improvements, ranging from 2.0 to 3.8 percentage points. Black females, however, showed large improvements for ages 55 to 64 and 75 and over, but only moderate improvements for ages 45 to 54 and 65 to 74. It should be recalled that the differences between 1970 and 1980 reflect changes in age misreporting as well as changes in coverage between the censuses.

The age groups which had the smallest improvements in coverage among Blacks were males and females aged 35 to 44, males aged 45 to 54, and both males and females under age 10. The lack of improvement in coverage for Black children is puzzling. In 1970, the high undercounts for Black children were attributed in part to insufficient space on the forms for listing all persons in large households, together with an incomplete follow-up of such forms on the part of enumerators. In 1980, a number of the coverage improvement procedures were designed to prevent this problem. At this time, it cannot be determined how well these procedures worked, but it is clear that there were certain factors which tended to keep the omissions of Black children high.

The age pattern of coverage for the White-and-other-races population is somewhat different from that of the Black population. According to the estimates for age-sex-race groups (table 3), all age groups up to age 75 show apparent overcounts for White-and-other-races females; these rates equal or exceed 2.0 percent at several ages and range up to 2.9 percent (ages 20 to 24). White-and-other-races males show apparent overcounts ranging up to 2.2 percent (at ages 20 to 24) for all age groups except 35 to 44 and 45 to 54, which have roughly 1.5 percent undercounts. For many age groups, the estimated overcounts may be attributable to the illegal aliens. In fact, some of the age groups with the largest overcounts among the White-and-other-races population, i.e., ages 15 to 24 for males and 15 to 29 for females,

are thought to have large numbers of illegal immigrants. (The explanation for the estimated overcounts among females aged 45 to 74 and males 65 to 74 is probably not illegal immigration, however.)

The coverage improvement programs may have had a beneficial effect for the White-and-other-races population also, inasmuch as all age groups under age 35 and over age 55 for each sex showed notable improvements in coverage. The improvement over 1970 reached 4 percentage points for the males and females aged 75 and over.

Figures 1 to 4 compare the variation in error rates by age for each sex-race group for 1970 and 1980. The most obvious difference is that the curves for 1980 are almost always below the curves for 1970; this fact demonstrates graphically the improvements between 1970 and 1980. The overall patterns for each sex-race group are generally similar in the two censuses, with departures in a few age groups. Figures 5 and 6 compare the four race-sex groups for each census. Within each age group the race-sex groups show roughly the same rank order from higher undercounts to lower undercounts or overcounts: Black males, Black females, White-and-other-races males, White-and-other-races females. The same general pattern holds for each census. Figures 7 to 10 compare sex ratios (males per 100 females) in the estimated population with those from the census for 1970 and 1980. Differences between the estimated and census sex ratios are indicative of differences in census coverage of males and females.

FUTURE RESEARCH

As stated earlier, the estimates given in this report are preliminary; they represent an initial attempt to measure the coverage of the national total population and the coverage of age, sex, and race categories in the 1980 census. Current and future research on the application of demographic analysis is designed to improve the estimates of the population, particularly by developing better estimates of net immigration, to develop separate estimates for the White and the "other races" populations, and to derive estimates of uncertainty for the "point" estimates such as those presented in this report.

Since no direct data are tabulated on emigration, estimates derived by "residual" or survival methods have had to be employed. These are necessarily subject to considerable error. Efforts in refining the estimates of net immigration are being directed specifically toward the improvement of the measurement of emigration (of legal immigrants) and the estimation of (net) illegal immigration. To develop more refined estimates of emigration on a continuing basis, consideration is being given to survey methods whereby direct inquiry is made of household members who have gone abroad and returned or who are relatives of emigrants.

Little can be said definitively about the level of census coverage in 1980 or changes in coverage between 1970 and

1980, on the basis of demographic analysis, without incorporating estimates of the number of illegal residents in the estimated figures. Research on estimating the number of illegal residents and their basic demographic characteristics will be pursued in order to attempt to resolve this problem. In view of the evident difficulties of measuring a clandestine population, there is no assurance that adequate estimates of illegal residents can be derived.

Alternatively, if an estimate of the number of illegal residents counted in the census could be made, the estimate could be removed from the census figures and measures of the coverage of the legally resident population could be derived. A study in progress at the Census Bureau employing the November 1979 Current Population Survey suggests the possibility of proceeding in this manner. Estimates of illegals included in the 1980 census may be secured by use of data on the number and demographic characteristics of foreign-born persons counted in the census. In the 1980 census, the nativity question, which provides such data, appears on the sample form. Consequently, the data which can be used to develop estimates of the illegally resident population counted in the 1980 census will not be available before the middle of 1982.

The basis for the choice of the particular racial groups included in the present coverage analysis—Blacks and White-and-other races—is the tendency of large numbers of Hispanic persons not to report one of the specific races listed on the census questionnaire, the complementary decision to tabulate these persons in the "other races category," the omission of illegal residents from the estimated figures, and the resultant lack of comparability between the estimated figures and the census counts (especially for the White population taken separately). The modified census counts used in this report represent initial approximations to the historical categories of Blacks and White-and-other races, made on the basis of census data cross-classified by race and Hispanic origin from the 100-percent tabulations. Research is now under way to develop adequate modified census counts of the White population and the other-races population from the 100-percent tabulations which include estimates of Hispanic persons who did not report a specific race. The only data now available for persons who chose not to report a specific race relates to whether they were of Hispanic origin. Data from the sample questionnaires will include more detailed information on the specific designations of persons who chose to write in a "race" in the "other races" category. Refined estimates of the historical race categories will then be based on the sample information relating to the racial identification of Hispanic persons who did report a specific race and to the "write-in" information provided by Hispanic and other persons who did not report a specific race.

Estimates of census coverage for any population group are necessarily subject to error and it is important to provide users with some indication of the confidence that they can have in the estimates of coverage shown. In presentations of coverage estimates based on the method of demographic

analysis for earlier censuses, indications of possible error were given in terms of alternative sets of estimates derived by use of alternative data or assumptions and by use of so-called sensitivity analyses. In presenting revised estimates of coverage based on demographic analysis for 1980, we hope

to be able to use probabilistic or stochastic methods to derive a (subjective) range around each "point" estimate which has a stated level of confidence. Here too, because of the pioneering nature of this effort, there is no assurance that satisfactory results will be obtained.

Table 1. Comparison of Preliminary Population Estimates With Actual and Modified Census Counts, by Race and Sex: 1980 and 1970

(Estimated population includes no allowance for illegal immigration and is subject to other limitations described in the text. Numbers in thousands. Base of percents is estimated population. A minus sign denotes an excess in the census)

Race, sex, and year	Estimated population	Actual census count			Modified census count ¹		
		Census population	Net difference		Census population	Net difference	
			Amount	Percent		Amount	Percent
1980							
All classes.....	225,653	226,505	-851	-0.4	226,505	-851	-0.4
Male.....	110,600	110,032	567	0.5	110,032	567	0.5
Female.....	115,054	116,473	-1,419	-1.2	116,473	-1,419	-1.2
Black.....	27,954	26,488	1,466	5.2	26,624	1,330	4.8
Male.....	13,604	12,516	1,088	8.0	12,582	1,023	7.5
Female.....	14,350	13,972	378	2.6	14,042	308	2.1
White and other races....	197,699	200,017	-2,317	-1.2	199,881	-2,182	-1.1
Male.....	96,996	97,516	-521	-0.5	97,451	-455	-0.5
Female.....	100,704	102,500	-1,797	-1.8	102,430	-1,727	-1.7
1970 ²							
All classes.....	207,891	203,212	4,679	2.3	203,235	4,656	2.2
Male.....	102,062	98,912	3,149	3.1	98,926	3,135	3.1
Female.....	105,829	104,300	1,530	1.4	104,309	1,520	1.4
Black.....	24,444	22,580	1,864	7.6	22,581	1,864	7.6
Male.....	11,952	10,748	1,204	10.1	10,749	1,204	10.1
Female.....	12,492	11,832	660	5.3	11,832	660	5.3
White and other races....	183,447	180,632	2,815	1.5	180,655	2,792	1.5
Male.....	90,109	88,164	1,945	2.2	88,177	1,932	2.1
Female.....	93,338	92,468	870	0.9	92,477	860	0.9

¹The modification is designed to achieve consistency in the race classifications of the census population and the estimated population. See text. The modification for 1970 also includes redistribution by age for a gross overstatement of centenarians and an addition of 24,000 persons.

²The 1970 estimates of population and "net differences" are different from previously published results. The changes are primarily attributable to increased allowances for emigration during 1960-70 and for Medicare underregistration at ages 65-69 in 1970, and to small changes in the estimated completeness of birth registration for 1935-70.

Table 2. Illustrative Estimates of Net Undercount in the 1980 Census, by Race, Based on Arbitrary Assumptions About the Size of the Illegal Alien Population

(Estimated population based on table 1. Numbers in thousands. Base of percents is estimated population. Modified census counts used for comparison. A minus sign denotes an excess in the census)

Assumption and race	Assumed number of illegal aliens in 1980	Estimated population	Net undercount	
			Amount	Percent
TOTAL POPULATION				
Assumption one.....	1,000	226,653	149	0.1
Assumption two.....	2,000	227,653	1,149	0.5
Assumption three.....	3,000	228,653	2,149	0.9
Assumption four.....	4,000	229,653	3,149	1.4
Assumption five.....	5,000	230,653	4,149	1.8
Assumption six.....	6,000	231,653	5,149	2.2
WHITE AND OTHER RACES¹				
Assumption one.....	950	198,649	-1,232	-0.6
Assumption two.....	1,900	199,599	-282	-0.1
Assumption three.....	2,850	200,549	668	0.3
Assumption four.....	3,800	201,499	1,618	0.8
Assumption five.....	4,750	202,449	2,568	1.3
Assumption six.....	5,700	203,399	3,518	1.7
BLACK²				
Assumption one.....	50	28,004	1,380	4.9
Assumption two.....	100	28,054	1,430	5.1
Assumption three.....	150	28,104	1,480	5.3
Assumption four.....	200	28,154	1,530	5.4
Assumption five.....	250	28,204	1,580	5.6
Assumption six.....	300	28,254	1,630	5.8

¹"Other races" includes races other than White or Black, as modified.

²Blacks are arbitrarily assumed to be 5 percent of the illegal alien population. See text.

Table 3. Difference Between Preliminary Estimated Population and Modified Census Counts, by Age, Sex, and Race: 1980

(All figures are consistent with those in table 1. Estimated population includes no allowance for illegal immigration and is subject to other limitations described in the text. Numbers in thousands. Base of percents is estimated population. A minus sign denotes an excess in the census)

Age	Black				White and other races			
	Male		Female		Male		Female	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
All ages.....	1,023	7.5	308	2.1	-455	-0.5	-1,727	-1.7
Under 5 years.....	126	9.2	116	8.7	-45	-0.6	-52	-0.8
5 to 9 years.....	79	5.9	72	5.5	-37	-0.5	-34	-0.5
10 to 14 years.....	15	1.1	11	0.9	-143	-1.8	-129	-1.7
15 to 19 years.....	-11	-0.7	-15	-1.0	-178	-2.0	-175	-2.0
20 to 24 years.....	102	7.2	24	1.6	-199	-2.2	-263	-2.9
25 to 34 years.....	257	11.6	33	1.4	-68	-0.4	-371	-2.3
35 to 44 years.....	237	16.1	49	3.2	183	1.6	-70	-0.6
45 to 54 years.....	183	15.1	32	2.5	149	1.5	-183	-1.8
55 to 64 years.....	56	6.2	5	0.4	-1	-	-256	-2.5
65 to 74 years.....	-24	-4.3	-41	-5.6	-94	-1.5	-201	-2.6
75 years and over.....	1	0.5	23	4.7	-23	-0.7	6	0.1

- Represents zero or rounds to zero.

Table 4. Percent Net Undercount, by Age, Sex, and Race, 1970 and 1980, and Difference Between 1970 and 1980

(All figures are consistent with those in table 1. Estimated population includes no allowance for illegal immigration and is subject to other limitations described in the text. Base of percents is estimated population. Percents based on modified census counts. A minus sign denotes an excess in the census. Difference represents 1970 percent minus 1980 percent, computed from rounded figures)

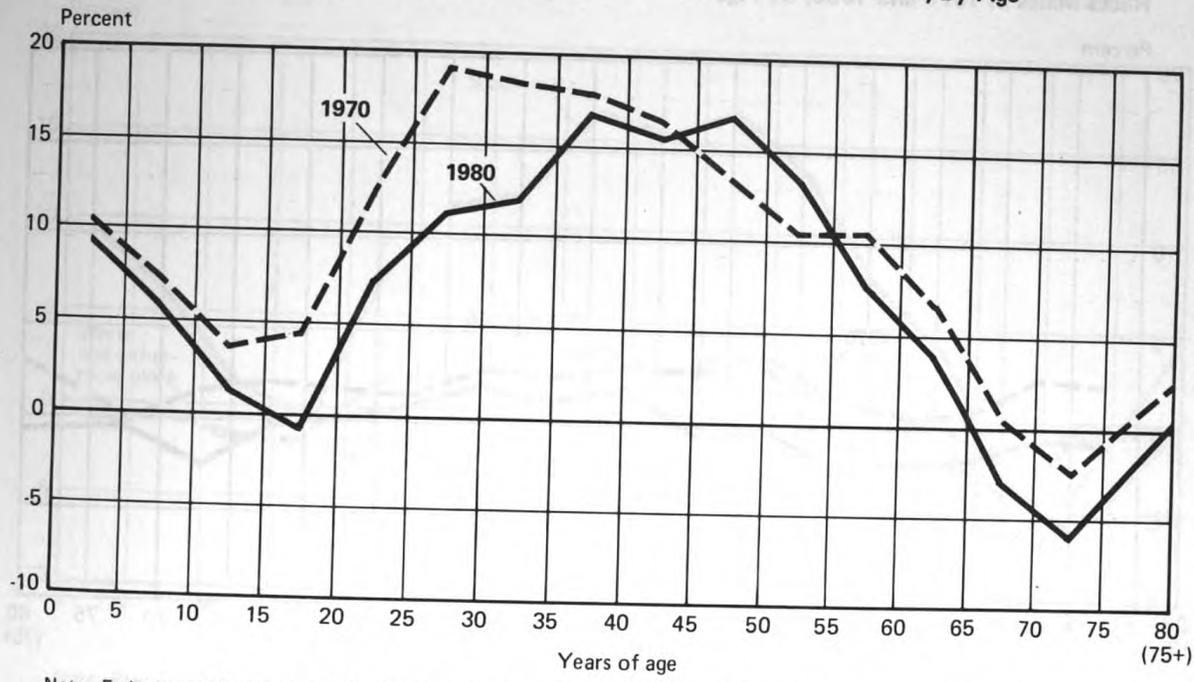
Age	Black						White and other races					
	Male			Female			Male			Female		
	1980	1970	Differ- ence	1980	1970	Differ- ence	1980	1970	Differ- ence	1980	1970	Differ- ence
All ages.....	7.5	10.1	2.6	2.1	5.3	3.2	-0.5	2.1	2.6	-1.7	0.9	2.6
Under 5 years.....	9.2	10.3	1.1	8.7	9.3	0.6	-0.6	2.4	3.0	-0.8	2.0	2.8
5 to 9 years.....	5.9	7.4	1.5	5.5	6.9	1.4	-0.5	2.6	3.1	-0.5	2.4	2.9
10 to 14 years.....	1.1	3.8	2.7	0.9	3.0	2.1	-1.8	0.8	2.6	-1.7	0.6	2.3
15 to 19 years.....	-0.7	4.4	5.1	-1.0	3.3	4.3	-2.0	0.8	2.8	-2.0	0.1	2.1
20 to 24 years.....	7.2	12.7	5.5	1.6	5.8	4.2	-2.2	1.4	3.6	-2.9	0.3	3.2
25 to 34 years.....	11.6	19.0	7.4	1.4	6.5	5.1	-0.4	3.6	4.0	-2.3	1.3	3.6
35 to 44 years.....	16.1	17.3	1.2	3.2	3.5	0.3	1.6	3.1	1.5	-0.6	-0.2	0.4
45 to 54 years.....	15.1	11.8	¹ -3.3	2.5	4.9	2.4	1.5	2.3	0.8	-1.8	-0.4	1.4
55 to 64 years.....	6.2	8.8	2.6	0.4	6.6	6.2	-	2.0	2.0	-2.5	1.3	3.8
65 to 74 years.....	-4.3	-0.5	3.8	-5.6	-2.8	2.8	-1.5	0.8	2.3	-2.6	0.4	3.0
75 years and over....	0.5	2.5	2.0	4.7	10.9	6.2	-0.7	3.3	4.0	0.1	4.4	4.3

- Represents zero or rounds to zero.

¹1980 net undercount greater than 1970 net undercount.

FIGURE 1

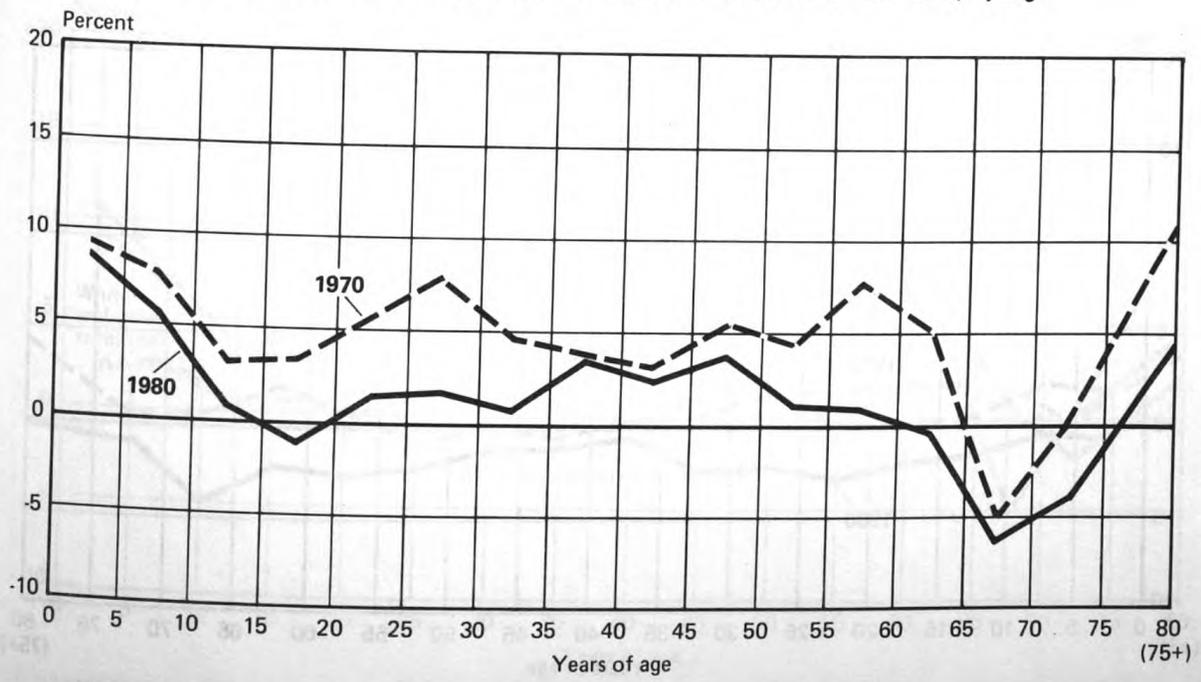
Comparison of Percent Net Undercounts for Black Males in 1970 and 1980, by Age



Note: Estimates are based on modified census data. A negative sign denotes an estimated net census overcount. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 2

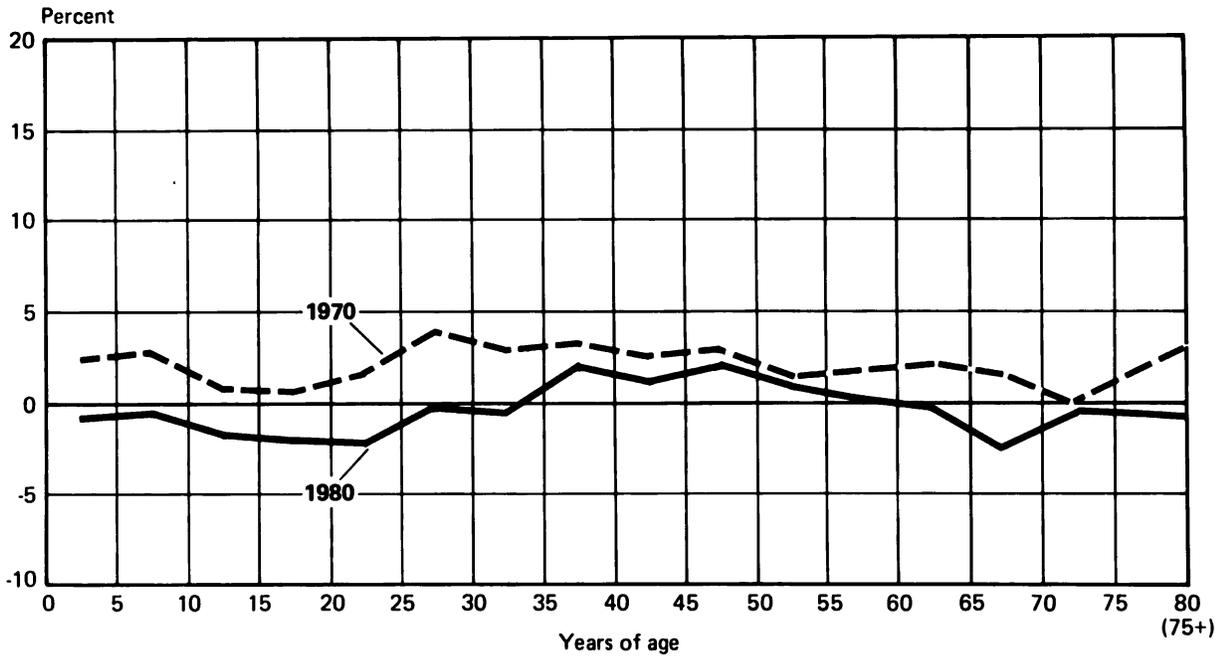
Comparison of Percent Net Undercounts for Black Females in 1970 and 1980, by Age



Note: Estimates are based on modified census data. A negative sign denotes an estimated net census overcount. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 3

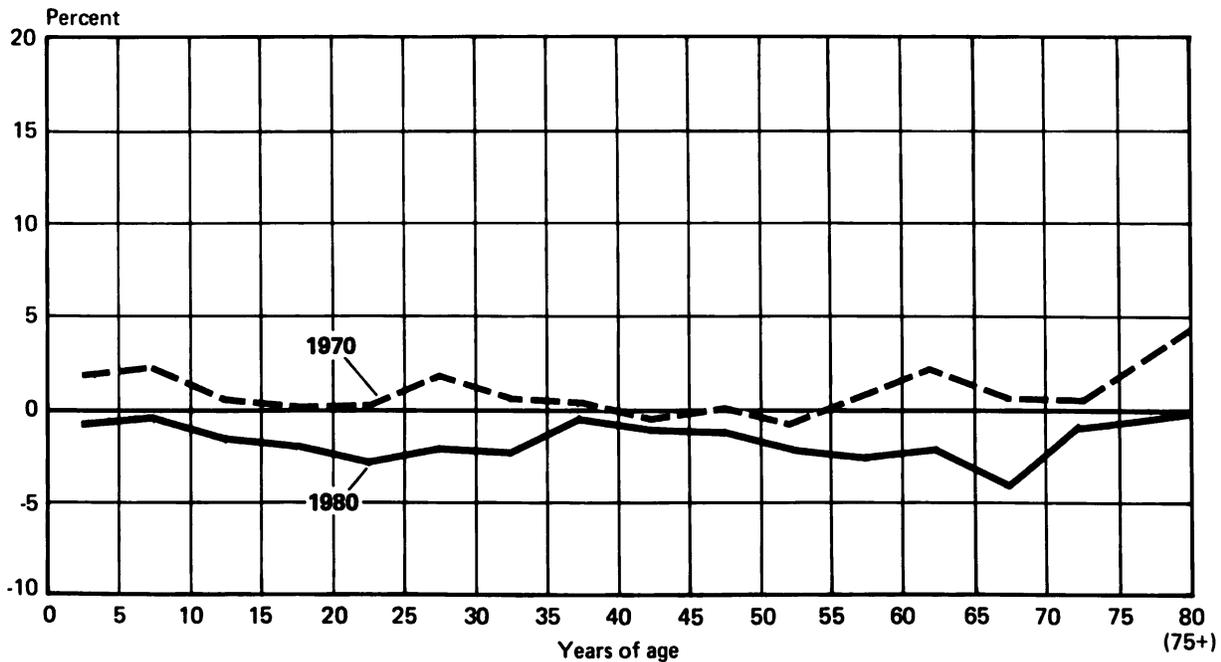
Comparison of Percent Net Undercounts for White-and-Other-Races Males in 1970 and 1980, by Age



Note: Estimates are based on modified census data. A negative sign denotes an estimated net census overcount. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 4

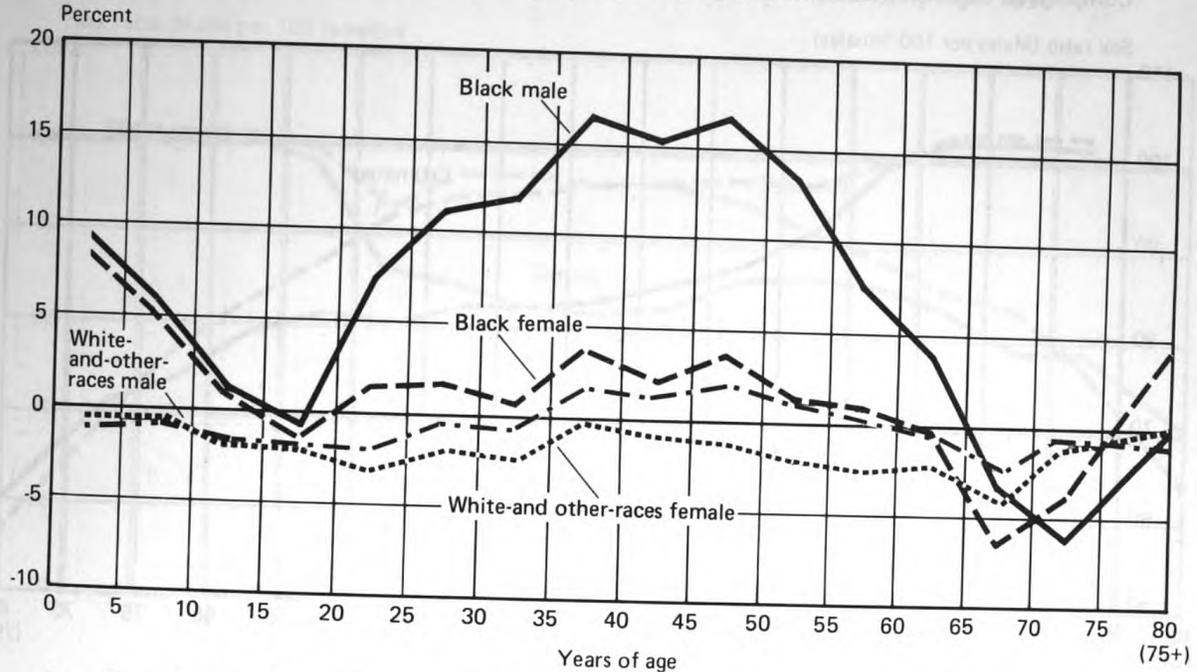
Comparison of Percent Net Undercounts for White-and-Other-Races Females in 1970 and 1980, by Age



Note: Estimates are based on modified census data. A negative sign denotes an estimated net census overcount. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 5

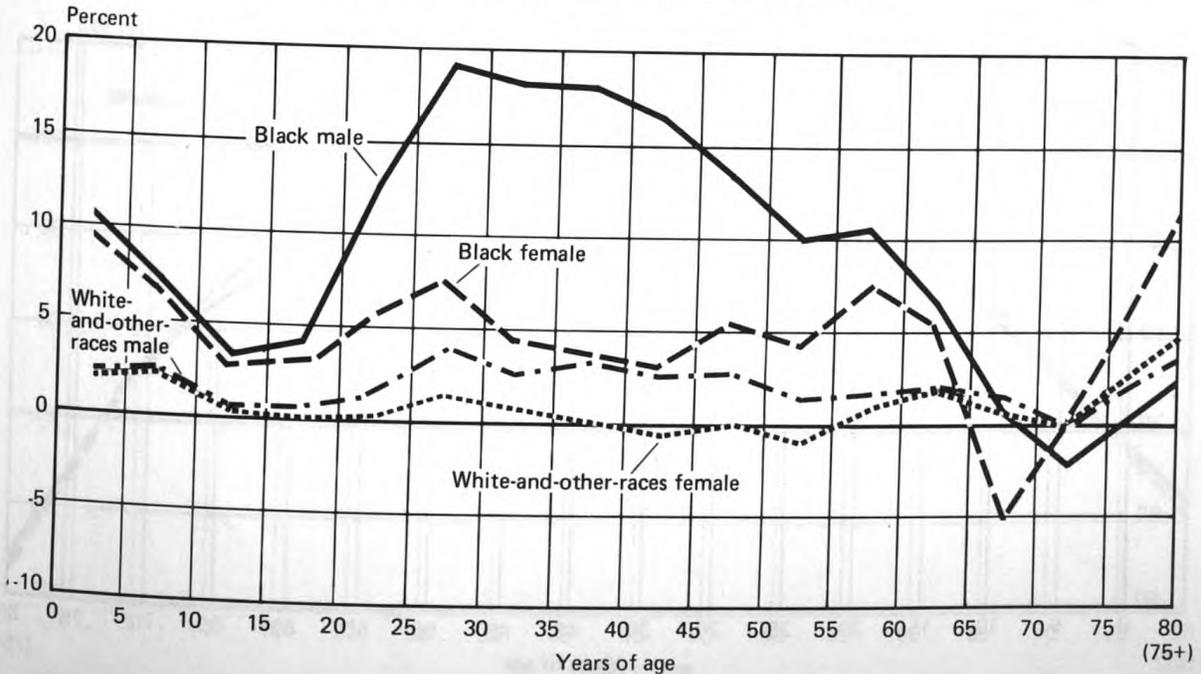
Comparison of Percent Net Undercounts, by Age, Race, and Sex: 1980



Note: Estimates are based on modified census data. A negative sign denotes an estimated net census overcount. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 6

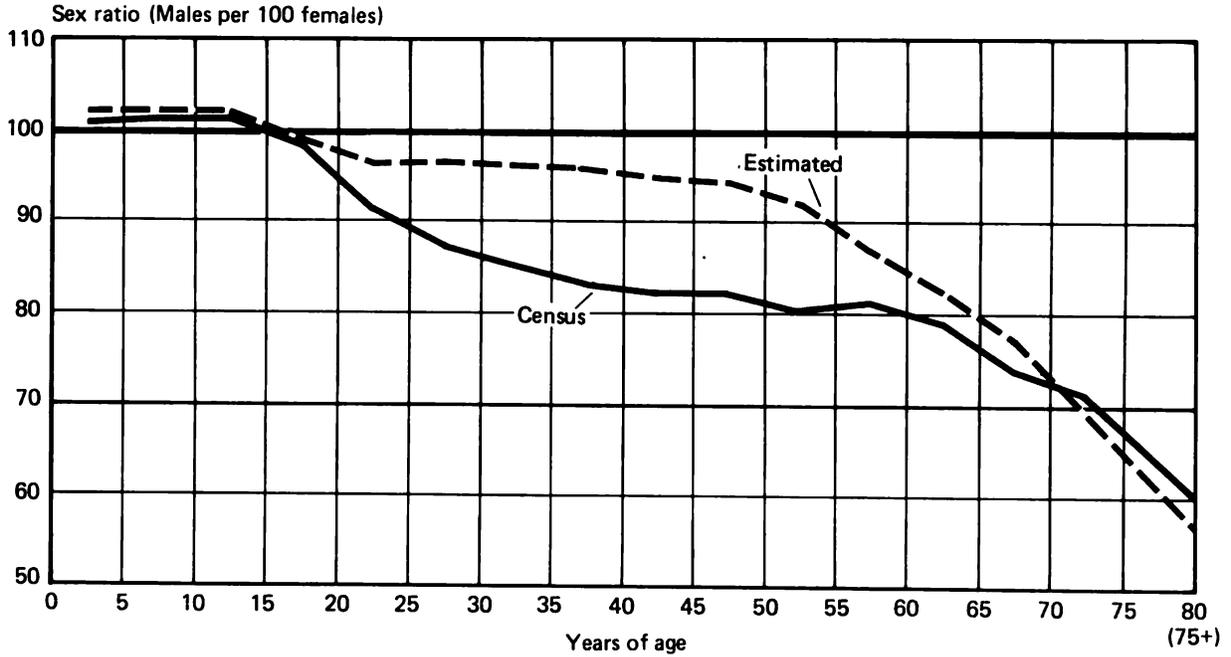
Comparison of Percent Net Undercounts, by Age, Race, and Sex: 1970



Note: Estimates are based on modified census data. A negative sign denotes an estimated net census overcount. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 7

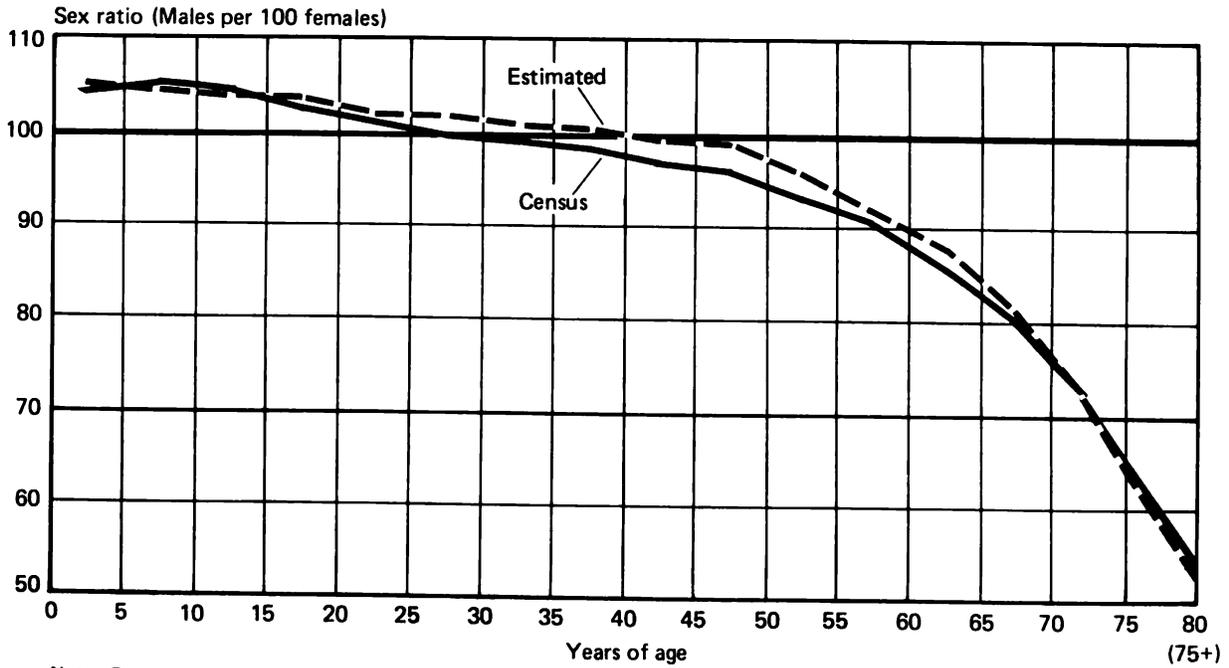
Comparison of Census Sex Ratios and Estimated Sex Ratios for Blacks, by Age: 1980



Note: Estimates are based on modified census data. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 8

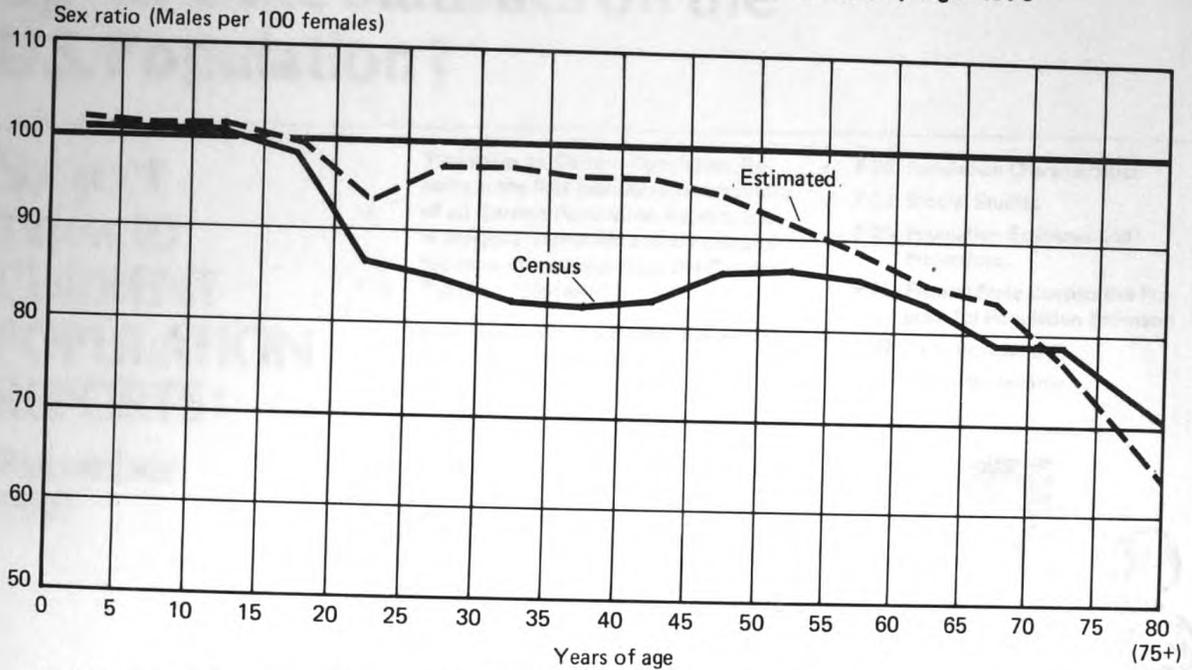
Comparison of Census Sex Ratios and Estimated Sex Ratios for White and Other Races, by Age: 1980



Note: Estimates are based on modified census data. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 9

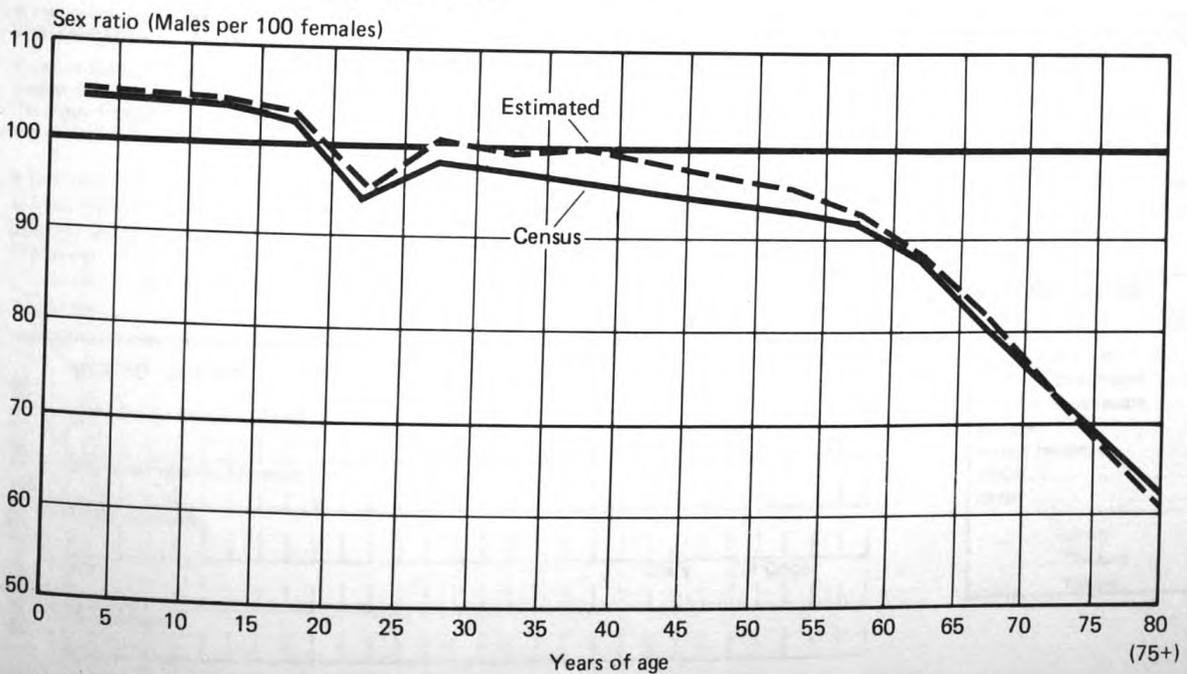
Comparison of Census Sex Ratios and Estimated Sex Ratios for Blacks, by Age: 1970



Note: Estimates are based on modified census data. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

FIGURE 10

Comparison of Census Sex Ratios and Estimated Sex Ratios for White and Other Races, by Age: 1970



Note: Estimates are based on modified census data. Points are plotted at center of each 5-year interval. See text for description of estimates and limitations.

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