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ABSTRACT

This report presents newly designed statistical measures ("social indicators of equality") which compare the level of well-being of the minority and female populations to that of the majority (white) male population and assess the nation's progress toward achieving equality. Census and Survey of Income and Education statistics from 1960, 1970, and 1976 are the raw data sources used. The indicators cover different aspects of education, employment, income, poverty, and housing for men and women in the following groups: American Indians/Alaskan Natives; blacks; Mexican Americans; Japanese Americans; Chinese Americans; Pilipino Americans; Puerto Ricans; and, for comparative purposes, whites not of Hispanic origin. Despite some inprovement in many areas, the indicators demonstrate, majority males have continued to enjoy broader opportunities and to reap disproportionate benefits while women and minority males have in many instances fallen even further behind. (Author/KR)

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SEP 1 1978

Social Indicators of Equality for Minorities and Women

A Report of the United States Commission on Civil Rights

ED159290

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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U.S. COMMISSION ON CIVIL RIGHTS

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- Investigate complaints alleging that citizens are being deprived of their right to vote by reason of their race, color, religion, sex, or national origin, or by reason of fraudulent practices;
- Study and collect information concerning legal developments constituting a denial of equal protection of the laws under the Constitution because of race, color, religion, sex, or national origin, or in the administration of justice;
- Appraise Federal laws and policies with respect to the denial of equal protection of the laws because of race, color, religion, sex, or national origin, or in the administration of justice;
- Serve as a national clearinghouse for information in respect to denials of equal protection of the laws because of race, color, religion, sex, or national origin;
- Submit reports, findings, and recommendations to the President and the Congress.

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Letter of Transmittal

U.S. COMMISSION ON CIVIL RIGHTS
Washington, D.C.
August 1978

THE PRESIDENT
THE PRESIDENT OF THE SENATE
THE SPEAKER OF THE HOUSE OF REPRESENTATIVES

Sirs:

The U.S. Commission on Civil Rights presents to you this report pursuant to Public Law 85–315, as amended.

The information provided here stems from an awareness of the importance of evaluating efforts to improve the condition of our society in areas such as education and housing and an awareness that all too often the status of women and minority men is obscured by statistics reflecting the society as a whole. The "social indicators of equality" presented in this report directly compare the level of well-being of the minority and female population to that of the majority male population and, thus, assess the Nation's progress toward achieving equality.

Our findings and recommendations regarding levels of equality are based on measures in the areas of education, occupation, employment, income, poverty, and housing, developed from data from the State Public Use Samples Tapes of the 1960 and 1970 censuses and from the 1976 Survey of Income and Education Public Use Sample Tapes. Our findings show that for every indicator reported here, women and minority men have a long way to go to reach equality with majority men, and, in many instances, are relatively further from equality in 1976 than they were in 1960.

Our recommendations are directed toward utilizing the detailed measurements presented in the report and improving the Federal statistical system and social indicator program. The President, as reported in his May 11, 1978, memorandum on review of the Federal statistical system, already has taken a first step toward these goals by directing his Reorganization Task Force to address the problems of improving the coordination and policy relevance of Federal statistical activities. Our recommendations seek to ensure that the Federal Government routinely calculates and analyzes measures of equality in order to assess adequately the impact of social and economic reform programs and to ensure adequate and accurate representation of minorities in surveys seeking information on the state of the Nation. We also recommend that Federal officials in a variety of agencies consider our analyses as signals of continuing severe social and economic inequality and review their programs intended to remedy such conditions.

We urge your attention to the information presented here and the use of your good offices in achieving the needed corrective action to facilitate our progress toward achieving equality for all in the Nation.

Respectfully,

Arthur S. Flemming, *Chairman*
Stephen Horn, *Vice Chairman*
Frankie M. Freeman
Manuel Ruiz, Jr.
Murray Saltzman
Louis Nuñez, *Acting Staff Director*

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The following staff members provided support in preparing the report. Gloria Ferrer, Antoinette Foster, Patsy Washington, Gwen Morris, and Lawrence Riedman. The staff of the Publications Support Center was responsible for final preparation of the manuscript for publication.

This report was prepared under the overall supervision of John Hope III, Assistant Staff Director, Office of Program and Policy Review, now Acting Deputy Staff Director.

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Chapter 1

Introduction

Systematic evaluation of the Nation's progress toward equality has long been limited by both the types of statistical measures available and the types of raw data available.[1] This report addresses this problem by devising new statistical measures, called "social indicators of equality," derived from existing raw data, and by suggesting changes in data sources that will permit more such indicators to be developed.

Social indicators are a special type of statistic used to measure and describe social conditions. While virtually all social statistics describe social conditions, the primary function of social indicators is to provide an assessment of the "health" of some aspect of the society. Such indicators as the suicide rate, unemployment rate, infant mortality rate, crime rate, poverty rate, and health statistics share this function of providing measures of well-being.

When they are available over a period of time, social indicators can provide a measure of the degree of improvement or decline in the level of well-being of some part of society. Well-designed social indicators of equality will permit us to describe the relative status of minorities and women in our society at any particular time and to assess progress by comparing the indicator values over time.

Interest in social indicators has grown rapidly in the past decade, partly in recognition that, if attempts are to be made to improve social conditions, some means of assessing the nature of those conditions is essential. Well-designed social indicators also permit monitoring such important social areas as residential segregation and job discrimination so that trends can be identified. Social indicators can help detect problem areas as they develop, providing an opportunity to deal with problems before they become firmly entrenched. ql. . . .social indicators are required by a society that proposes to take seriously the "quality of life," as distinct from the mere augmentation of output implied by the concept of "growth." The conviction that something important is missing from our conventional compendia of statistics—the statistical abstracts and yearbooks—is voiced by practically all exponents of social indicators.[2]

With the publication of *Social Indicators, 1973,* the U.S. Government joined a growing list of nations that have attempted to systematically report statistical measures of social conditions.[3] The specific social areas selected for that report were: health, public safety, education, employment, income, housing, leisure and recreation, and population. A second report, *Social Indicators, 1976,* added discussion of the family, social security and social welfare, and social mobility and participation.[4] Within these areas, specific concerns were "defined and selected to reveal the general status of the entire population; to depict conditions that are, or are likely to be, dealt

[1] As is customary, the Commission sent this report to the Department of Commerce, the Federal agency most directly affected, for review. The Department's comments were contained in a May 12, 1978, letter from Manuel D. Plotkin, Director of the Bureau of the Census, to Louis Nunez, Acting Staff Director of the Commission. Where appropriate, its suggestions have been incorporated into this report.

[2] Otis D. Duncan, "Developing Social Indicators," *Proceedings of the National Academy of Sciences,* no. 12, vol. 71 (December 1974), pp. 5,096–102. Although writers have expanded the concept of social indicators to include statistics that are not defined as measures of well-being, this has not diverted the major thrust of work on social indicators from concerns with quality of life and public policy. See the following for more expanded uses of social indicators: Robert Parke and Eleanor B. Sheldon, "Social Indicators," *Science,* vol. 188 (May 16, 1975), pp. 693–99; and Celia G. Boertlein and Larry H. Long, "Geographical Mobility as a Social Indicator: An International Comparison," *American Statistical Association Proceedings, Social Statistics Section, 1976, Part II,* pp. 567–71.

[3] Other nations that have produced social indicator reports include Canada, France, Germany, Great Britain, Japan, the Netherlands, the Philippines, and Malaysia. For references see *Social Indicators Newsletter,* no. 7 (July 1975), published by the Social Science Research Council Center for Coordination of Research on Social Indicators.

[4] U.S., Department of Commerce, Bureau of the Census and Office of Federal Statistical Policy and Standards, *Social Indicators, 1976* (1977).

with by national policies; and to encompass many of the important issues facing the Nation."[5] Missing from these reports and similar statistical publications, however, is a specific focus on the issue of equality among the various groups that make up the Nation's population. The social indicators presented in this report are designed to help fill this gap by measuring equality.

Social indicators based on the national population can be misleading because they tend to obscure the very real inequalities among various social groups. To the extent that hardships are concentrated among certain groups, national figures can lead to false inferences and counterproductive policies and actions. The unemployment rate, probably the most widely used social indicator at this time, provides a striking example of this situation. Even when unemployment rates are relatively low, the rates for blacks and other minority groups are typically twice that of the white population. A single national unemployment figure discloses nothing about such a disparity, and policies based on the figure inevitably ignore the disparity. The result is that the Nation tolerates a level of unemployment for blacks and other minority groups that would be considered intolerable for the Nation as a whole.[6] In the absence, then, of specific social indicators of the extent of inequality in the society, serious problems and injustices can go unrecognized and unattended.

The value of having separate indicators for the various groups of the Nation was recognized in *Social Indicators, 1973* : "The main reason for this disaggregation is to identify and compare significant groups within the population and to show the changing conditions relative to each other and to the national average."[7] Partly because of the unavailability of statistical information, disaggregation was not always provided in that report. Where it was, it was only in terms of whites compared to "Negro and other races" and males compared to females, rather than a more detailed and representative categorization of the Nation's minority groups. While *Social Indicators, 1976* contained a more detailed presentation of minority statistics (occasionally using "other races" or "Spanish origin" as separate categories) and devoted a section of its introduction to ethnic diversity, its indicators did not provide adequate measures of social inequalities. Given the national importance of establishing equality, greater effort could have been devoted to the task of creating and maintaining a system of statistical information to assess the status of minorities and women.

The present state of statistical information and social indicator systems makes it difficult to answer such questions as "Have we achieved equality?" or "Is there equity in the world of work?" or even "If we are moving, are we moving in the right direction?" This deficiency in the statistical system results from two different problems. The first is that adequate and accepted measures of these conditions have not yet been developed. Instead of social indicators of equality, "statistical portraits" are typically created for various groups, consisting of an array of numbers from whatever sources are available. Although statistical portraits remain essential, they generally accept the data on women and minorities at face value and do not seek to pinpoint the genuine disparities that affect them. The particular numbers used to construct such portraits are but a few of the many available at any given time. Other analysts might reach different conclusions from the same raw data if they selected and described the statistics differently. In this sense, portraits can be both subjective and misleading.

On the other hand, some social indicators that are used widely and repeatedly, such as the rate of unemployment and the percentage of the population living below the poverty level, have a distinct advantage over less widely used statistics. The strengths and weaknesses of these established measures have been extensively studied from a variety of perspectives. Furthermore, the information tends to be collected frequently. There is a clear need, however, for more social indicators that are not only generally useful but also particularly useful for measuring the social conditions of minorities and women—measures devised not only to inform us of "how much," but also of "how well" and "how justly."[8]

The second problem with the existing statistical system is that the samples used for most surveys do not provide enough cases for a reliable assessment of the status of minority groups. Since minority populations are relatively small, compared to the majority,[8]

[5] U.S., Executive Office of the President, Office of Management and Budget. *Social Indicators, 1973* (1973).
[6] Ibid., chapter 4. See especially chart 4-2.
[7] Ibid., p. iii.

[8] Of the 203 million persons in the United States enumerated in the 1970 census, the minority racial composition included 23 million blacks, 793,000 American Indians, 591,000 Japanese Americans, 435,000 Chinese Americans, and 343,000 Pilipino Americans. From U.S., Department of Com-

and have different geographic distributions, a larger sample than is commonly used is necessary to ensure adequate coverage of the minority populations. Although, increasingly, better and more timely statistical information is provided for blacks and Hispanic Americans, the largest minority groups, and for women, it is rare to find a statistical report that provides separate tabulations on such groups as American Indians/Alaskan Natives, Chinese Americans, Japanese Americans, Pilipino Americans, Mexican Americans, and Puerto Ricans.

To some extent, then, the failure of the statistical system to devise adequate measures of the status of women and minority men results from lack of agreement on what constitutes appropriate measures and from lack of necessary data. This report seeks to overcome these problems by offering samples of indicators sensitive to disparities among different social groups and by demonstrating that more can be done than has been done with the limited data sources now available.

Unlike those indicators that measure production, consumption, and satisfaction, the focus here is on the degree of inequality in the *distribution* of resources within the society. In particular, and in contrast to other work on social indicators, the emphasis here is on minority and female interests in this society. The social indicators of equality contained in this report are oriented to the following concerns of women and minorities:

- underdevelopment of human skills through delayed enrollment, nonenrollment in secondary education, and nonparticipation in higher education;
- lack of equivalent returns for educational achievement in terms of occupational opportunities and earnings;
- discrepancies in access to jobs, particularly those having greater-than-average stability, prestige, and monetary returns;
- inequality of income, relatively lower earnings for equal work, and diminished chances for salary and wage increases;
- a higher likelihood of being in poverty; and
- proportionately higher expenditures for housing, less desirable housing conditions, restricted freedom of choice in selecting locations in which to live, and greater difficulty in attaining homeownership.

The measures produced for this report are intended in part to provide examples of ways to develop clear statistical comparisons for social indicators of equality for minorities and women. Among the many statistical tools available to make comparisons of existing data, the index of dissimilarity, ratios, direct standardization, and multiple regression are used here. Use of such techniques is relatively simple, but so is their misuse. Government statistics commonly gain a momentum that expands their use into areas for which they may not be well suited. This report will consider the limitations of such statistics as the median family income and the percentage of a group in professional occupations and suggest more adequate alternatives for measuring equality of opportunity and social equity for women and minorities.

This report also presents actual social indicator of equality values produced on the basis of the orientation and methods mentioned above. Indicators are presented for different aspects of education, employment, income, and housing for men and women in the following groups: American Indians/Alaskan Natives, blacks, Mexican Americans, Japanese Americans, Chinese Americans, Pilipino Americans, Puerto Ricans, and for comparative purposes, the majority.[9] Since comparison of the circumstances of the different female and minority groups to those of majority males is the key feature of this analysis, an indicator is typically represented as a set of ratios comparing the values for female and minority male groups to that for majority males. Since three points in time are used (1960, 1970, and 1976), the "raw scores" for the different groups, including majority males, change. At each time the value of 1.0 has the same significance: equality with the majority male. Thus the majority male value is a goal that changes over time. The specific indicators

merce. Bureau of the Census, *Statistical Abstract of the United States: 1976*, table 35. Of the 9 million persons of Spanish origin, 4.5 million were of Mexican origin and 1.5 million were of Puerto Rican origin. From U.S., Department of Commerce, Bureau of the Census, 1970 Census of Population, *Subject Reports* PC(2)-1C: *Persons of Spanish Origin* (1973), table 1, p. ix. Although it is well known that a substantial undercount of racial and ethnic minorities occurred in the 1970 census [see, e.g., U.S., Commission on Civil Rights, *Counting the Forgotten* (1974)], the census, as reported, provides the basis for 1970 data in this report. By 1976, the relative proportions of majority and minority populations had not changed significantly.

[9] The term "majority" is used for convenience in this report. It is equivalent to the term "white, not of Hispanic origin," since white Puerto Ricans and Mexican Americans are grouped separately by ethnic identification. Because the Census Bureau does not make this distinction, the term "majority" is not identical to the term "white" in the Bureau's reports. Similarly, the term "black" means "black, not of Hispanic origin." See appendix C for additional definitions of each group and number of cases for each indicator.

used should be considered as illustrative rather than as a full compilation of social indicators for women and minorities.

To have an adequate representation of these minority populations at more than one time, data were derived from the Census of Population and Housing for 1960 and 1970 and the Survey of Income and Education for 1976.[10] No other data sources currently can provide enough cases for reliable analysis of each minority population at different points in time. These sources also contain many variables appropriate for analysis in constructing indicators of equality.

Reliance on 1960, 1970, and 1976 information provides an excellent time series for the study of current trends. Dealing with census data, as well as the 1976 survey, sets the stage for the 1980 census and the following censuses, which will be in 5-year intervals. These indicators of equality provide a basis for future comparisons through which long-term trends in the status of women and minorities can be defined.

The main disadvantage of using the census is that many important types of information are not collected and thus are not available for use in devising social indicators. In such critical areas as the working order of housing facilities, criminal victimization, health service utilization, and hidden unemployment, information is simply not available for the separate minority groups at this time. Despite this limitation, these data sources permit development of a variety of indicators that provide a detailed assessment of the Nation's progress toward equality.

[10] U.S. Department of Commerce, Bureau of the Census, 1960 and 1970 Public Use Sample Tapes: 1:100 sample of the 5 and 15 percent State tapes and Survey of Income and Education (SIE) 1976 Public Use Sample Tapes. The SIE provided comparable information for 1976 for the census-based indicators, except for most housing measures and the occupational mobility indicator.

Chapter 2

Education

> Today, education is perhaps the most important function of state and local governments. Compulsory school attendance laws and the great expenditures for education both demonstrate our recognition of the importance of education to our democratic society. It is required in the performance of our most basic public responsibilities, even service in the armed forces. It is the very foundation of good citizenship. Today it is a principal instrument in awakening the child to cultural values, in preparing him for later professional training, and in helping him to adjust normally to his environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education. Such an opportunity, where the state has undertaken to provide it, is a right which must be made available to all on equal terms.[1]

This chapter focuses on schooling, or the number of years of formal instruction completed. It is generally accepted that the amount of schooling partly determines the kind of jobs obtained, the amount of money earned, and lifelong economic well-being. Figure 2.7, to be discussed later, shows an example of the direct relationship between educational attainment and earnings.

Although the amount of information collected annually on schools, education, and students is staggering, statistical reports rarely attempt to measure the extent of inequality in the educational system, in academic achievement, and in occupational or financial payoffs between majority males and other groups in the society. This chapter presents social indicators for women and minority men designed to assess equality in some specific social conditions related to education. The conditions selected are: being behind in school, leaving high school before graduation, educational attainment, the match between educational attainment and earnings, and the match between educational attainment and type of occupation. The first four indicators are all related to school enrollment and need little introduction or explanation. Similar measures are already in wide use, and the purpose here is to apply these indicators to specific minority groups and women.

Enrollment Indicators

Rates of Delayed Education: Being Behind in School

A host of difficulties can develop from a student's being enrolled in a grade or classroom below his or her age level, including boredom with materials designed for younger students, feeling out of place, being labeled a slow learner by the teacher and other students, being blamed for disruptions and losing interest, and a lack of normal social life with children of similar ages. It should come as no surprise if it is found that those kept behind in school are more likely than others to drop out of school.[2]

For any specific age, the grade in which the greatest number of students of that age are enrolled is called the modal grade. For 6-year-olds the modal grade is the first, for 7-year-olds the modal grade is the second, and so on, with the modal grade for 17-year-olds being the 12th grade.[3]

[1] Brown v. Board of Education, 347 U.S. 483, 493 (1954).

[2] Los Angeles Unified School District, *Study of Senior High School Absentees and School Leavers; An Investigation of Certain Characteristics of Absentees and School Leavers in Six Senior High Schools of the Los Angeles Unified School District Conducted in the Fall of 1973*, report no. 343 (Los Angeles: Los Angeles Unified School District, 1974).

[3] U.S., Department of Commerce, Bureau of the Census, *Census of Population: 1970 Subject Reports*, Final Report PC(2)-5A, *School Enrollment*, table 5, p. 119.

TABLE 2.1

Delayed Education

	Raw Measure [a]			Social Indicator Values [b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	45[c]	35	32	2.50	2.92	3.20
Blacks	36	26	23	2.00	2.17	2.30
Mexican Americans	41	26	28	2.28	2.17	2.80
Japanese Americans	05	04	08	.26	.33	.80
Chinese Americans	13	10	NA[d]	.72	.83	NA
Pilipino Americans	14	13	07	.78	1.08	.70
Puerto Ricans	44	26	39	2.44	2.17	3.90
Majority	18	12	10	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	41	23	26	2.28	1.92	2.60
Blacks	25	17	15	1.39	1.42	1.50
Mexican Americans	33	23	24	1.83	1.92	2.40
Japanese Americans	08	01	01	.44	.08	.10
Chinese Americans	06	09	NA	.33	.75	NA
Pilipino Americans	03	07	03	.17	.58	.30
Puerto Ricans	29	24	27	1.61	2.00	2.70
Majority	10	06	07	.56	.50	.70

[a] The percent of the 15-, 16-, and 17-year-olds who are 2 or more years behind the modal grade for their age. Specifically, this is the proportion of the 15-, 16-, and 17-year-olds on April 1 who were in or below the 8th, 9th, and 10th grades, respectively. See figure 2.1 for a graphic representation of the indicator values that appear in this table.

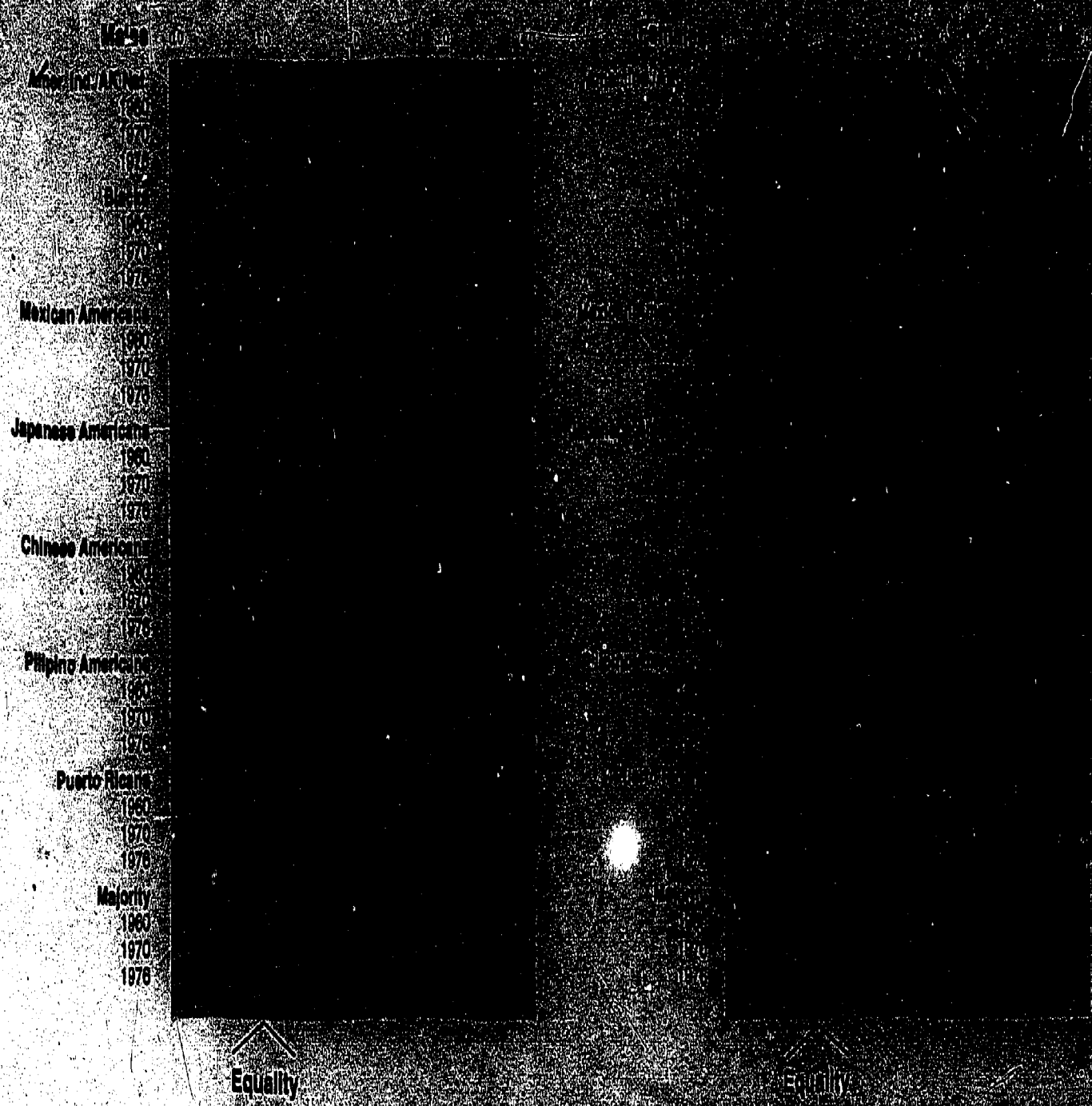
[b] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. This means that if there were no difference between the groups in the entire population, samples of the size used here would yield differences this large less than 10 percent of the time due to sampling error alone. See appendix C for data source and sampling information.

[c] NA indicates that a value was not reported due to an insufficient sample size. Appendix C contains the sample size for all groups and indicators.

This can be interpreted as follows: "In 1976 the delayed education rate for American Indian and Alaskan Native males was 3.2 times greater than the rate of majority males."

Figure 2-1: Social Indicator: Delayed Education

Social Indicator Values: Ratios of raw measures to the majority male population



*Values were not available due to an insufficient number of cases.

In this study, a student is considered behind in school if his or her grade is 2 years or more behind the modal grade.[4] The measure of delay is calculated for persons 15 to 17 years old. These are the ages at which accumulated delays in the educational process can be expected to be the longest and most evident. For these ages the 10th, 11th, and 12th grades are modal, and those defined as behind in school are 15-year-olds in the 8th grade or less, 16-year-olds in the 9th grade or less, and 17-year-olds in the 10th grade or less. The delay rate is the percentage of those in these categories out of all students of the same age. The percentages of those delayed in 1960, 1970, and 1976 for both genders of every group discussed in this report are contained in columns 1, 2, and 3 of table 2.1.

More than 40 percent of American Indian/Alaskan Native males and females, Mexican American males, and Puerto Rican males were at least 2 years behind the schooling progress for their age in 1960. Although the delay rates have declined for these groups, in 1976, 25 percent or more of American Indian/Alaskan Native, Mexican American, and Puerto Rican males and females were still 2 or more years behind the normal grade level for their ages. The delay rates reflect conditions that both result from and produce serious problems.

Of even greater use are indicators that show how the conditions measured are experienced in different degrees by different groups. All the indicators presented in this report have this characteristic and, therefore, provide meaningful measurements of a group's degree of equality with the conditions of majority males, who serve as the reference group. Where possible, the differences between majority males and the other groups have been tested for statistical significance using standard procedures, as described in appendix C.

The comparison of minorities' and women's rates to the majority males' rate involves the calculation of ratios of the specific groups' measures to that of the majority males. The resulting numbers are relative measures with a clear interpretation such as, "In 1976 the rate of delay of American Indian/Alaskan Native males was 3.2 times greater than that of majority males, while in 1960 it was only 2.5 times greater." The change in this ratio means that during the 16-year period this group of males, compared to majority males, became *more* likely to be delayed in school. The evidence underlying this statement is that, although the delay rate for American Indian/Alaskan Native males decreased from 45 to 32 from 1960 to 1976, this decrease (about 2.1 percent per year) was too small to keep up with the more rapidly declining delay rate for majority males. The latter rate fell from 18 to 10 percent, or about 3.6 percent per year.[5] The ratios in figure 2.1 and in columns 4, 5, and 6 of table 2.1 indicate that minority males and females tend to have markedly higher delay rates than majority males. In fact, most of the minority male groups experienced more than twice the delay rates of majority males, with American Indian/Alaskan Native and Puerto Rican males experiencing a delay rate in 1976 that was more than three times that for majority males. Although female delay rates as a whole are lower than those of minority males, most female groups have higher delay rates than majority males, with American Indian/Alaskan Native, Mexican American, and Puerto Rican females experiencing a delay rate in 1976 that was more than twice that for majority males.

An advantage of using ratios is that patterns are more clearly represented over time. Although virtually every group showed improvement (i.e., a decrease in the percentage of those educationally delayed) and some of these improvements were substantial, most of the improvements were proportionately less than that exhibited by majority males. That is, the *relative* delay rates for minority males and females (i.e., their rates in comparison to that of majority males) increased from 1970 to 1976.

High School Nonattendance Rates

The second social indicator in this chapter is focused on departure from the school system before high school completion. Not attending high school can have devastating ramifications. Leaving school without a diploma is a pivotal act that influences employment opportunities and earnings potential for a lifetime. Students who drop out, or are pushed out, of the educational system will have a difficult time obtaining the same types of jobs and earning the

[4] For a similar use of modal grades, see U.S., Executive Office of the President, Office of Management and Budget, *Social Indicators, 1973*, table 3-7, p. 102 (hereafter cited as *Social Indicators, 1973*).

[5] This figure of 2.1 percent represents an average decline over the decade of 1.3 per year as a percentage of the estimated midyear figure of 38.5. For general formulas of rates of change see U.S., Department of Commerce, Bureau of the Census, *Methods and Materials of Demography*, second printing (rev.), by Henry S. Shryock, Jacob S. Siegel, and Associates (Washington, D.C.: U.S. Government Printing Office, 1974), vol. 2, p. 378.

same incomes as those who complete their high school education.[6]

The term "dropout" may be inappropriate for this early departure, since the implication is that the individual student took the initiative and "dropped out" of the educational system to spend his or her time at other, more highly valued activities. Sometimes the term "push-out" is more appropriate because it focuses attention and responsibility on the school system itself for a student's failure to attain a high school education.[7] Regardless of why students do not attend or finish high school, the consequences are rarely, if ever, desirable for either the individuals or the Nation.

A high nonattendance rate could signal a need for corrective action. If nonattendance is concentrated in certain groups, then efforts to reduce nonattendance could be directed toward the needs of those groups in order to deal most effectively with the problem. The second indicator in this series provides that kind of information. As with the previous indicator, this one is based on 15- to 17-year-olds. In this case, the nonattendance indicator reflects the percentage of the high school age group that is not enrolled in school; the actual indicator is the ratio of the minority percentage to the majority percentage. The information on nonattendance is contained in table 2.2 and figure 2.2.

The indicator values show that minority group members are less likely than majority males to attend school during the important ages of 15 to 17. Although most groups have reduced their nonattendance rates since 1960 and even since 1970, relative to majority males many of the groups have not improved their likelihood of being in school. For example, in 1976 Mexican American females were more than twice as likely to be out of school as majority males; this represented an increase of more than 40 percent over the 1970 ratio of the two groups. American Indian/Alaskan Native males and females did not noticeably reduce their nonattendance rates between 1970 and 1976 while majority males reduced theirs by more than a third. Thus, the relative American Indian/Alaskan Native nonattendance rates increased appreciably. By 1976 American Indian/Alaskan Native males were 2.80 times and American Indian/Alaskan Native females 3.00 times as likely as majority males not to be enrolled in high school.

By itself, a high nonattendance rate damages children by limiting their exposure to academic instruction; however, an additional and more devastating spinoff is the negative influence on educational attainment, which in turn tends to restrict lifelong social and economic standing. The remaining indicators of equality in this chapter measure such consequences of the disproportionate nonattendance rates of minorities and women.

Educational Attainment

The third indicator in this series extends the idea behind the delayed education indicator and the nonattendance indicator to the issue of educational attainment. Some very common categories used to distinguish different levels of attainment are "high school diploma," "some college," and "4-year college degree." The social condition reflected in this idea of attainment is the amount of time spent in formal education settings. As will be demonstrated later, this investment of time in education is directly related to subsequent levels of earnings and types of occupations.

The amount of time spent in the educational process has been expanding considerably for at least as long as such statistics have been collected. The percentage of 17-year-olds who were high school graduates was about 2 percent in 1870 and has grown steadily to about 80 percent in the 1970s.[8] In addition to the increase in years of schooling, the school year itself has expanded. About 34 additional days have been added to the usual school year since the start of this century.[9]

For the purposes of this study, the central issue here is whether women and minority males achieve the same levels of educational attainment as majority males and, if not, whether the gap in educational attainment between majority males and the rest of society has increased or decreased. To measure this, two separate social indicators have been developed based on high school completion and completion of 4 or more years of college.

Selecting the age group for measuring these two educational characteristics has important consequences. The more common technique has been to

[6] Christopher Lasch, "Inequality and Education," in *The "Inequality" Controversy*, edited by Mary Jo Bane and Donald M. Levine (New York: Basic Books, 1975), pp. 45–62.

[7] Children's Defense Fund, *Children Out of School in America* (Cambridge, Mass.: Children's Defense Fund, 1974), p. 17.

[8] U.S., Department of Commerce, Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Bicentennial Edition, part 1 (1975), p. 379.

[9] U.S., Department of Health, Education, and Welfare, *Toward A Social Report* (1969), p. 65.

TABLE 2.2

High School Nonattendance

	Raw Measure [a]			Social Indicator Values [b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	**29**[c]	**15**	**14**	1.61	1.67	**2.80**
Blacks	21	**16**	07	1.17	1.78	1.40
Mexican Americans	**26**	**13**	**11**	1.44	1.44	**2.20**
Japanese Americans	**02**	06	02	.11	.67	.40
Chinese Americans	09	06	NA[d]	.50	.67	NA
Pilipino Americans	12	08	06	.67	.89	1.20
Puerto Ricans	**25**	**26**	05	1.39	2.89	1.00
Majority	18	09	05	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	24	**16**	**15**	1.33	1.78	**3.00**
Blacks	**23**	**15**	06	1.28	1.67	1.20
Mexican Americans	**31**	**17**	**14**	1.72	1.89	**2.80**
Japanese Americans	**03**	06	**01**	.17	.67	.20
Chinese Americans	14	09	NA	.78	1.00	NA
Pilipino Americans	**07**	09	10	.39	1.00	**2.00**
Puerto Ricans	**30**	**26**	**16**	1.67	2.89	**3.20**
Majority	**12**	08	06	.67	.89	1.20

[a] The percent of 15-, 16-, and 17-year-olds who were not enrolled in school on April 1.

[b] See figure 2.2 for a graphic representation of the indicator values that appear in this table.

[c] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

[d] NA indicates that a value was not reported due to an insufficient sample size. Appendix C contains the sample size for all groups and indicators.

This can be interpreted as follows: "In 1976 the high school nonattendance rate for American Indian and Alaskan Native males was 2.80 times greater than the rate for majority males."

Figure 2.2 Social Indicator: High School Nonattendance

* Social Indicator Values: Ratios of raw measures to the majority male population.

*Values were not available due to an insufficient number of cases.

TABLE 2.3

High School Completion

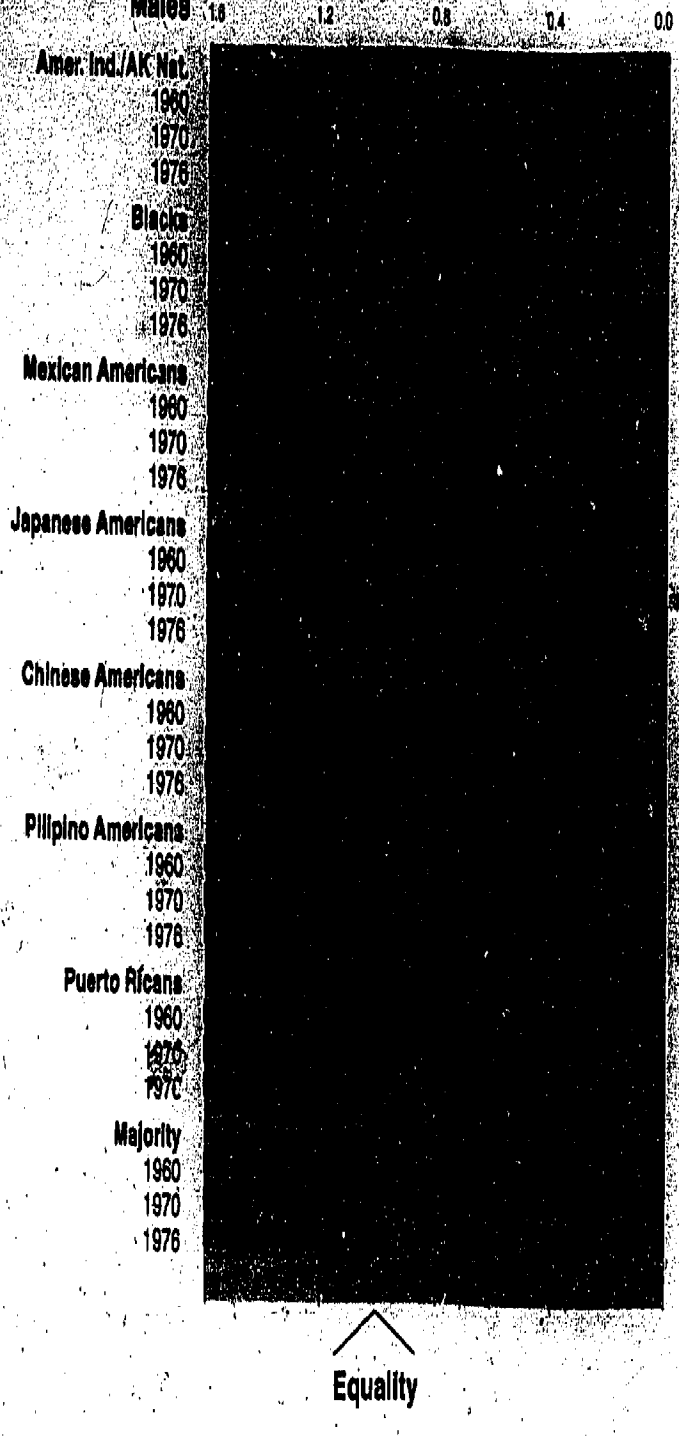
	Raw Measure [a]			Social Indicator Values [b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	**33**[c]	**58**	**70**	.48	.70	**.80**[d]
Blacks	**41**	**59**	**74**	.59	.71	**.85**
Mexican Americans	**34**	**55**	**64**	.49	.66	**.74**
Japanese Americans	**89**	**94**	**98**	1.29	1.13	**1.13**
Chinese Americans	**84**	**90**	88	1.22	1.08	**1.01**
Pilipino Americans	**81**	**77**	**81**	1.17	.93	**.93**
Puerto Ricans	**24**	**44**	**68**	.35	.53	**.78**
Majority	69	83	87	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	**29**	**56**	**58**	.42	.67	**.67**
Blacks	**42**	**62**	**74**	.61	.75	**.85**
Mexican Americans	**35**	**51**	**58**	.51	.61	**.67**
Japanese Americans	**84**	**94**	**99**	1.22	1.13	**1.14**
Chinese Americans	**82**	**88**	90	1.19	1.06	**1.03**
Pilipino Americans	76	84	**78**	1.10	1.01	**.90**
Puerto Ricans	**24**	**42**	**60**	.35	.51	**.69**
Majority	70	82	86	1.01	.99	.99

[a] The percentage of persons from 20 to 24 years of age who have completed 12 or more years of school.
[b] See figure 2.3 for a graphic representation of the indicator values that appear in this table.
Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

[c] This can be interpreted as follows: "In 1976 the high school completion rate for American Indian and Alaskan Native males was 80 percent of (or 20 percent below) the completion rate for majority males."

Figure 2.3 Social Indicator: High School Completion

Social Indicator Values: Ratios of raw measures to the majority male population.



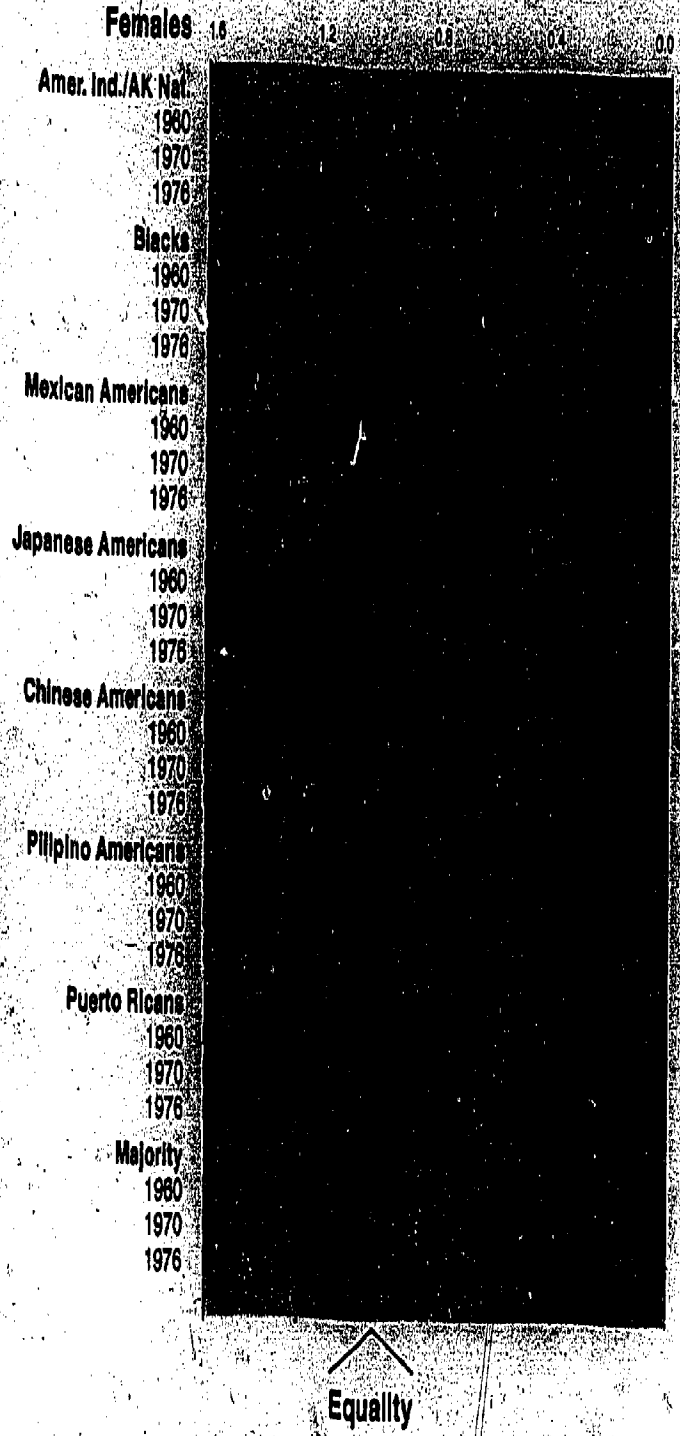


TABLE 2.4

College Completion

	Raw Measure [a]			Social Indicator Values [b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	**03**[c]	**08**	**08**	.15	.36	**.24**[d]
Blacks	**04**	**06**	**11**	.20	.27	**.32**
Mexican Americans	**04**	**05**	**11**	.20	.23	**.32**
Japanese Americans	**35**	**39**	**53**	1.75	1.77	**1.56**
Chinese Americans	**49**	**58**	**60**	2.45	2.64	**1.76**
Pilipino Americans	19	**28**	34	.95	1.27	**1.00**
Puerto Ricans	**04**	**04**	**06**	.20	.18	**.18**
Majority	20	22	34	1.00	1.00	**1.00**
Females						
Amer. Ind./Alask. Nat.	**02**	**05**	**04**	.10	.23	**.12**
Blacks	**06**	**08**	**11**	.30	.36	**.32**
Mexican Americans	**02**	**03**	**05**	.10	.14	**.15**
Japanese Americans	**13**	**31**	35	.65	1.41	**1.03**
Chinese Americans	26	**42**	**44**	1.30	1.91	**1.29**
Pilipino Americans	16	**50**	**51**	.80	2.27	**1.50**
Puerto Ricans	**01**	**03**	**04**	.05	.14	**.12**
Majority	**09**	**14**	**22**	.45	.64	**.65**

[a] The percentage of persons from 25 to 29 years of age who have completed at least 4 years of college.

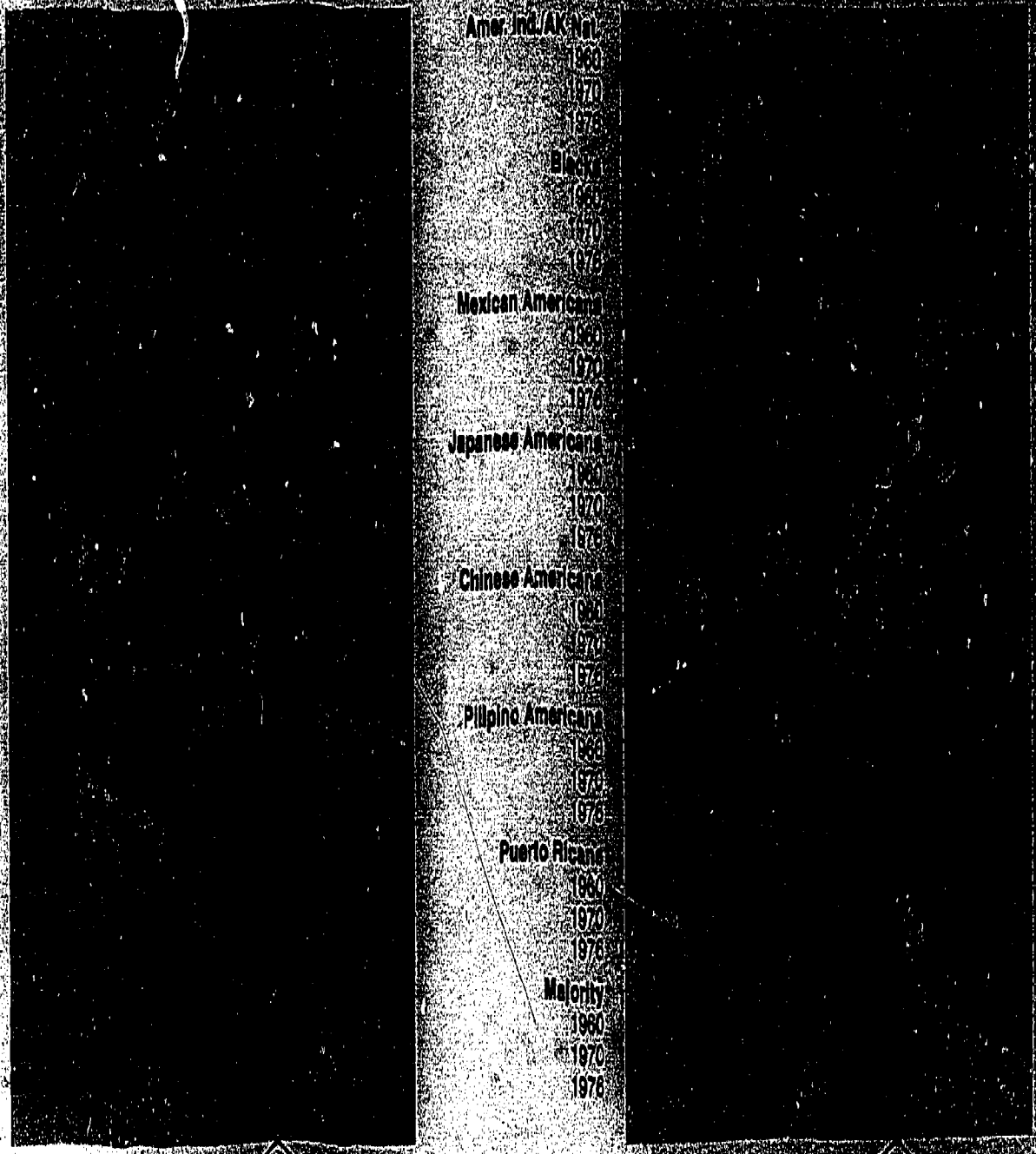
[b] See figure 2.4 for a graphic representation of the indicator values that appear in this table.

[c] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

[d] This can be interpreted as follows: "In 1976 the college completion rate for American Indian and Alaskan Natives male was 24 percent of (or 76 percent below) the rate for majority males."

Figure 2.4 Social Indicator: College Completion

Social Indicator Values: Ratios of raw measures to the majority male population.



base educational attainment statistics on persons 25 years old and over, since they represent an age group which, with few exceptions, has completed its schooling.[10] Although that age range does provide a good basis for calculating trends for long time periods, for the particular purpose of measuring *recent* trends it is not the most desirable. This is because a large part of the 25 years and over age group consists of persons who completed their educations decades prior rather than participated in the most recent changes in educational attainment. Furthermore, use of this large age group for comparisons with majority males would tend to exaggerate the inequalities to the extent that recent changes have been beneficial to minorities and women.

A much more direct assessment of short-term trends that does not overstate the extent of inequality can be obtained by limiting the analysis to the age group most likely to be just completing its education and, therefore, to have experienced the latest change in educational attainment. Thus, high school completion rates are calculated here for 20-to-24-year-olds in order to get a more accurate indication of the trends. For the college attainment indicator, the age group selected is 25 to 29 years old. The completion rates and the social indicators for high school appear in table 2.3 and figure 2.3, while those for college attainment are contained in table 2.4 and figure 2.4.

These tables show that at each point measured, the minority males' and females' levels of educational attainment, with few exceptions, were substantially below those of majority males. It is evident, in particular, that, even by 1976, attainment of a college education was still far beyond the reach of almost all American Indian/Alaskan Natives, blacks, Mexican Americans, and Puerto Ricans.

All of these groups showed improvements in their relative rates of high school completion except for the Asian American populations, who declined or stayed the same in each case. While the Asian American groups typically had higher rates of high school completion at each time (1960, 1970, and 1976), their relative educational advantage has slipped because the majority male rate of high school completion has increased at a faster pace.

In general, the minority male and female rates of high school completion were about 65 to 85 percent of the rates for majority males in 1976. The college completion rates, on the other hand, show a far greater degree of disparity between majority males, majority females, and minority males and females. Except for the Asian American groups and majority females, the groups' rates do not even approach half the college completion rates of majority males, and majority females are still 35 percent less likely than majority males to have completed 4 or more years of college in 1976. In general, although Japanese, Chinese, and Pilipino Americans are more likely than majority males to complete a college education, their relative advantage slipped somewhat from 1970 to 1976.

During the sixties, no group experienced a decline in the percentage of those 25 to 29 years of age who completed 4 or more years of college; however, this was not the case from 1970 to 1976. More important, some groups actually declined, relative to majority males, in their rates of college attainment. Along with the Asian American populations mentioned above, American Indian/Alaskan Native males and females, black females, and Puerto Rican females were relatively less likely to have completed college in 1976 than in 1970.

This draws attention to the fact that, although almost all groups have increased the percentages of their populations having completed a college education, these increases do not match the increase for majority males. Thus, acknowledgment of increased educational attainment for minorities and women must be qualified with the observation that there remains a great amount of inequality of educational attainment, and in some instances that inequality is increasing.

Indicators Based on the Consequences of Education

The first three indicators could be described as related to the quantity of education or the duration of the educational process. The next two indicators are directed at the consequences of schooling upon the type of occupations people pursue and their annual earnings, or the extent that minorities and women with educational attainment equal to that of the majority males are able to achieve equal results from that training. As traditional educational barriers are breached by minorities and women, this form of educational equality, based on the utility or

[10] *Social Indicators, 1973*, and U.S., Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States: 1974*

consequences of educational attainment, becomes increasingly important.[11]

Occupational Overqualification

One aspect of this type of educational equality can be phrased as follows: "For the same job, or for jobs with similar skill or educational requirements (such as positions requiring a college degree), must minorities and women demonstrate greater skill or more educational accomplishments than majority males?" Where this type of discrimination exists, minorities and women must be educationally overqualified in order to obtain employment or promotions.

Although the census does not collect sufficient information on people's occupations to construct an indicator of occupational overqualification, it was possible to supplement census data with other information in the construction of such an indicator. The U.S. Department of Labor's annual *Occupational Outlook Handbook* provides information on the typical educational requirements for specific occupations.[12] As a result of careful examination and testing on a job-by-job basis by Commission staff, two types of occupational categories were selected as the basis for the overqualification indicators: occupations that typically require less than a high school diploma, and those that require less than a college degree. Appendix A contains the occupational categories and the corresponding educational requirements. Two measures of educational overqualification have been developed. The measure of high school overqualification is the percentage of high school graduates whose occupations typically do not require high school completion. The measure of college overqualification is the percentage who have completed at least a year of college (13 or more years of education) whose occupation requires less education than that.[13]

The overqualification indicators are the ratios of the percentages of overqualified minorities and females to the percentage of overqualified majority males; the calculation process is identical to those for the ratios previously presented. Tables 2.5 and 2.6 and figures 2.5 and 2.6 contain the high school and college overqualification measures and the derived ratios for 1960, 1970, and 1976.

The overqualification measures demonstrate that overqualification is prevalent among all groups and for both educational levels measured. In fact, in 1976, from 40 to 60 percent of high school graduates had jobs that required less education. However, these indicators also show that overqualification is more prevalent among women and minority males than majority males. For example, black males with a high school education are about 50 percent more likely to be overqualified for their occupations than majority males. While all levels of high school overqualification increased from 1970 to 1976, the pattern of the indicator values (the ratios) is somewhat inconsistent, since some of the increases were more and some less than that for majority males.

In a labor market where the match between people's qualifications and their jobs is not influenced by minority or gender status, it would be expected that the different groups would have equal degrees of overqualification. As it is, a disproportionately high number of minority persons surpass the typically stated requirements for their occupations. The other side of the coin is that the majority males in those occupations are much less likely to be overqualified for those occupations. Apparently, a member of the majority male population with a high school education is more likely to be able to obtain a job that requires that level of education.

The college overqualification pattern in table 2.6 and figure 2.6 is not quite so clear. The same pattern of disproportionate overqualification is evident for minority males, but the degree of disparity is not as great as for the high school indicator. Whereas blacks in 1976 were about 50 percent more likely to be overqualified at the high school level, they were about 25 percent more likely to be overqualified at the college level.

The relatively greater equality of college overqualification, however, affects far fewer women and minority males than does the disproportionate high school overqualification. For black males in 1976, for example, seven times as many were in the "high school completed" category as were in the "college completed" category, which means that the progress documented in the college overqualification indicator reflects changes in the conditions of only a small

[11] James S. Coleman, "Increasing Educational Opportunity: Research Problems and Results," in *The Condition for Educational Equality*, edited by Sterling M. McMurrin (New York: Committee for Economic Development, 1971), p. 105.

[12] U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook*, 1974-75 Edition.

[13] Of those who have completed 1 year or more of college, two sets of individuals are identified as overqualified: those whose occupation required only high school or less, and those who had 4 years or more of college whose occupation required some college or less. A complete list of the occupational titles and their typical educational requirements can be found in appendix A.

TABLE 2.5

High School Overqualification

	Raw Measure[a]			Social Indicator Values[b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	**71.7**[c]	**59.5**	**60.5**	1.78	1.58	**1.37***
Blacks	**70.2**	**66.1**	**67.2**	1.75	1.76	**1.52**
Mexican Americans	**55.6**	**56.8**	**59.6**	1.38	1.51	**1.35**
Japanese Americans	**51.8**	**43.4**	**48.4**	1.29	1.15	**1.10**
Chinese Americans	**34.6**	**33.8**	43.3	.86	.90	**.98**
Pilipino Americans	**62.6**	**49.3**	**49.5**	1.56	1.31	**1.12**
Puerto Ricans	**58.2**	**54.8**	**60.8**	1.45	1.46	**1.38**
Majority	40.2	37.6	44.2	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	**56.5**	**48.0**	**53.0**	1.40	1.28	**1.20**
Blacks	**65.1**	**53.0**	**56.1**	1.62	1.41	**1.27**
Mexican Americans	42.8	**42.0**	**52.5**	1.06	1.12	**1.19**
Japanese Americans	**44.5**	**35.4**	**50.8**	1.11	.94	**1.15**
Chinese Americans	**27.2**	**25.7**	48.3	.68	.68	**1.09**
Pilipino Americans	35.8	**33.2**	**34.8**	.89	.88	**.79**
Puerto Ricans	**54.0**	38.5	**59.0**	1.34	1.02	**1.33**
Majority	**33.4**	**29.9**	**49.0**	.83	.80	**1.11**

[a] The percent of high school graduates who are employed in occupations which require less than a high school degree.

[b] See figure 2.5 for a graphic representation of the indicator values that appear in this table.

[c] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

* This can be interpreted as follows: "In 1976 the high school overqualification rate for American Indian and Alaskan Native males was 37 percent higher than (or 1.37 times) the rate for majority males."

Figure 2.5 Social Indicator: High School Overqualification

Social Indicator Values: Ratios of raw measures to the majority male population.

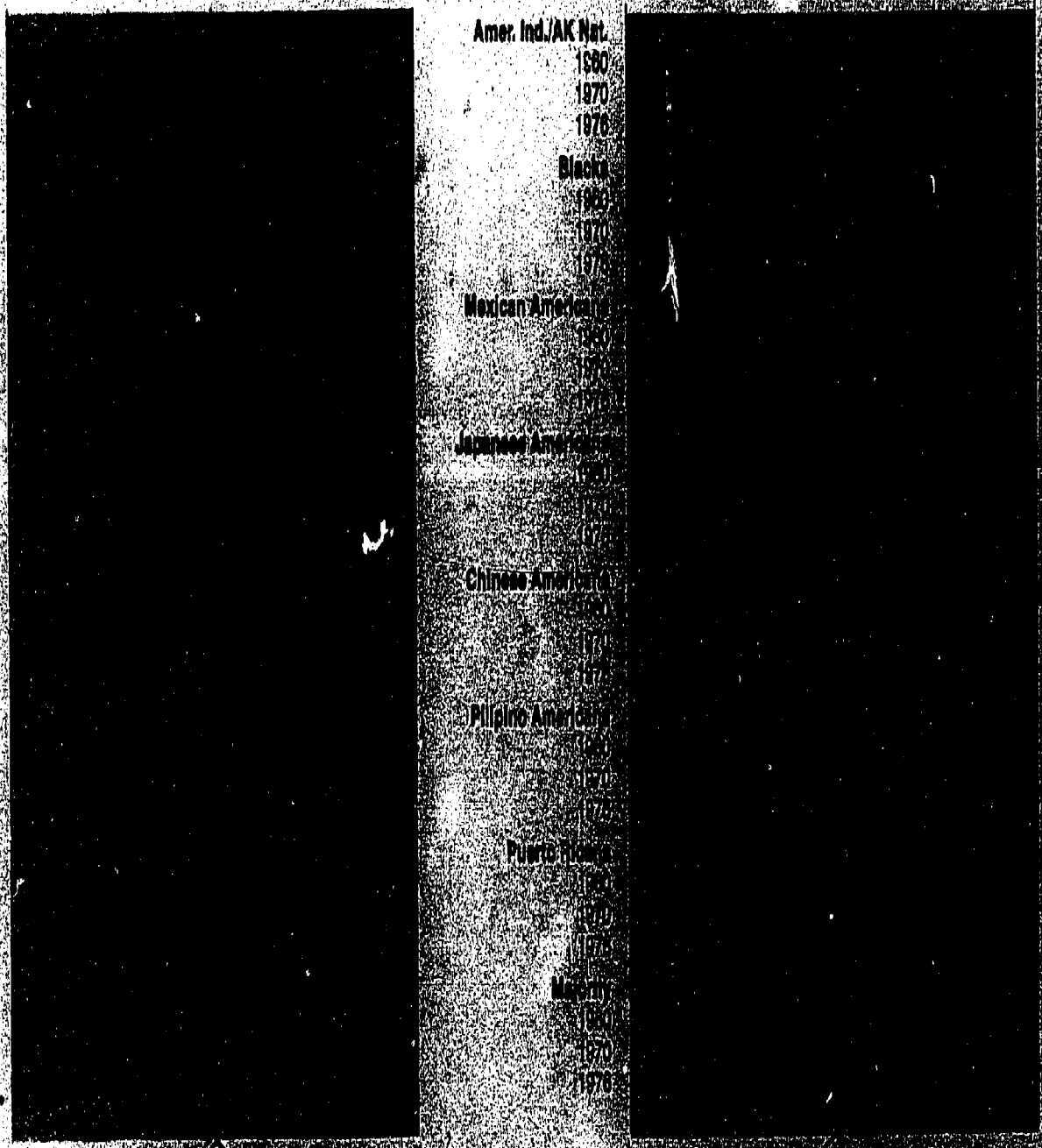


TABLE 2.6

College Overqualification

	Raw Measure[a]			Social Indicator Values[b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	51.6	**49.2**	**51.9**	1.21	1.18	1.16*
Blacks	**58.8**	**52.6**	**55.0**	1.38	1.26	1.23
Mexican Americans	46.9	**47.3**	46.5	1.10	1.13	1.04
Japanese Americans	**52.4**	44.3	**49.4**	1.23	1.06	1.10
Chinese Americans	48.2	**38.3**	**51.3**	1.13	.92	1.15
Pilipino Americans	48.1	45.1	**56.2**	1.13	1.08	1.26
Puerto Ricans	**52.9**	44.7	41.0	1.24	1.07	.92
Majority	42.7	41.7	44.7	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	46.2	38.7	46.6	1.08	.93	1.04
Blacks	41.6	**35.1**	**41.3**	.97	.84	.92
Mexican Americans	**28.1**	**31.7**	38.8	.66	.76	.87
Japanese Americans	**32.3**	**35.0**	**41.1**	.76	.84	.92
Chinese Americans	39.0	**34.5**	**51.2**	.91	.83	1.14
Pilipino Americans	37.1	38.2	39.6	.87	.92	.89
Puerto Ricans	42.2	**29.8**	50.4	.99	.71	1.13
Majority	**29.8**	**24.7**	45.4	.70	.59	1.02

[a] The percent of persons with at least 1 year of college who are employed in occupations which typically require less education than they have.

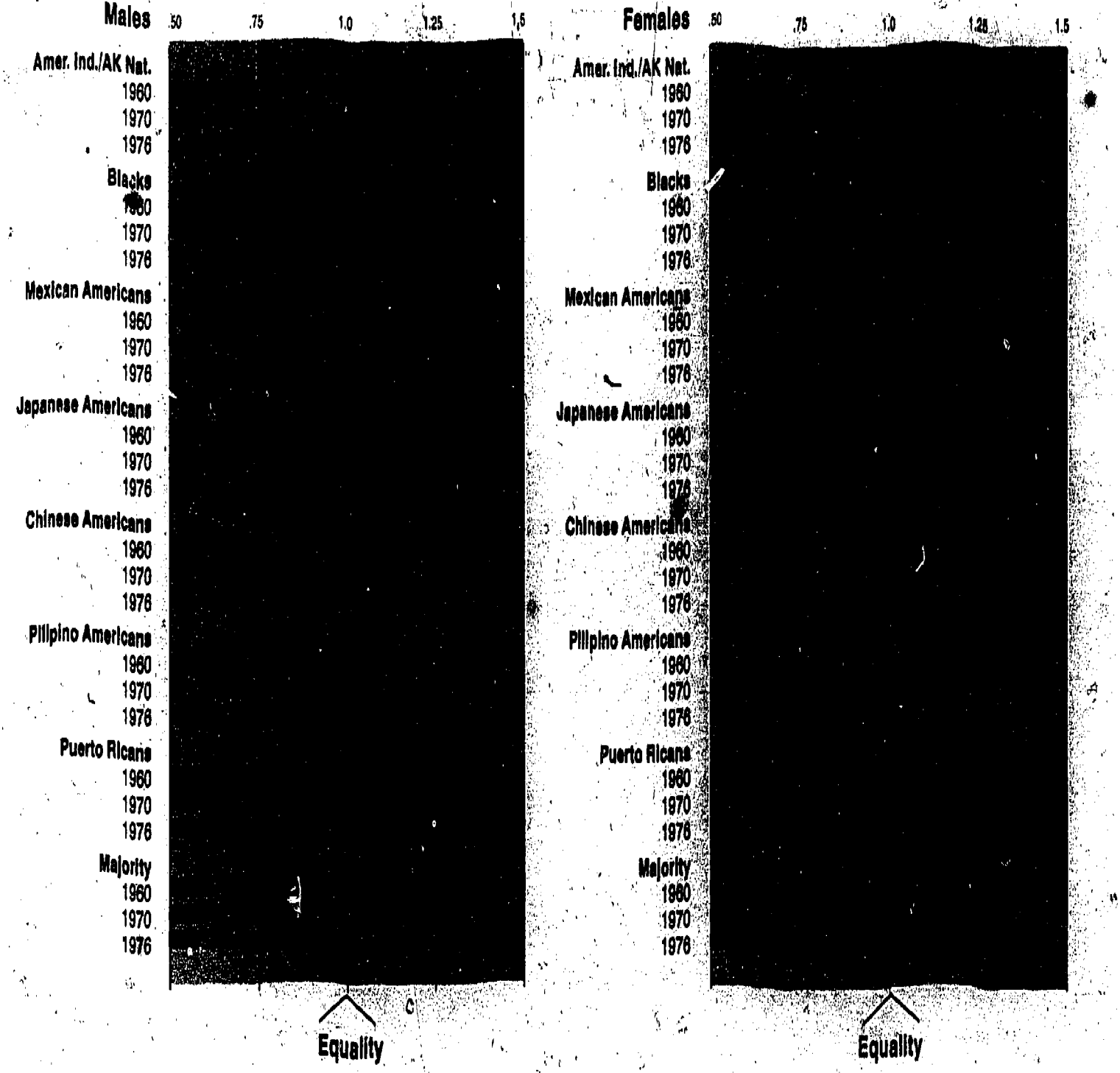
[b] See figure 2.6 for a graphic representation of the indicator values that appear in this table.

Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

* This can be interpreted as follows: "In 1976 the college overqualification rate for American Indian and Alaskan Native males was 16 percent higher than (or 1.16 times) the rate for majority males."

Figure 2.6 Social Indicator: College Overqualification

Social Indicator Values: Ratios of raw measures to the majority male population.



portion of black males. In the much larger high school category, the overqualification rate is 50 percent greater than that for the majority males.

One of the noteworthy points of this indicator is the shift of relative overqualification for majority females from 1970 to 1976. In 1970 majority females were 41 percent less likely than majority males to be overqualified in their occupations, but in 1976 they were about as likely as the males to be overqualified. This change suggests that the increased labor force participation of women[14] might have produced a discriminatory side effect of limiting their participation to occupations that do not match their skills.

Earnings for Educational Levels

Staying in school is often assumed to increase a person's chances of getting better jobs and making more money.[15] Figure 2.7 displays the pattern of the average (median) earnings in 1975 for different levels of educational attainment for black males and females and for majority males and females. Clearly, earnings tend to be higher for people with higher educational attainment. This is especially evident in the substantial difference between those with high school diplomas or some college and those with 4 or more years of college.

A basic question of equality is whether the financial rewards of schooling are equivalent for women, minorities, and majority men. Phrased negatively, the question becomes, "Are the penalties for dropping out of high school or college, or of not going to college, the same for women and minority males as they are for majority males?" The answer is definitely no. This disparity is graphically displayed in figure 2.7. It is evident that there are large earnings differences for black males and females and majority females, compared with majority males, at each educational attainment level. In no educational category do the female averages match the male averages. Majority female college graduates have average earnings less than majority males with a high school education. Although educational attainment seems to be linked to earnings, people in different groups with the same educational attainment certainly do not earn the same income. This indicator, in conjunction with the data on college attainment (see table 2.4), reflects a bleak picture for black young men and women and for majority women. The few who do overcome the obstacles to a college education find financial rewards significantly lower than those for majority males.

Although figure 2.7 displays the pattern of gross inequality of earnings by educational attainment quite well, it is important to have an indicator to quantify this earnings inequality so patterns over time can be monitored. The indicator selected for this purpose is the ratio of earnings figures for those earning some income during the year and with 4 or more years of college (i.e., the group supposedly the most mobile, ready to reach equality, and least subject to disadvantages of limited schooling).[16] The ratio of female or minority earnings to the majority male earnings measures the degree to which the incomes are unequal for persons at the *same* educational attainment level.

Available information does not permit measurement of the number of hours worked for the earnings received, nor is it necessary to know that for this indicator. Of concern here are the disproportionate earnings available to college-educated individuals who are working for pay. A more detailed treatment of earnings that adjusts for educational attainment, weeks worked, and other variables is presented in chapter 4.

Table 2.7 contains the earnings for those with 4 or more years of college and the corresponding social indicator values. In addition to quantifying the inequality, the figures from 1959, 1969, and 1975 permit comparisons assessing the degree of change (see figure 2.8).[17] Although minority males and females have tended to improve their situation relative to majority males, no college-educated female group earned as much as 70 percent of the majority male average in 1975, and for most of the minority male groups, earnings were less than 85 percent of those of majority males in that year. This indicator demonstrates that although Japanese, Chinese, and Pilipino American males and females are much more likely than majority males to have completed college; they receive lower earnings as college graduates than majority males.

[14] U.S. Department of Commerce. Bureau of the Census. Current Population Reports. *A Statistical Portrait of Women in the United States* (April 1976), Series P-23, no. 58, table 7-2, p. 28.

[15] Christopher Jencks, *Inequality* (New York: Basic Books, 1972), p. 221.

[16] The selection of this category for the indicator is somewhat arbitrary, but 4 years of college seem to represent the clearest educational achievement associated with increased earning power. The large income gap in figure 2.7 between high school and college levels supports this approach.

[17] Earnings are reported for the previous year, so the 1960 and 1970 censuses and the 1976 SIE use earnings figures for 1959, 1969, and 1975, respectively.

Figure 2.7 Median Earnings in 1975 by Years of School Completed for Majority and Black Males and Females with Some Earnings

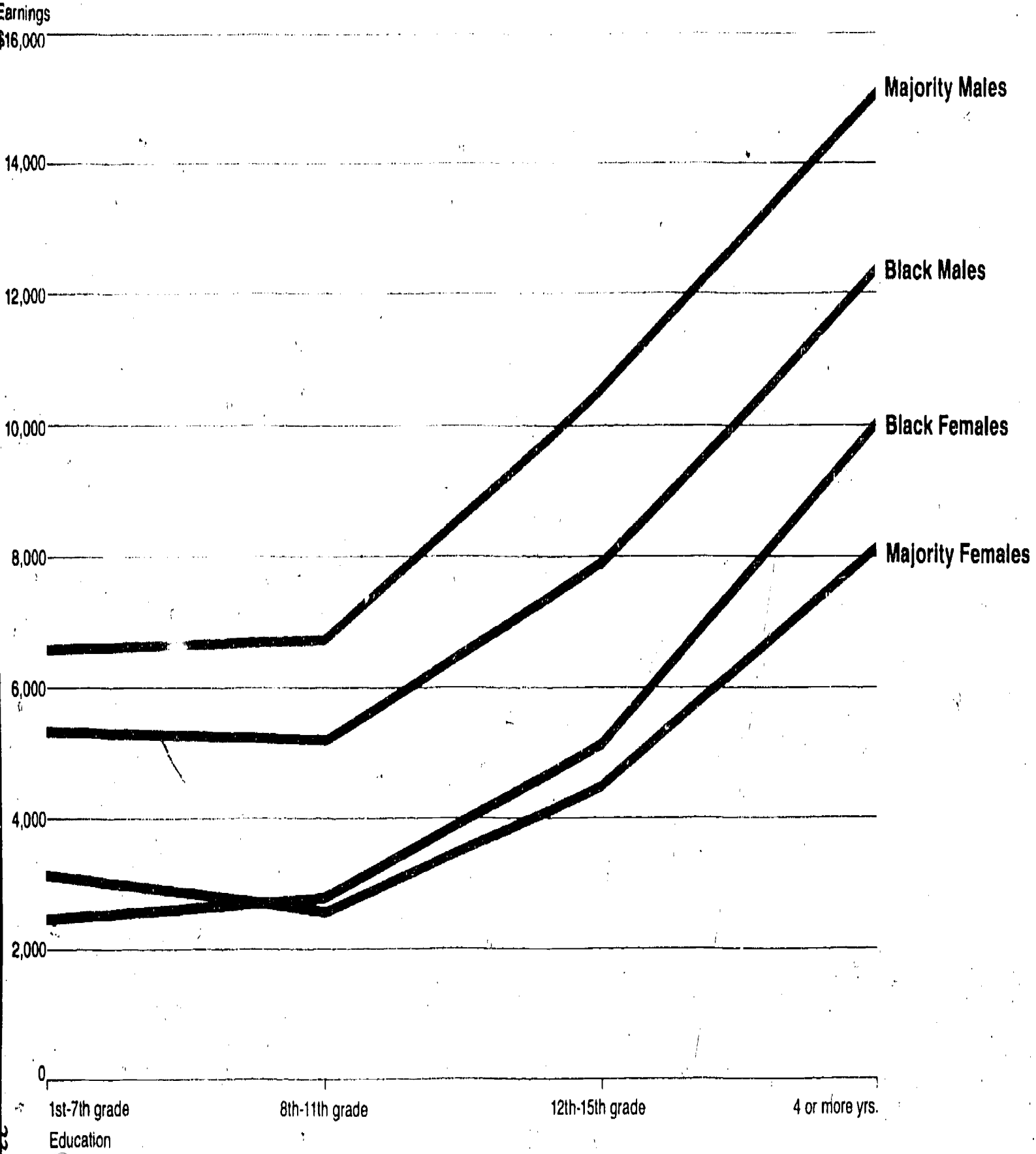


TABLE 2.7

Earnings Differential for College-Educated Persons

	Raw Measure [a]			Social Indicator Values [b] (Ratios of raw measures to the majority male population)		
	1959	1969	1975	1959	1969	1975
Males						
Amer. Ind./Alask. Nat.	$4495	$ 7210	$11678	.66	.68	.77*
Blacks	4482	7775	12324	.66	.73	.81
Mexican Americans	5376	7848	10786	.79	.74	.71
Japanese Americans	5250	10045	14253	.77	.94	.94
Chinese Americans	5589	9068	12790	.82	.85	.84
Pilipino Americans	3713	7793	13091	.54	.73	.86
Puerto Ricans	4080	8544	N.A.	.60	.80	N.A.
Majority	6833	10651	15165	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	N.A.	3136	10283	N.A.	.29	.68
Blacks	2750	5855	9911	.40	.55	.65
Mexican Americans	1382	2652	6967	.20	.25	.46
Japanese Americans	1999	2171	8383	.29	.20	.55
Chinese Americans	487	1875	6421	.07	.18	.42
Pilipino Americans	1667	3875	9038	.24	.36	.60
Puerto Ricans	499	2250	N.A.	.07	.21	N.A.
Majority	1739	1943	8106	.25	.18	.53

[a] Median earnings of those with 4 or more years of college who had some earnings during the year. This indicator is based on medians and therefore standard techniques for estimating sampling error do not apply. See appendix C for data source and sampling information.

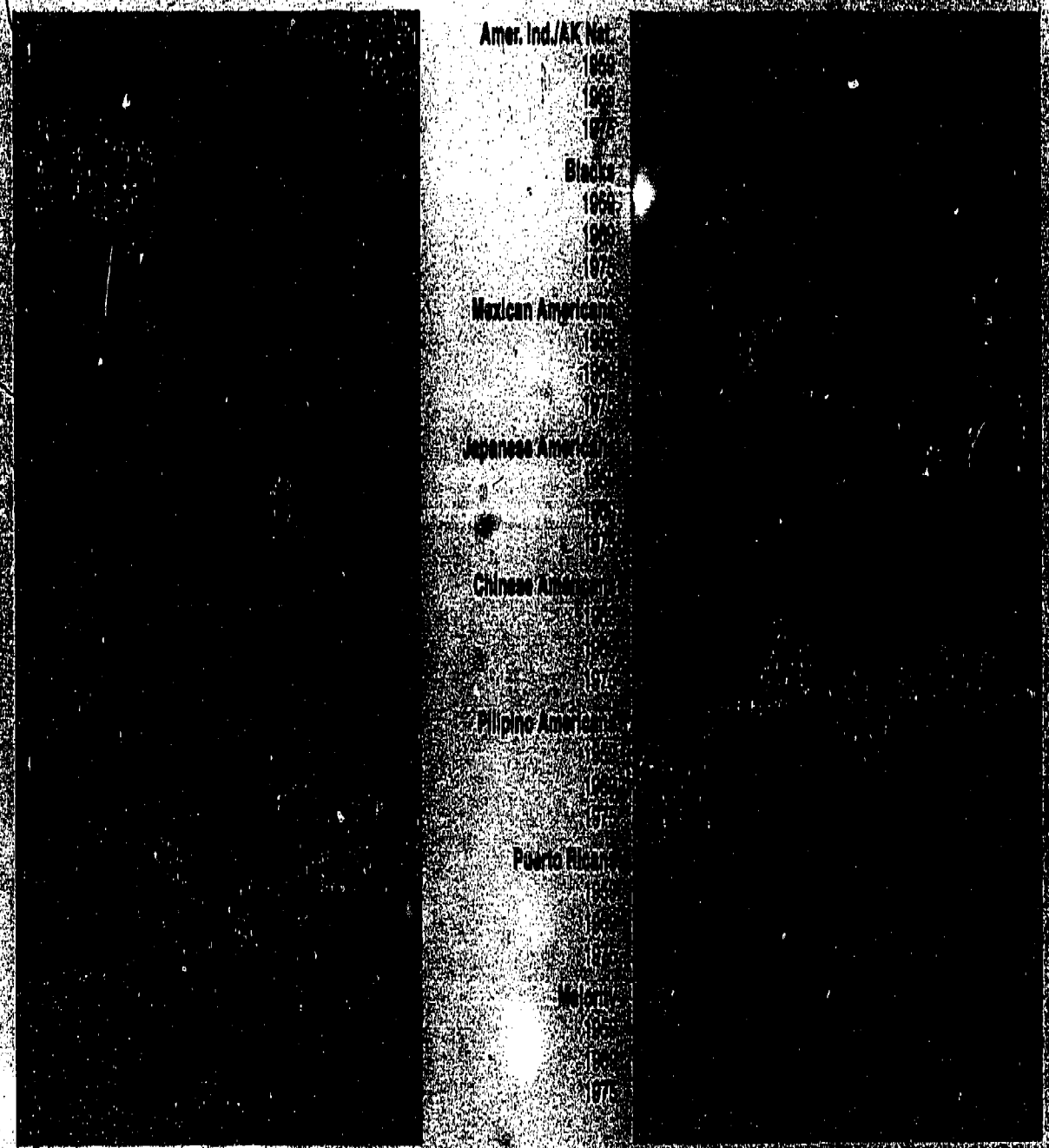
[b] See figure 2.8 for a graphic representation of the indicator values that appear in this table.

[c] NA indicates that a value was not reported due to an insufficient sample size. Appendix C contains the sample size for all groups and indicators.

* This can be interpreted as follows: "In 1975 American Indian and Alaskan Native males with 4 or more years of college earned 77 percent of the average for majority males with the same educational attainment."

Figure 2.8 Social Indicator: Earnings Differential for College-Educated Persons

Social Indicator Values: Ratios of raw measures to the majority male population.



*Values were not available due to an insufficient number of cases.

Conclusion

The indicators discussed in this chapter reveal serious inequalities in education for minorities and women, compared to majority males. While the idea of minority educational disadvantage certainly is not new, these indicators provide greater detail on the specific educational disadvantages of particular minority and gender groups than has been available previously.

In general, minority males and females have decreased their delay and nonattendance rates over time; however, their relative rates with respect to majority males have not improved. In fact, most minority males and females have greater relative delay and nonattendance in 1976 than in either 1970 or 1960, indicating a trend of increasing inequality.

Among the personal and social consequences of these disparities is the fact that women and minority males fall far below majority males in their levels of educational attainment. As of 1976, among 25-to-29-year-olds, for every 100 majority males, 34 were college educated, while only about 11 out of 100 minority males or minority females were college educated. In other words, most minority and female groups remained only about 30 percent as likely as majority males to have a college education.

Although the Asian American groups do not experience the same disparities in college attainment, their relative advantage is slipping over time. In addition, it is clear (and will be discussed further in chapter 4) that the greater educational attainment of the Asian American populations does not result in increased financial rewards compared to majority males, as would be expected if everything else were equal.

Overall, the educational enrollment indicators verify the findings of many reports by the U.S. Commission on Civil Rights calling for renewed commitment to equal educational opportunity.[18] Two important issues concerning the college attainment indicator deserve special mention. First, without careful analysis, the rates of increased attainment for minorities and women may overshadow the inequalities that still persist. For example, Mexican American and black males have almost tripled their rates of college attainment during the 16-year period reviewed. Both groups, however, also remained less than one-third as likely as majority males to have completed 4 years of college in 1976.

The second issue is that the relatively low rates of college attainment for women and minority men in 1976 are occurring among the age groups most likely to have been exposed recently to a college education—the population aged 25 to 29. Since these young people are individuals who began elementary school *after* the decision in *Brown* v. *Board of Education*,[19] this indicator reflects in part the legacy of continued unconstitutional discrimination in education.

The indicators in this chapter go further than merely providing numerical verification of enrollment disparities, for they also show that the value or payoff of the struggle to attain an education (measured in terms of occupation and earnings) is significantly less for most women and minority men than for majority males of the same educational level. For instance, the overqualification indicators show that majority males with high school educations were more likely to find jobs that required their level of education than were most females and minority males. The race and gender disparities are larger for high school overqualification than for college overqualification—that is, the disparity is worse at the level that affects far more people, for although only 11 percent of black males completed 4 years of college in 1976, 74 percent had completed high school. Interestingly, majority females with a high school diploma or some college were more likely than majority males to find jobs requiring their education in 1960 and in 1970, but by 1976 they had become more educationally overqualified than majority males.

For those individuals who are able to finish college—approximately 11 percent for minority males and females, 22 percent for majority females, and 34 percent for majority males—the financial payoffs vary by ethnicity and sex. As indicated in figure 2.7, black males and females and majority males and females certainly increase their earnings as college graduates, although significant gaps between the groups occur at each attainment level. In fact, the earnings differential for college-educated persons indicates that even when women and minority men

[18] For example, the following publications have been issued by the U.S. Commission on Civil Rights: *Racial Isolation in the Public Schools*, 1967; *The Mexican American Education Study*, 6 vols., 1971-74; *The Federal Civil Rights Enforcement Effort—1974, Vol. III: To Ensure Equal Educational Opportunity*, 1975; *Desegregating the Boston Public Schools: A Crisis in Civic Responsibility*, 1975; *Fulfilling the Letter and Spirit of the Law*, 1976; and *Twenty Years After Brown*, 1977. Each was published by the U.S. Government Printing Office, Washington, D.C.

[19] Brown v. Board of Education, 347 U.S. 483 (1954).

succeed in completing a college education, they are likely to earn far below what comparably-educated majority males earn—approximately 85 percent for minority males and less than 70 percent for minority and majority females. In 1976, Japanese, Chinese, and Pilipino Americans were much more likely to have completed a college education than majority males but, as college graduates, they earned far less than majority males. Clearly the continuing severe disparities between the earnings of women and men at the same educational levels indicates the necessity for more vigorous efforts to ensure equal opportunity in employment.

Chapter 3

Unemployment and Occupations

By almost any criterion, work is a vitally important aspect of people's lives. For almost all persons, it represents a considerable investment of time and effort. For minorities and women there is an added dimension to the importance of work, since they experience some of the most damaging types of discrimination and prejudice during their attempts to make a living or pursue a career. Such discriminatory treatment can touch every aspect of work—the type of work a person is encouraged to prepare for, the likelihood of finding work, the type of work done, the job title and rank, the amount of pay, the extent to which individual efforts are rewarded, the chances for advancement or of being laid off or fired, and a host of other facets of work.

The primary objective of this chapter is to develop and promote the use of social indicators that will be useful in measuring the reduction and elimination of unjust hurdles and barriers to equal opportunity in the world of work for minorities and women. Four key dimensions of work have been selected for measurement: unemployment, occupational prestige, occupational mobility, and occupational segregation. Each represents a different aspect of the world of work in which women and minorities have critical concerns. Also, the educational overqualification indicators presented in the previous chapter are based on occupational characteristics and could have been included with these.

Unemployment Rate

The existence of a large number of willing and able potential workers without jobs has been a continuing national problem. Over 7 million persons in each quarter of 1976 were unemployed, and their average term of unemployment was about 14 to 15 weeks.[1] In 1976, as has become typical, the likelihood of blacks and other races being out of work was about twice that of whites. This type of disparity is the unemployment indicator used in this report.

The measurement of unemployment is as complicated and controversial as it is important. "Unemployment statistics represent people—people trying to support families, people seeking their first job, people changing jobs, people losing jobs."[2] The complicated and controversial aspects of measuring employment and unemployment involve the determination of exactly which nonworking people should be classified as "unemployed."

Persons not looking for work, but who would be if they perceived some chance of being employed, are not listed as "unemployed," even though they have generally experienced long periods of job inactivity or have looked for work unsuccessfully. They are not considered part of the "labor force" either.[3] Instead, they are called "discouraged workers," and available evidence has shown a disproportionate number of them to be women and minorities.[4] The census, however, did not seek the reason why people failed to look for work; therefore, it is impossible to determine

[1] U.S., Department of Labor, Bureau of Labor Statistics, "The Employment Situation," *News* (February 1977).

[2] U.S., Department of Labor, Bureau of Labor Statistics, "Some Social Aspects of Unemployment," by Janet L. Norwood, Report 469, p. 1.

[3] The labor force is defined by the Bureau of the Census as including persons age 14 and older who either: (a) had worked during the week before a census or population survey; (b) had a job from which they were temporarily absent; (c) were looking for work during the past 4 weeks and were available to accept a job; or (d) were waiting to be called back to a job from which they had been laid off. These last two categories comprise the "unemployed," and the percentage of the labor force that is unemployed is the "unemployment rate." Excluded from this definition of the labor force are persons whose "only activity consisted of work around the house, or volunteer work for religious, charitable, and similar organizations"; students; retired workers; seasonal workers not currently looking for work; disabled persons; inmates of institutions; and persons doing only unpaid work in a family business for less than 15 hours in the preceding week. U.S., Department of Commerce, Bureau of the Census, *Public Use Sample of Basic Records from the 1970 Census: Description and Technical Documentation* (1972), p. 151.

[4] Paul O. Flaim, "Discouraged Workers and Changes in Unemployment," *Monthly Labor Review*, vol. 96, no. 3 (March 1973), p. 12.

the number of persons who were not working in 1960 and 1970 because they did not believe that they could find jobs. As a result, this report is not able to contribute statistical analyses involving different definitions of the labor force and the unemployed, although it is possible to convert standard unemployment rates to measures of inequality of unemployment.

The percentages of the various groups' labor forces that were defined as unemployed in 1960, 1970, and 1976 are given in table 3.1. The exclusion of discouraged workers from the unemployed category probably understates the unemployment rate of minorities and women more than it understates that for majority males, since the discouraged workers are likely to be disproportionately minorities and women. Thus, the *disparities* between the unemployment rates of minorities and women in comparison to majority males would also be understated.

Even with the understatement, the disparities between the majority male rate of unemployment and the rates for majority females and for both sexes of American Indians/Alaskan Natives, blacks, Mexican Americans, and Puerto Ricans are generally very large. Although the unemployment rate fluctuates continuously with changing economic conditions, the disparities (ratios to the majority male rate of unemployment) are more persistent and indicate a basic inequality in the labor market. The disparity will change only as the inequality is altered.

Table 3.1 shows that most groups experienced declines in their unemployment rates from 1960 to 1970; however, the ratios (see also figure 3.1) for 1970 indicate increases in disparities from the majority male rate for black, Mexican American, and Pilipino American men and for American Indian/Alaskan Native, black, and Mexican American women. This means that although the employment situation improved during the 1960s for these groups, it improved even more for majority males, and the large disparities continued.

In the period between 1970 and 1976, unemployment rose for all of the groups discussed in this report. The majority male rate increased from 3.6 in 1970 to 5.9 in 1976. During this period of rising unemployment, the disparity between the minority and female rates and the majority male rate generally increased. Thus the unemployment of minorities and women worsened in *absolute* terms as well as relative to majority males. Blacks, Puerto Ricans, and Mexican Americans of both sexes moved from having approximately twice the unemployment of majority males in 1970 to closer to three (and for one group, four) times the majority male rate in 1976.

Consider the 1970–76 changes in the rates for black males and females and Puerto Rican males and females. These four groups each experienced very severe increases in unemployment relative to majority males. In each case the increase in the ratio was greater than 0.6 during the 6 years. This pattern emphasizes the need for a two-pronged attack on unemployment. Policies to reduce unemployment must address both the absolute level of unemployment and the level of disparities.

One dramatic deviation from the pattern of increasing disparities is the case of American Indian/Alaskan Native males, who had an extremely high ratio of about 3.5 in 1960 (when the other groups were closer to 2), but declined to 2.07 by 1976, while other groups were moving in the opposite direction. Thus, American Indian/Alaskan Native males experienced a significant improvement, but still were more than twice as likely to be unemployed as majority males. Another notable reduction in the ratios occurred for Pilipino American females. They declined from an unemployment rate that was about four times the majority male rate in 1960 to a level close to the majority male rate in 1976. Important as these developments are for the groups involved, they cannot obscure the fact that the predominant trend for most minorities and women is a worsening of unemployment relative to majority males over time.

One component of the unemployment rate warrants separate attention. Young women and minority men have the highest rates of unemployment of all groups in the Nation.[5] In addition to its inherent problems, the state of being unemployed seems to be associated with activities and reactions on the part of the young that can be detrimental to themselves and to the communities in which they live.[6] The risk of developing frustrated and hostile youth who feel separated from the society around them may be minimized by lowering the teenage unemployment rate in areas of high unemployment.[7]

[5] Stanley L. Friedlander, *Unemployment in the Urban Core: An Analysis of Thirty Cities with Policy Recommendations* (New York: Praeger Publishers, 1972), p. 122.

[6] Ibid., chapter 5.

[7] U.S., Congress, Senate, Committee on Labor and Public Welfare, Subcommittee on Employment and Manpower, *Toward Full Employment: Proposals for a Comprehensive Employment and Manpower Policy in the United States* (1964), p. 67.

TABLE 3.1

Unemployment

	Raw Measure[a]			Social Indicator Values[b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	**16.4**	**10.9**	**12.2**	3.49	3.03	**2.07**[c]
Blacks	**8.6**	**7.1**	**15.9**	1.83	1.97	**2.69**
Mexican Americans	**8.1**	**6.4**	**11.1**	1.72	1.78	**1.88**
Japanese Americans	**2.4**	**1.8**	**2.9**	.51	.50	**.49**
Chinese Americans	3.6	3.7	7.2	.77	1.03	**1.22**
Pilipino Americans	4.9	**5.4**	5.6	1.04	1.50	**.95**
Puerto Ricans	**8.8**	**6.3**	**16.3**	1.87	1.75	**2.76**
Majority	4.7	3.6	5.9	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	**11.9**	**10.9**	**15.6**	2.53	3.03	**2.64**
Blacks	**9.0**	**8.4**	**18.9**	1.91	2.33	**3.20**
Mexican Americans	**9.6**	**9.1**	**14.9**	2.04	2.53	**2.52**
Japanese Americans	**3.2**	3.2	**3.8**	.68	.89	**.64**
Chinese Americans	3.4	4.0	6.6	.72	1.11	**1.12**
Pilipino Americans	**18.7**	**5.1**	6.0	3.98	1.42	**1.02**
Puerto Ricans	**11.1**	**9.3**	**22.3**	2.36	2.58	**3.78**
Majority	4.7	**5.0**	**8.7**	1.00	1.39	**1.47**

[a] The percent of the labor force 15 years of age and older who were out of work and actively seeking work.
[b] See figure 3.1 for a graphic representation of the indicator values that appear in this table.
Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

[c] This can be interpreted as follows: "In 1976 the American Indian and Alaskan Native male unemployment rate was 2.07 times as high as the rate of majority males."

Figure 3.1 Social Indicator: Unemployment

Social Indicator Values: Ratios of raw measures to the majority male population.

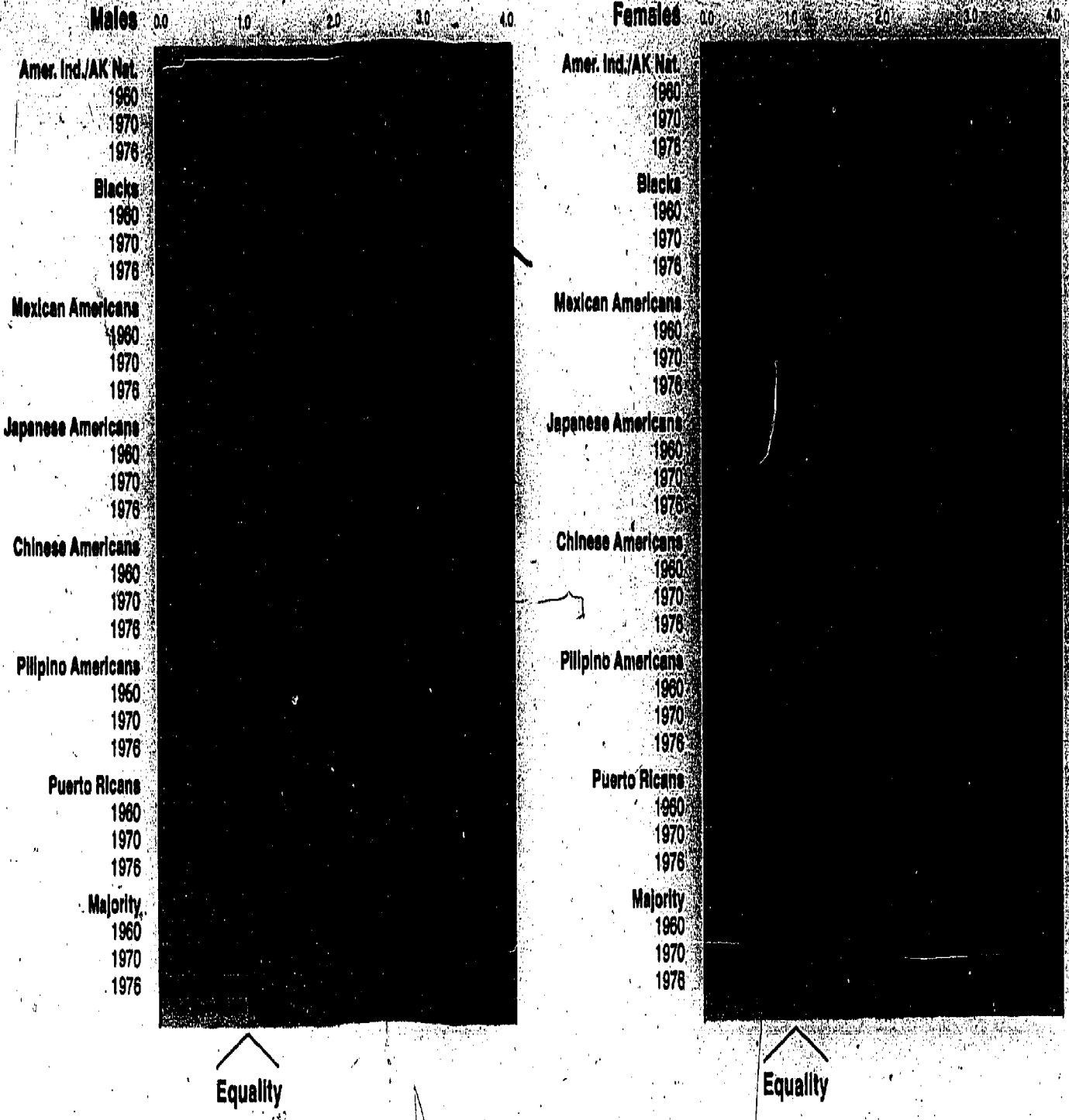


TABLE 3.2

Teenage Unemployment

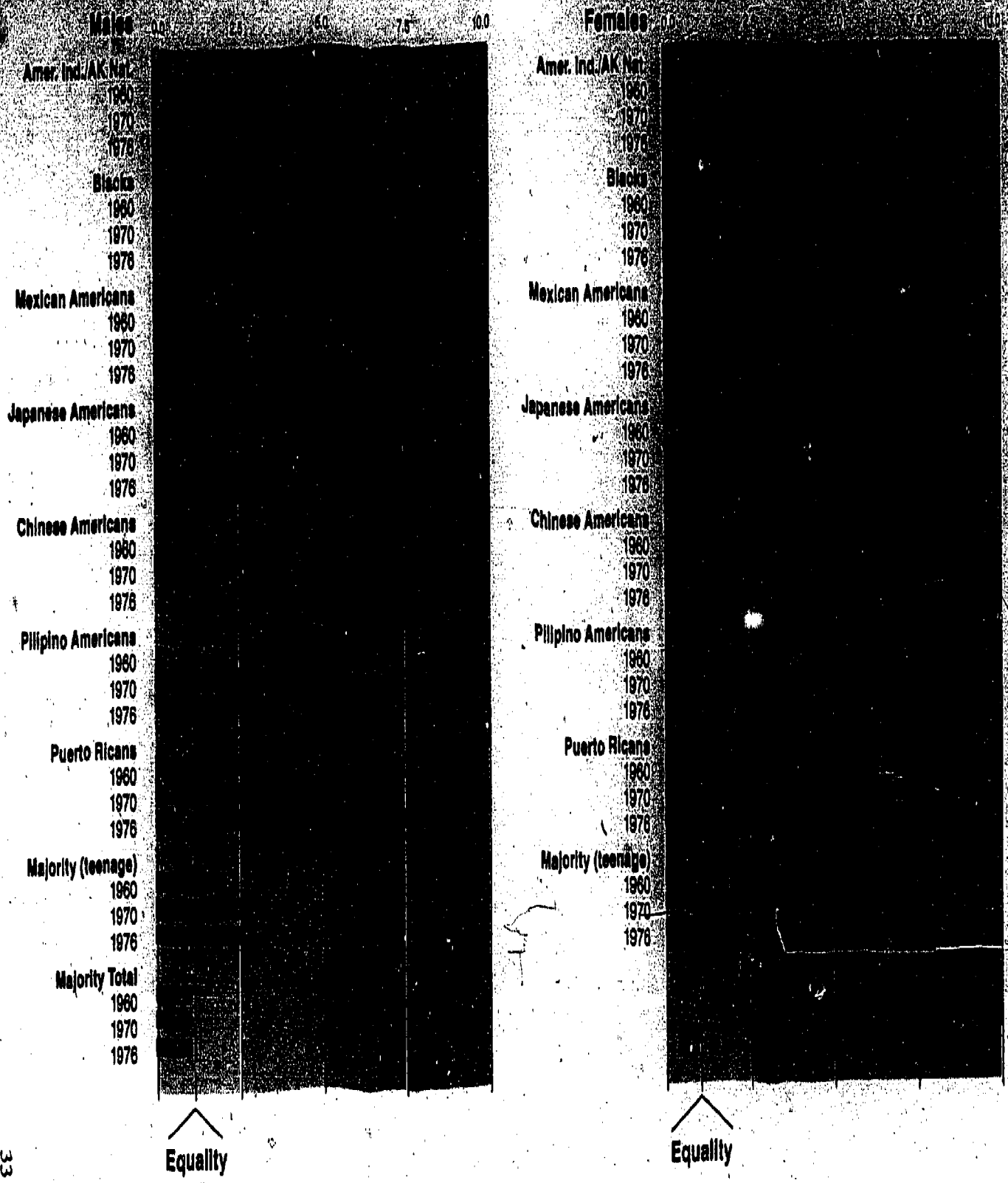
	Raw Measure[a]			Social Indicator Values[b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	**16.9**[c]	**18.4**	**34.9**	3.60	5.11	**5.92**
Blacks	**12.1**	**20.5**	**47.8**	2.57	5.70	**8.10**
Mexican Americans	**14.4**	**14.8**	**24.3**	3.06	4.11	**4.12**
Japanese Americans	7.0	**8.1**	**13.7**	1.49	2.25	**2.32**
Chinese Americans	N.A.[d]	**8.6**	N.A.	N.A.	2.39	N.A.
Pilipino Americans	N.A.	**18.2**	**22.1**	N.A.	5.06	**3.75**
Puerto Ricans	**14.8**	**17.9**	**55.2**	3.15	4.97	**9.36**
Majority (teenage)	**9.8**	**10.6**	**15.0**	2.09	2.94	**2.54**
Majority Total	4.7	3.6	5.9	1.00	1.00	**1.00**
Females						
Amer. Ind./Alask. Nat.	**20.9**	**17.8**	**36.0**	4.45	4.94	**6.10**
Blacks	**18.8**	**24.6**	**51.3**	4.00	6.83	**8.69**
Mexican Americans	**12.5**	**16.7**	**27.1**	2.66	4.64	**4.59**
Japanese Americans	8.6	**8.2**	9.9	1.83	2.28	**1.68**
Chinese Americans	N.A.	5.6	N.A.	N.A.	1.56	N.A.
Pilipino Americans	N.A.	5.7	**24.3**	N.A.	1.58	**4.12**
Puerto Ricans	**11.0**	**16.8**	**38.2**	2.34	4.67	**6.47**
Majority (teenage)	2.9	**10.9**	**19.2**	.62	3.03	**3.25**

[a] The percent of the labor force from 16 to 19 years of age who were out of work and actively seeking work.
[b] See figure 3.2 for a graphic representation of the indicator values that appear in this table.
Bold type indicates that the difference between this value and majority benchmark is statistically significant at the 0.10 level.
See appendix C for sampling information and data source.
[c] NA indicates that a value was not available due to an insufficient sample size. Appendix C contains the sample size for all groups and indicators.

This can be interpreted as follows: "In 1976 the American Indian and Alaskan Native male teenage unemployment rate was 5.92 times the majority male total unemployment rate."

Figure 3.2 Social Indicator: Teenage Unemployment

Social Indicator Values: Ratios of raw measures to the majority male population.



*Values were not available due to an insufficient number of cases.

Table 3.2 contains the teenage unemployment rates for the various groups. The social indicator (see also figure 3.2) compares the teenage rates to the *overall* majority male rate. The rates for all the groups are extremely high, and the minority and female groups are especially disadvantaged. Several of the groups' teenage unemployment rates were more than five times the rate of majority males in 1970 and over eight times that reference point in 1976. In virtually every case, the situation *worsened* substantially during the decade of the 1960s and then either continued to worsen or remained at an extremely high level in 1976. Unemployment for some teenage groups reached a level in 1976 that meant that a third to one-half of the teenagers who were actively seeking work were unable to find jobs. The approximate rates for these extremely hard-hit groups were 35 percent for American Indian/Alaskan Native males, 48 percent for black males, 55 percent for Puerto Rican males, 36 percent for American Indian/Alaskan Native females, 51 percent for black females, and 38 percent for Puerto Rican females.

Occupational Prestige

In addition to knowing how different the specific unemployment patterns of women and minority males are from that of majority males, it is important to measure whether or not minorities and women are disproportionately represented in occupations considered less important, less prestigious, or less desirable by the rest of society. "Occupational prestige" reflects the honor or social esteem generally accorded to those working in an occupation.[8] Measuring occupational prestige requires that members of the society evaluate occupational categories in terms of relative "social standing."[9] Average prestige scores can be calculated from numerical scores assigned to the evaluations of a large number of persons. This technique has yielded highly reliable (i.e., consistent) prestige rankings of occupations in the United States as well as in other countries.[10]

The prestige scores utilized here were adapted from a study that generated the scores for each occupational category used by the census.[11] These prestige scores range from a high of 88 for physicians to a low of 1.5 for bootblacks. A few selected occupational prestige scores are listed in table 3.3.

Two different indicators have been developed from the prestige scores. Each is based on comparing the prestige scores of majority males to those of women and minority males. The first uses the average prestige scores of the two groups being compared, and the second measures the change in prestige for those who changed occupations between 1965 and 1970, and therefore describes mobility. This latter measure is based on a question asked for the 1970 census but not asked in 1960 or 1976.

The degree of inequality in the prestige scores can be clearly indicated by comparing the mean of majority males to the means of the different groups. Dividing a minority or female group's prestige score

[8] Lloyd V. Temme, *Occupation: Meanings and Measures* (Washington, D.C.: Bureau of Social Science Research, 1975), p. 184.

[9] A commonly used wording in the interview situation is for the respondent to be asked:

> For each job mentioned, please pick out the statement that best gives your own personal opinion of the general standing that such a job has: 1. *Excellent* standing, 2. *Good* standing, 3. *Average* standing, 4. *Somewhat below average* standing, 5. *Poor* standing; and category of "I don't know where to place that one."

From Delbert Miller, *Handbook of Research Design and Social Measurement* (New York: David McKay Co., 1964), p. 173.

Although it seems unlikely, it is logically possible that the actual types of occupations could be quite different even though the occupations are equal in prestige levels. In the scale used in this research, bank tellers and electricians both have prestige scores of 44, and blasters, powdermen, and file clerks have scores of 35.

[10] Temme, *Occupation: Meanings and Measures*.

[11] Ibid. The occupational title or category serves as the foundation for measurement of many trends and characteristics of occupations. Thus, much of the variety of occupational activities and the significance of work is oversimplified and reduced to a category from the beginning. The categories are further accumulated to suit the needs of the researcher or agency until the desired degree of reduction of detail is accomplished.

Although the Department of Labor's *Dictionary of Occupational Titles* now contains about 35,000 specific recognized and defined occupational titles and thousands of new titles are being added (see U.S., Department of Labor, *Occupations Outlook Handbook*, 1976-77 edition), the 1970 census classification of occupations contained only 441 occupational categories. The detailed 1970 census classification scheme required 137 pages of three columns each to list the occupations which comprise the 441 categories (see U.S., Department of Commerce, Bureau of the Census, *1970 Census of Population, Classified Index of Occupations and Industries*, 1971). For most purposes the 441 categories are further reduced to 12 major categories: professional, technical, and kindred workers; managers and administrators, except farm; sales workers; clerical and kindred workers; craftsmen and kindred workers; operatives, except transport; transport operatives; laborers, except farm; farmers and farm managers; farm laborers and farm foremen; service workers, except private household; and private household workers.

For some purposes these 12 categories are further reduced to 4 (white collar, blue collar, service workers, and farmworkers). See, for example, U.S., Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States* (1976), p. 360, table 581.

The significance of the issue of classification and reduction goes beyond a concern for detail. With the reduction of categories and the combining of occupations there is danger of misrepresenting the occupational situation. One possible result, for example, is that important differences in the occupational structures of males and females are eliminated when the occupations are combined. While it may appear that males and females have similar occupations, actually this "equality" is simply an artifact of a classification system that combines divergent occupations.

The "professional, technical, and kindred" category is an important example. Close examination of this category—which is often used to represent "high status occupations"—reveals a very diverse set of occupations with widely varying duties, education, prestige, and income. Nurses, airplane pilots, physicians, dancers, clergymen, recreation workers, athletes, therapy assistants, dieticians, and elementary school teachers are all included within the professional category.

TABLE 3.3

Prestige Scores for Selected Occupations

Occupation	Prestige Score
Lawyers	76
Elementary School Teachers	64
Accountants	61
Credit Men	56
Nurses	54
Secretaries	48
Dieticians	47
Bank Tellers	44
Electricians	44
Firemen	41
Athletes	39
Carpenters	39
Salesmen and Sales Clerks	38
Automobile Mechanics	37
Blasters and Powdermen	35
File Clerks	35
Farm Foremen	30
Sewers	29
Truck Drivers	29
Mine Operatives	27
Waiters	24
Janitors	23
Maids	11
Garbage Collectors	11
Farm Laborers	10

Source: Lloyd V. Temme, *Occupation: Meanings and Measures* (Washington, D.C.: Bureau of Social Science Research 1975), pp. 270–334.

TABLE 3.4

Occupational Prestige

	Raw Measure[a]			Social Indicator Values[b] (Ratios of raw measures to the majority male population)		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	**25.7**[c]	**30.8**	**33.9**	.69	.79	**.86**
Blacks	**25.9**	**29.6**	**30.5**	.70	.76	**.77**
Mexican Americans	**26.4**	**29.8**	**30.4**	.71	.77	**.77**
Japanese Americans	**36.2**	**39.5**	**40.8**	.98	1.02	**1.03**
Chinese Americans	**39.2**	**41.5**	**43.9**	1.06	1.07	**1.11**
Pilipino Americans	**27.6**	**33.8**	**37.0**	.74	.87	**.94**
Puerto Ricans	**28.8**	**31.2**	**32.1**	.78	.80	**.81**
Majority	37.1	38.9	39.5	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	**27.7**	**32.3**	**33.5**	.75	.83	**.85**
Blacks	**25.5**	**29.6**	**32.0**	.69	.76	**.81**
Mexican Americans	**28.9**	**29.8**	**30.0**	.78	.77	**.76**
Japanese Americans	**34.6**	**37.5**	36.1	.93	.96	**.91**
Chinese Americans	37.5	39.2	38.3	1.01	1.01	**.97**
Pilipino Americans	**34.6**	**39.8**	**40.3**	.93	1.02	**1.02**
Puerto Ricans	**31.0**	**33.9**	**32.9**	.84	.87	**.83**
Majority	**38.0**	38.8	**38.8**	1.02	1.00	**.98**

[a] Mean Occupational Prestige Value.
[b] See figure 3.3 for a graphic representation of the indicator values that appear in this table.
[c] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

This can be interpreted as follows: "In 1976, on the average, the prestige values of American Indian and Alaskan Native males' occupations were 86 percent of the average prestige values for majority males."

Equality

Equality

by the majority male average prestige score yields the proportion of the majority score that is attained by the women or minority men.

As with the previous indicators, a ratio of 1.0 would indicate the averages are equal, and a ratio of 0.6 would indicate that the minority or female group's average is 0.6 (or 60 percent) of the majority male score. Thus, the indicator directly represents the extent of disparity between the two groups' averages. Table 3.4 contains the averages and ratios for 1960, 1970, and 1976.

The prestige indicator values in table 3.4 and figure 3.3 show that blacks, American Indians/Alaskan Natives, Mexican Americans, and Puerto Ricans of both sexes typically have much less prestigious occupations than majority males. By gender, the scores are virtually identical for the majority group and very similar within most of the minority groups.

The high concentration of women in a few occupations with relatively high prestige scores, such as secretaries and other white collar occupations, contributes to the high average prestige scores for females.[12] Other indicators in this report emphasize many significant differences in the occupations of males and females. Therefore, this similarity in occupational prestige scores of men and women should be interpreted cautiously. An indicator later in this chapter deals specifically with the extent to which women and minority males have occupations similar to majority males.

None of the minority male groups shows a decrease in average prestige scores relative to majority males. Although the changes are not very large and major discrepancies clearly exist, it seems that the trend is for minority males to be moving into more prestigious occupations at a slow pace, but, nonetheless, at a faster rate than majority males. While the average prestige score of majority males increased about one percentage point during each interval, the other male groups' average scores increased more substantially. Despite more rapid movement toward more prestigious jobs, most minority male groups still have much lower prestige scores than majority males.

The female groups show a far different pattern. Although each minority male group had its lowest indicator value of the time series in 1960 and the highest in 1976, among the female groups the following had their worst scores in 1976: Mexican American, Puerto Rican, and majority. From 1970 to 1976 one of the female groups' average prestige scores actually dropped in *absolute* as well as relative values, and one group's score remained the same. Clearly, the female groups are still in a precarious situation without any encouraging trend.

Occupational Mobility

Disparity of occupational prestige levels between groups can change through two processes. First, persons entering the labor force may be accepted into occupations that earlier either did not exist or were closed to members of their race, ethnic group, or sex. Through this process, successive generations of women and minority men may become more similar to majority males in prestige levels and occupational characteristics.[13]

The second type of change involves people changing occupations. Changing one's occupation is a basic part of the "American Dream" of upward mobility and has been stressed extensively in this country. Every person should be able to change occupations as freely as any other when opportunities appear. The extent to which women and minority men have fewer opportunities to make such changes, compared to majority men, could be a major factor in perpetuating inequality within the labor force.[14] This second type of occupational mobility is the basis for the social indicator presented here.[15]

The rate of occupational change itself does not provide an adequate measure of mobility, as it does not indicate clearly whether conditions are getting better or worse. For example, the frequent layoffs and displacements experienced by women and minority men produce high rates of occupational

[12] In 1973 nearly two-fifths of all women workers worked as secretaries, retail trade salesworkers, bookkeepers, private household workers, elementary school teachers, waitresses, typists, cashiers, sewers and stitchers, and registered nurses. U.S., Department of Labor, Employment Standards Administration, Women's Bureau, *1975 Handbook on Women Workers*, Bulletin 197, p. 91.

[13] It has been estimated, however, that it will take approximately seven generations for blacks and whites to have similar occupational distributions, even if discrimination were to stop immediately. See Stanley Lieberson and Glenn V. Fuguitt, "Negro-White Occupational Differences in the Absence of Discrimination," *American Journal of Sociology*, vol. 73, no. 2 (September 1967), pp. 188–200.

[14] U.S., Department of Health, Education, and Welfare, *Toward a Social Report* (1969), pp. 22–26.

[15] The first process is typically called intergenerational mobility and the second is intragenerational mobility.

This upward mobility is most common during urbanization and industrialization when the composition of the total labor force is changing dramatically. See Peter J. Dickinson, Robert M. Hauser, John N. Koffel, and Harry P. Travis, "Temporal Change in Occupational Mobility: Evidence for Men in the United States," *American Sociological Review*, vol. 40, no. 3 (June 1975), pp. 279–97.

change that do not in fact indicate upward mobility or opportunities for improvement.

Because of this inadequacy, the indicator of occupational mobility used here is based on the average *change in prestige score* of those who changed occupations in the past 5 years. This change can be to an occupation with a similar prestige score or with a higher or lower score. The indicator itself is the ratio of the average change for minorities and women to the average change for majority males. The advantages discussed earlier of using ratios also apply to this indicator.

In the 1960 census and in the Survey of Income and Education in 1976, people were not asked to state their occupation 5 years earlier, so this indicator of occupational mobility is only available from the 1970 census; that is, for the 1965 to 1970 period. The indicator values are contained in figure 3.4 and in table 3.5, which also includes the average change in prestige scores for those who changed occupations.

Few of the differences between the majority males and the other groups are large enough to be statistically significant. The primary statistical reason for this is the large variation in change scores that can be observed in table C 2 in appendix C. The Mexican American males show substantial relative gain, but the Mexican American, Chinese American, and Pilipino American females all are far below majority males. It should be recalled from the previous indicator that the *absolute* level of prestige for minority and female groups in 1970 was still much lower than for majority males, despite the upward mobility of some of those who changed occupations.

Occupational Segregation

The critical issue of whether individuals in different groups have different occupations serves as the conceptual basis for the next indicator of equality. Whereas occupational characteristics were used for previous indicators—i.e., prestige scores and educational requirements associated with specific occupations—here the concern is more basic. The occupations themselves are to be compared.

The term "segregation" reflects the extreme degree of separation of races, ethnic groups, or sexes that can result from deliberate acts channeling and restricting choices and opportunities. This phenomenon can occur in the work place as well as in neighborhoods and schools. Two major types of segregation can be found in the world of work. *Employment segregation* implies that women and minorities have different employers than majority males, so that work settings are segregated. *Occupational segregation* refers to the situation in which minorities and women have different occupations or types of jobs regardless of where or for whom they work. In a hospital setting, for example, a majority male typically is a doctor, a woman is a nurse, and a minority male is an orderly. This type of extreme separation of employees may be found in a variety of industries and appears to have been even more common in the past. Within the recent past, the listings of job openings in newspapers were segregated with a section for males and one for females. Thus, segregation of occupations restricts women, minority males, and even majority males from full and fair access to the available positions in the labor market.

The occupational segregation indicator, using comparisons to majority male occupations, allows measurement of the degree to which occupational segregation exists and has changed in the recent past for minorities and women. This indicator, like the previous two based on occupational prestige, requires a classification of jobs. The classification scheme used in this report is the most detailed that the Bureau of the Census offers, consisting of 441 categories of occupations.[16]

To measure occupational segregation, the statistical technique called the "index of dissimilarity" was utilized. This index is a summary measure of the overall differences between two percentage distributions. It has received wide use by others to measure occupational differences,[17] as well as residential segregation[18] and other types of differences. Although previously the index of dissimilarity has typically been used with the 12 major categories, it is

[16] The occupational categories are described in note 11 above.

[17] See, for example, Lieberson and Fuguitt, "Negro-White Occupational Differences in the Absence of Discrimination"; Reynolds Farley, "Trends in Racial Inequality: Have the Gains of the 1960's Disappeared in the 1970's?," *American Sociological Review*, vol. 42, no. 2 (April 1977), pp. 189-208; and Francine D. Blau, *Equal Pay in the Office* (Lexington, Massachusetts: Lexington Books, 1977).

[18] Karl E. Taeuber and Alma F. Taeuber, *Negroes in Cities: Residential Segregation and Neighborhood Changes* (Chicago: Aldine, 1965); Thomas L. Van Valey, Wade Clark Roof, and Jerome E. Wilcox, "Trends in Residential Segregation: 1960-1970," *American Journal of Sociology*, vol. 82, no. 4 (January 1977), pp. 826-44; and Leslie Hollingsworth, Jr., "Indexes of Racial Residential Segregation for 109 Cities in the United States, 1940 to 1970," *Sociological Focus*, vol. 8, no. 2 (April 1975), pp. 125-42.

TABLE 3.5

Occupational Mobility

	Raw Measure [a]	Social Indicator Values [b] (Ratios of raw measures to the majority male population)
	1965–1970	1965–1970
Males		
Amer. Ind./Alask. Nat.	1.85	.96*
Blacks	2.40	1.25
Mexican Americans	**2.73** [c]	1.42
Japanese Americans	2.75	1.43
Chinese Americans	.71	.37
Pilipino Americans	−.13	−.07
Puerto Ricans	2.12	1.10
Majority	1.92	1.00
Females		
Amer. Ind./Alask. Nat.	.89	.46
Blacks	1.88	.98
Mexican Americans	**.56**	.29
Japanese Americans	.34	.17
Chinese Americans	**−3.45**	−1.80
Pilipino Americans	**−3.78**	−1.97
Puerto Ricans	.78	.41
Majority	1.37	.71

[a] The average change in prestige scores for those who changed occupations between 1965 and 1970.

[b] See figure 3.4 for a graphic representation of the indicator values that appear in this table.

[c] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appenddix C for sampling information and data source.

* This can be interpreted as follows: "In 1970 the American Indian and Alaskan Native males who had different occupations in 1965 had, on the average, increased their occupational prestige 96 percent of the majority male average increase."

Figure 3.4 Social Indicator: Occupational Mobility

Social Indicator Values: Ratios of raw measures to the majority male.

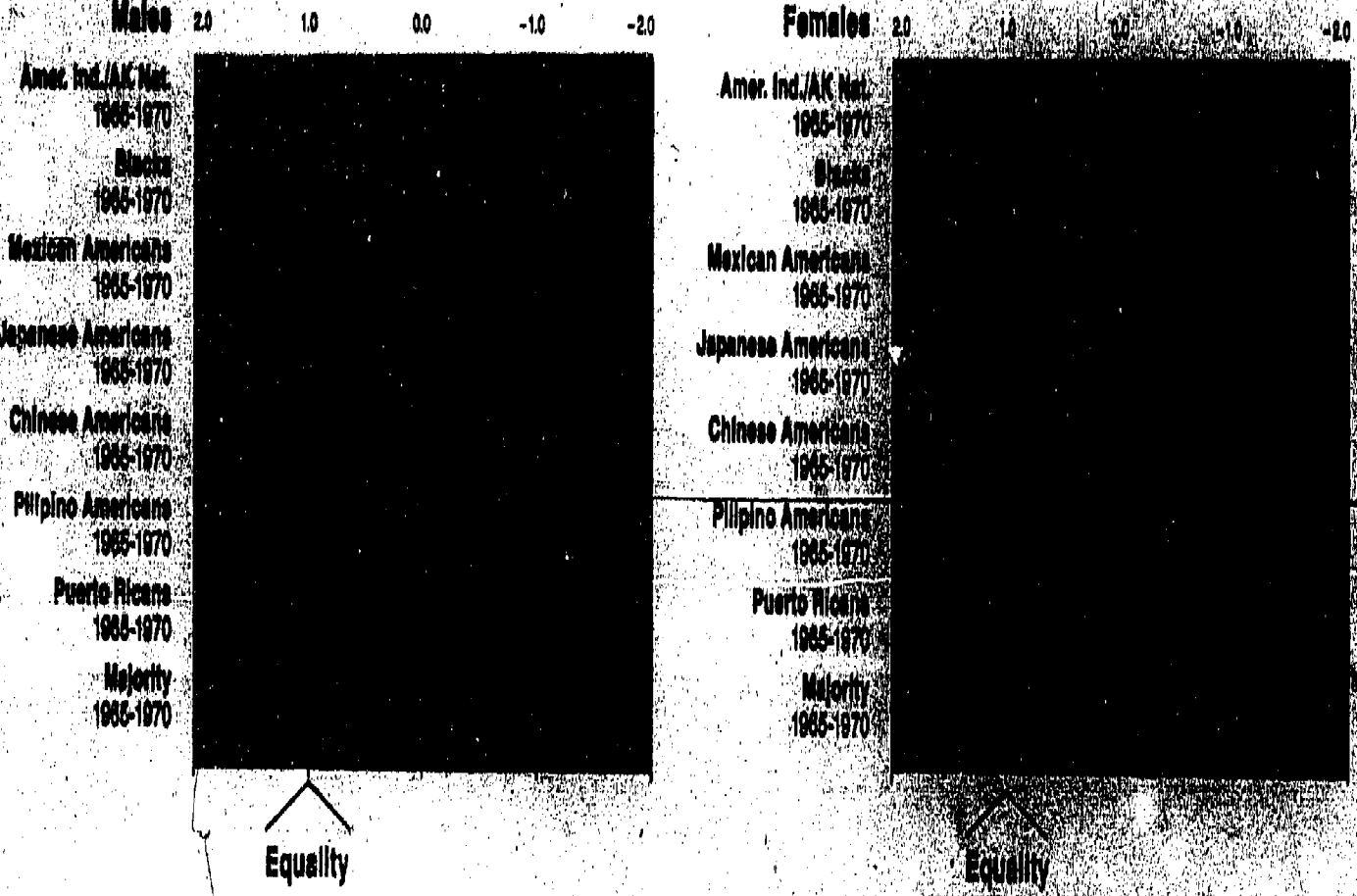


TABLE 3.6

Occupational Segregation[a]

	Compared with Majority Males			Compared with Majority Females		
	1960	1970	1976	1960	1970	1976
Males						
Amer. Ind./Alask. Nat.	44.1	38.2	35.7*			
Blacks	44.7	44.3	37.9			
Mexican Americans	36.7	36.6	38.2			
Japanese Americans	28.9	31.3	41.5			
Chinese Americans	50.6	52.2	61.4			
Pilipino Americans	50.7	46.0	59.7			
Puerto Ricans	49.2	44.1	50.4			
Females						
Amer. Ind./Alask. Nat.	69.1	70.7	69.4	47.1	31.5	33.8**
Blacks	72.4	71.1	69.3	52.4	40.4	35.8
Mexican Americans	63.5	68.3	75.1	31.0	27.5	36.9
Japanese Americans	63.8	68.9	72.1	26.6	22.5	32.6
Chinese Americans	71.8	70.9	79.7	36.4	34.1	52.9
Pilipino Americans	69.0	73.0	79.2	40.9	42.2	48.3
Puerto Ricans	71.6	70.9	78.9	53.9	37.7	48.3
Majority	62.4	65.8	66.1	—	—	—

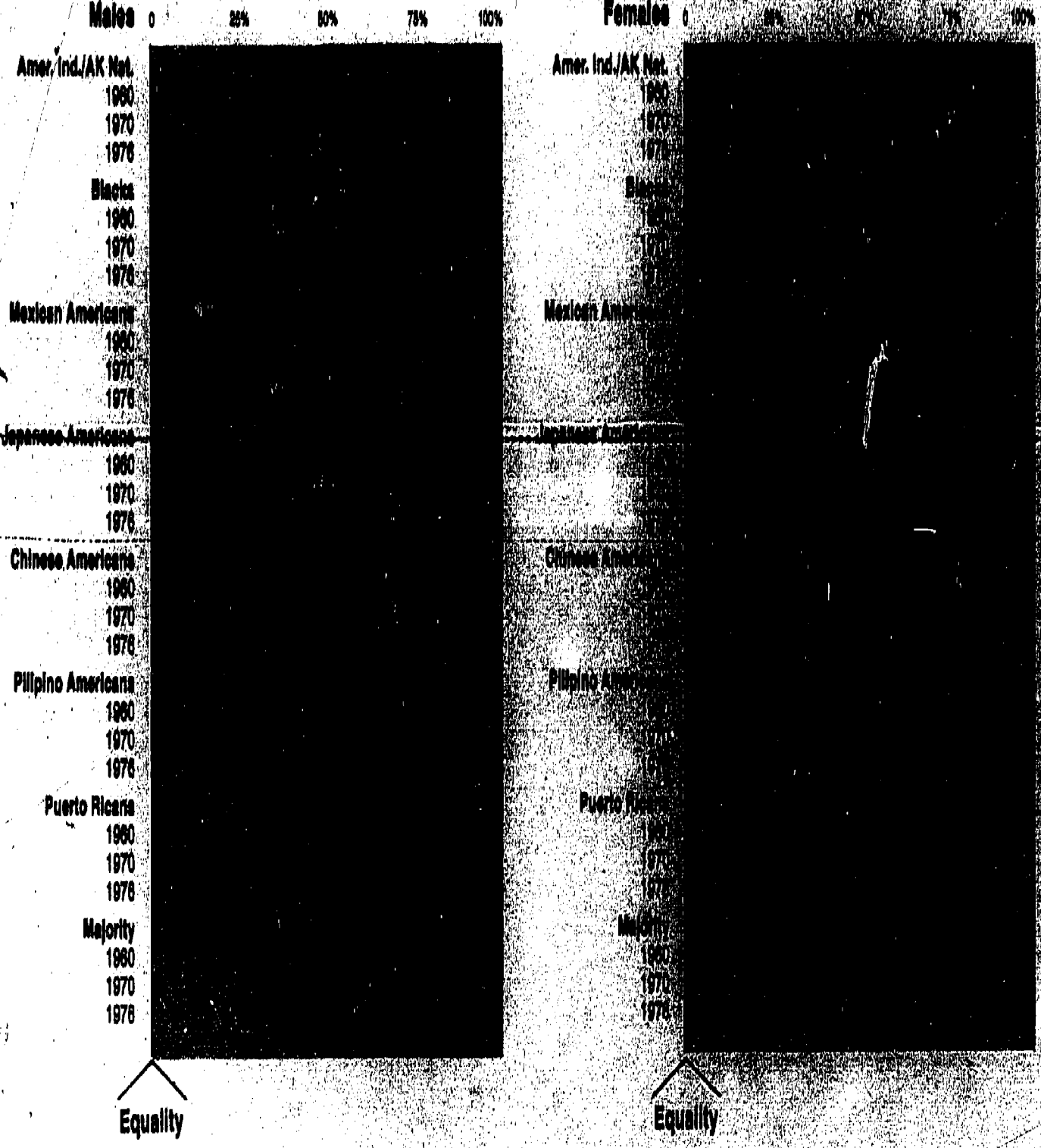
[a] Standard tests of statistical significance do not apply to this indicator. If, however, the indicator value is viewed as a normal percentage, every percentage value presented in the table is significantly different from 0.0, which is the reference point for equality for this indicator. See appendix C for sampling information and data source. See figure 3.5 for a graphic representation of the indicator values that appear in this table.

* This can be interpreted as follows: "In 1976, at least 35.7 percent of American Indian and Alaskan Native males would have had to change occupations in order to have an occupational distribution identical to the majority males."

** This can be interpreted as follows: "In 1976, at least 33.8 percent of American Indian and Alaskan Native females would have had to change occupations in order to have an occupational distribution identical to the majority females."

Figure 3.5 Social Indicator: Occupational Segregation

Compared with majority males.



even more useful and valid with a larger number of categories, such as the 441 used here.

The index is simply calculated and easily interpreted.[19] It represents the percentage of a group who would have to change occupations in order for the group to have the identical occupational distribution of a comparison group. If two groups had the same distributions of occupations, the index of dissimilarity would be 0.0 (zero). For example, from the values for the occupational segregation indicator presented in table 3.6 and figure 3.5 the reader can see that 37.9 percent of black males in 1976 would have had to change their occupations in order for their group to be employed in the same occupations in the same proportions as the majority males.

Table 3.6 and figure 3.5 show generally greater segregation from 1960 to 1976 for women and minority males relative to majority males. This result becomes more significant when one considers that during this period an extensive occupational change took place for women and minority men.[20] Thus, although minorities and women changed occupations, they still did not move proportionately into the types of employment held by the majority male population. In 1976, five of the seven minority male groups exhibited greater dissimilarity than in either 1960 or 1970. Mexican American, Japanese American, Chinese American, Pilipino American, and Puerto Rican males all share this characteristic of having their greatest segregation at the most recent time—indicating that things clearly are not getting better.[21]

At each time period, approximately three-fourths of each female minority group would have had to change occupations to have a group occupational structure resembling that of the majority males. The segregation indicator actually increased from 1960 to 1970 (meaning the structure became more dissimilar from majority males) for all groups except those who had experienced the greatest initial segregation in 1960 (blacks, Puerto Ricans, and Chinese Americans).

The dissimilarity scores were higher in 1976 than in the other years for majority females and for both sexes of Mexican Americans, Japanese Americans, Chinese Americans, Pilipino Americans, and Puerto Ricans. The only two female groups for whom 1976 was not the time of greatest occupational segregation hardly changed their scores from 1960 to 1976.

An additional set of occupational segregation indicators was calculated to assess the trends of minority women relative to majority women. This form of measurement describes the extent to which minority women are disadvantaged only as minorities, whereas the comparison to majority males assesses a predicament often called "double jeopardy," in that both the sex and minority factors are included.

The method of calculating these indicator values is identical to that used for the first occupational segregation indicator, except that minority females were compared to majority females instead of majority males.[22] The indicator values are contained in figure 3.5 and in table 3.6 in columns 4, 5, and 6. It is clear that the minority females' occupations are more similar to those of majority females than to those of majority males. The degree of similarity is not especially high for all minority groups, however.

[19] Given two percentage distributions (one for each group, and each totaling 100 percent) covering the same occupations, the percentage of one group in each occupation is subtracted from the percentage of the other group in that occupation. The sum of the percentage differences (disregarding the sign) for all occupations is divided by two and the result is the index of dissimilarity. See U.S. Department of Commerce, Bureau of the Census, *Methods and Materials of Demography*, second printing (rev.), by Henry S. Shryock, Jacob S. Siegel, and Associates (Washington, D.C.: U.S. Government Printing Office, 1974), vol. 1, pp. 232–33.

[20] For example, our analysis of the 1970 census records used in this study reveals that 44 percent of Mexican American males and 40 percent of Mexican American females between the ages of 25 and 64 changed occupations between 1965 and 1970. These percentages refer only to those employed in both 1965 and 1970. Moreover, the number of workers in some traditionally minority and female categories such as "farmworkers, wage workers" and "private household workers" sharply declined over the 1960 decade. (Comparable information for 1976 was not available.)

[21] It could be argued that the increasing dissimilarity should not be interpreted as an unfavorable trend if the occupational change of one group is to better jobs concentrated in a single industry. A group may become highly overrepresented among doctors and nurses, for example. The negative aspect to the increasing dissimilarity, even if everyone from one group went into medicine or some other field many regard as prestigious, is that the process probably represents a continuing pattern of restricted choice characterized by the rewarding of minority talent only in a narrow range of occupations.

[22] The raw measures in other tables can be used to calculate similar additional indicators that may be useful to differentiate the effects of sex and race or ethnicity for the minority female groups. The minority female raw measure can be divided by the majority female measure to produce an indicator of the degree of ethnic-racial inequality within the female population. None of any observed inequality could be due to sex-based discrimination, since both parts of the ratio represent female groups. However, the observed inequality could be due to racial or ethnic discrimination within the female population.

Another type of indicator can be constructed for females to assess the inequality within each racial and ethnic group. This is achieved simply by dividing the female raw measure by the raw measure for males in the same racial or ethnic group. The calculated inequality cannot be due to racial or ethnic factors, since both groups are of the same race or ethnicity, but could be due to some form of sex discrimination.

This form of analysis generally is not contained in this report because it detracts from the major objective of demonstrating direct measures of inequality with majority males. Additional analysis is presented here for the index of dissimilarity because, unlike the other indicators, there is not a small number of raw measures that can be presented that others can use for separate analysis.

For some groups, the dissimilarity was over 50 percent. The figures indicate major shifts in some minority female occupational distributions. For example, black females moved more than 16 percentage points closer to the majority female pattern (going from 52.4 in 1960 to 40.4 in 1970 to 35.8 in 1976), while American Indian/Alaskan Native females became 13.3 percentage points closer. As with the other sets of scores, here, too, most of the groups had their worst segregation in 1976. Clearly, the discrepancies remain and the major trends are not toward a reduction in those discrepancies. Without a doubt, the gender occupational boundaries are more distinct than are the racial-ethnic ones, though both are clearly present.

The males and females of each minority group have somewhat similar levels of dissimilarity from the majority group of the same sex. In 1976, for example, the American Indian/Alaskan Native males' occupations were 35.7 percent different from the majority males, and the American Indian/Alaskan Native females were 33.8 percent different from majority females. The comparable values for males and females, respectively, are approximately 38 and 36 percent for blacks, 38 and 37 percent for Mexican Americans, and 50 and 48 percent for Puerto Ricans. The values are less similar for Japanese Americans, Chinese Americans, and Pilipino Americans, but still the males and females are within about 10 percentage points.

The following generalized patterns are indicated by the occupational segregation indicators calculated in figure 3.5 and table 3.6:

- Occupational segregation has increased substantially since 1970 for most of the groups studied in this report. The pattern was mixed from 1960 to 1970, with many groups showing almost no change, but a new trend seems to be operating.
- Approximately one-third to well over one-half of the minority males would have had to change their occupations for their groups' occupational patterns to coincide with that of majority males in 1976.
- The highest degree of occupational dissimilarity can be found between the female groups and majority males. As noted previously, two-thirds to three-fourths of women's occupations in 1976 would have had to be changed to match the occupational patterns of the majority males.

Conclusion

The indicators in this chapter measure important elements of inequality in the world of work. The unemployment indicator showed that minorities and women were much more likely than majority men to be unemployed. Indeed, many of the groups were between two and four times as likely as majority males to be out of work. For most groups, the disparity in unemployment grew worse during the 1960s through 1976.

Teenage women and minority males fared even less well in finding jobs. Their rates of unemployment were generally from three to nine times higher than majority males; the rate was over eight times higher for teenage blacks of both sexes and Puerto Rican males. Again, a worsening of the relative unemployment between the majority and other groups occurred during the period analyzed.

While the segregation indicator was concerned with the size of the differences in the occupational distributions of minorities, females, and majority males, the prestige indicator showed that the social esteem of the occupations of minorities and females was also less than that of majority males. This fact suggests that not only are the jobs women and minorities have different, but the jobs are also valued less by society in general. Although some meager, but consistent, improvement was observed for the minority males, the pattern for females was mixed.

Approximately 40 percent of the minority and female populations changed occupations between 1965 and 1970, indicating at least some possibility for improvement in the types of occupation for minorities and females in comparison to the majority males. However, when the occupations were measured in terms of the prestige values attached to the old and new occupations, it was evident that minorities and females were less upwardly mobile than majority males. In fact, for some of the minority and female groups, the new occupation typically meant a decline in prestige over the old occupation.

Minorities and females are segregated from the majority in the types of occupations they have. At least one-third of the minority males and two-thirds to three-fourths of the minority females would have to change their occupations in order for their groups to have occupational distributions similar to the majority males. The time period analyzed saw no improvement in the degree of segregation in occupations between minorities and females in comparison

to majority males. In fact, the degree of segregation became worse for Mexican American males and females, Japanese American males and females, Chinese American males and females, Pilipino American males and females, and majority females.

Chapter 4

Income and Poverty

Measures based on money, such as median family income and real personal income, are probably used more than any other general kind of measure in attempts to represent how good or bad things are for a population or a segment of a population.

Using income as an indicator of well-being seems quite appropriate, and the use of money (dollars) should not be interpreted as a diversion from the objective of this report. Since the focus here is on the distribution of income among groups and the living conditions of people with certain amounts of income, rather than with the general state of the economy, the statistics derived are social indicators and not economic indicators.

While not everyone equates money with well-being, quite a number of studies have noted the relationship between the amount of income and a sense of personal well-being.[1] The U.S. Department of Health, Education, and Welfare study, *Toward a Social Report,* which was a major impetus to the development of social indicator research, reported that "income is a rough but convenient measure of the goods and services—food, clothing, entertainment, medical care, and so forth—available to a person or family or a nation."[2] Levels of well-being in health, housing, recreation, and consumption were related to income levels in the *1975 Handbook on Women Workers,* [3] and the following profiles of the income levels were reported:

Health. In 1970 only 39 percent of families with incomes under $3,000 and 53 percent of families with incomes between $3,000 and $5,000 had hospital insurance coverage; 84 percent of families with incomes between $7,000 and $10,000 and 90 percent of those with incomes over $10,000 had coverage.

Housing. Of the 4.7 million substandard dwelling units in the Nation, over half were occupied by families with incomes less than $4,000 in 1970; only about one-tenth were occupied by families with $10,000 or more in income.

Recreation. Households with incomes in 1970 of $7,500 to $9,999 spent more than twice as much time swimming, playing outdoor games or sports, bicycling, or camping as did those with incomes below $5,000.

Consumer expenditures. The percentage of after-tax income spent on living necessities such as housing, food, and transportation is proportionately greater for the lower than for higher income groups. During inflationary periods, expenditures for such purposes become particularly burdensome to low-income groups as they struggle to keep pace with rising living costs.

In addition to buying food, shelter, clothing, and transportation, money allows an individual to join the rest of society or of his or her ethnic or racial group in routine social, recreational, and entertainment activities. Thus, "money buys membership in industrial soceity,"[4] and in great part determines whether an individual has a sense of belonging or one of alienation. More important, and oversimplifying a complex social-psychological process, money allows for a wide range of activities that may "validate" a person's sense of self-worth and well-being.[5]

Of the many aspects of income that are important to all people, four issues are particularly vital to

[1] Lee Rainwater, *What Money Buys: Inequality and the Social Meanings of Income* (New York: Basic Books, 1974), p. 20.

[2] U.S., Department of Health, Education, and Welfare, *Toward a Social Report* (1969), p. 41.

[3] U.S., Department of Labor, Employment Standards Administration, Women's Bureau, *1975 Handbook of Women Workers,* Bulletin 297, p. 143-44.

[4] Rainwater, *What Money Buys,* p. xi.

[5] Ibid.

minorities and women, and these provide the basis for the indicators developed in this chapter. These issues are income equality, earnings equity, income mobility (the "income ladder"), and poverty. In the recent past these issues have been focal points of concern with regard to the conditions of women and minorities.

Equality of Income

Equality of income among social groups is one of the major topics in social, political, and economic thought. The primary concern in discussion of income equality is generally with the unequal distribution of income within a population. In the United States, and many other countries, a few persons receive a very large proportion of the income and a large proportion of the people receive a small proportion of the income. At one end of the scale, since 1947, 20 percent of the Nation's families have had to make do with only about 5 percent of the total national family income; at the other end, 5 percent of families have received about 16 percent of the total national family income.[6] If income were distributed more equally, the top 5 percent would receive closer to 5 percent of the total income and the bottom 20 percent would receive closer to 20 percent of the total income. In the United States, clearly, there is a disproportionate concentration of total income in a small number of families, and there has been virtually no change in this pattern of inequality in the past three decades.

Here, the primary concern in the discussion of income equality is whether the distribution of the national income among different groups (races, sexes, etc.) in our society is similar. In other words, when studying the overall distribution of income, analysts should also ask whether the distribution follows group lines.

Measuring "Average" Income

One way to answer the question just posed is to compare the "average" incomes available to members of different groups. For example, table 4.1 provides figures from published reports on the median (a form of average) family income of whites and of blacks and other races from 1950 to 1976. The income figures demonstrate a high degree of income inequality: blacks and other races received incomes amounting to less than two-thirds of white family income during this period.

Social indicators for income equality can have a form similar to indicators in previous chapters--an average minority income divided by an average majority income. For example, the ratios in table 4.1 indicate that during most of the 1960s, a period when various economic and social reforms were instituted, minority incomes scarcely improved relative to majority incomes; over a period of 24 years, the ratio of minority to majority incomes rose only slightly from 0.54 in 1950 to 0.63 in 1976.

On the face of it, the "average income" of a group may seem to be an ideal social indicator representing the income of that group. It is easy to compute, and people can readily understand its meaning. However, some of the most common ways of calculating average incomes are not very suitable for the measurement of *equality* of income:

- The *median family income* presented in table 4.1, for example, is based only on those persons who are living in a family situation (i.e., with a relative) and thus excludes many of each group or population. Even as a measure of economic well-being for family units, the median family income is deficient for comparisions between different groups because the typical size of the "average family consumption unit" represented in the income statistic may vary from group to group. To the extent that minority groups have larger families,[7] the use of the median family income for comparisons of the minority groups with the majority understates income inequality for individuals.
- *Average personal income* is a statistic that represents people without regard to their family status, but it typically is based only on those who have received some income during the year and thus excludes a sizable portion of the population.[8]

[6] U.S., Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States 1974*, p. 384, and *Statistical Abstract of the United States 1976*, p. 406.

[7] U.S., Department of Commerce, Bureau of the Census, 1970 Census of Population, vol. 1, *Characteristics of the Population, Part 1, United States Summary*, section 1, table 54, pp. 1-279, 1-280.

[8] The percentage of the white population over 14 who received some income for 1969 was 91 percent for males and 64 percent for females. For the black population, the percentages are 88 percent for males, and 72 percent for females. U.S., Department of Commerce, Bureau of the Census, 1970 Census of Population, vol. 1, *Characteristics of the Population, Part 1, United States Summary*, section 2, table 245.

These figures show that a sizable proportion of the population is not represented by income averages based on the above definition. They also show that the proportion varies between sexes and minority groups. Included in this group who received "some income" are part-time workers, full-time workers, part-year workers, and persons who only received social security and other benefits.

It seems clear that a statistic such as the average income for those with some income is based on so many divergent types of income that it would have

TABLE 4.1

Median Income of Families: 1950 to 1976

Year	Race of Head		Ratio: Black and other races to white
	Black and other races	White	
1950	$1,869	$ 3,445	0.54
1951	2,032	3,859	0.53
1952	2,338	4,114	0.57
1953	2,461	4,392	0.56
1954	2,410	4,339	0.56
1955	2,549	4,605	0.55
1956	2,628	4,993	0.53
1957	2,764	5,166	0.54
1958	2,711	5,300	0.51
1959	3,161	5,893	0.54
1960	3,233	5,835	0.55
1961	3,191	5,981	0.53
1962	3,330	6,237	0.53
1963	3,465	6,548	0.53
1964	3,839	6,858	0.56
1965	3,994	7,251	0.55
1966	4,674	7,792	0.60
1967	5,094	8,234	0.62
1968	5,590	8,937	0.63
1969	6,191	9,794	0.63
1970	6,516	10,236	0.64
1971	6,714	10,672	0.63
1972	7,106	11,549	0.62
1973	7,596	12,595	0.60
1974	8,265	13,356	0.62
1975	9,321	14,268	0.65
1976	9,821	15,537	0.63

Source: U.S., Bureau of the Census, *Current Population Reports*, Special Studies, Series P–23, No. 54, *The Social and Economic Status of the Black Population in the United States*, 1974, p. 25; and U.S., Bureau of the Census, "Money Income and Poverty Status of Families and Persons in the United States: 1976," *Current Population Reports*, Series P–60, No. 107, Table 2, p. 9.

TABLE 4.2

Median Household Per Capita Income

	Raw Measure[a]			Social Indicator Values[b] (Ratios of raw measures to the majority population)		
	1959	1969	1975	1959	1969	1975
For All Households						
Amer. Ind./Alask. Nat.	$ 467	$1122	$2453	.32	.43	.57[c]
Blacks	680	1303	2263	.46	.50	.52
Mexican Americans	742	1334	2130	.50	.51	.49
Japanese Americans	1680	3184	6105	1.14	1.22	1.41
Chinese Americans	1416	2449	3867	.96	.94	.89
Pilipino Americans	1145	2208	3897	.78	.85	.90
Puerto Ricans	869	1362	2153	.59	.52	.50
Majority	1472	2601	4333	1.00	1.00	1.00
For Female-Headed Households						
Amer. Ind./Alask. Nat.	378	711	1310	.26	.27	.30
Blacks	399	783	1310	.27	.30	.30
Mexican Americans	428	808	1228	.29	.31	.28
Japanese Americans	1168	2051	2341	.79	.79	.54
Chinese Americans	1309	2163	1778	.89	.83	.41
Pilipino Americans	569	999	2333	.39	.38	.54
Puerto Ricans	716	759	1252	.49	.29	.29
Majority	1099	1658	2563	.75	.64	.59

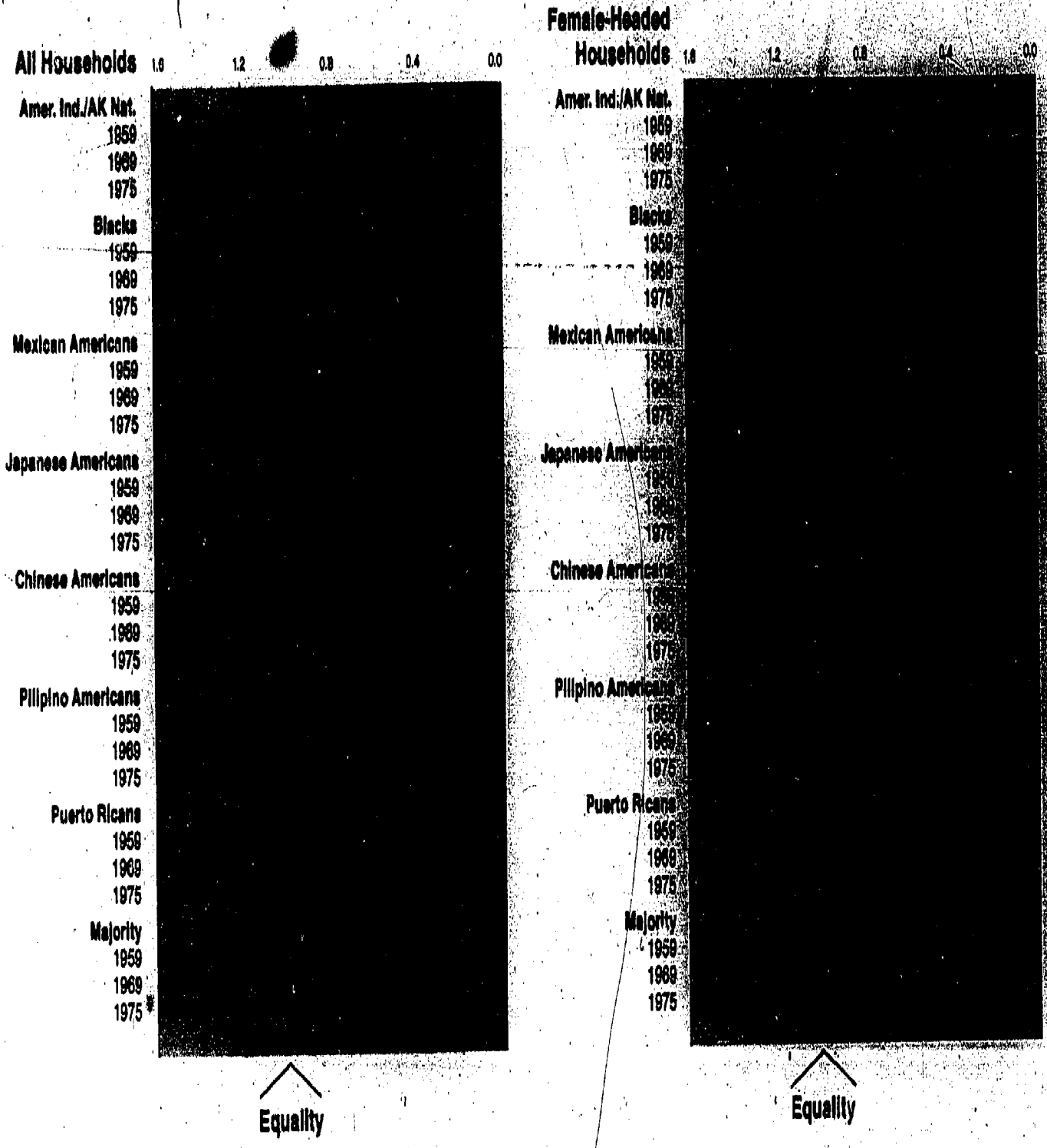
[a] The median household per capita income is based on the income distribution of the total personal income for persons not living in a family situation and each family member's equal share of their family income. Because this indicator is based on medians, standard techniques for estimating sampling error do not apply. See appendix C for data source and sampling information.

[b] See figure 4.1 for a graphic representation of the indicator values that appear in this table.

[c] This can be interpreted as follows: "In 1975 members of American Indian and Alaskan Native headed households had a median household per capita income that was 57 percent as much as the median for members of majority-headed households."

Figure 4.1 Social Indicator: Median Household Per Capita Income

Social Indicator Values: Ratios of raw measures to the majority population.



For this reason, average personal income does not adequately reflect the amount of money available for the purchase of goods and services for the total population or for minority groups.

- The *per capita mean income* measure provides useful information for comparisons that are not reflected in the median family income and the average personal income measures. The per capita mean income statistic avoids the problem of differing family patterns and represents the average amount of income to which each person in the group being examined has access for the purchase of goods and services. Although this statistic comes close to being a very precise indicator of the income available to minorities, it has an important drawback—it has no realistic numerical meaning or interpretation, representing what each member of the group or population would receive if all the income of the group were pooled and then divided equally. Thus it is a poor approximation of actual situations.

A measure can be calculated that more adequately indicates the income actually available to people within a group. In *household per capita income*, the income available for an individual is considered to be his or her household's total income divided equally among the household's members; for a person living alone the income available is his or her total personal income. When these figures for a number of households are arrayed by size, the middle figure is the *median household per capita income*. There is a median household per capita income figure for each group or population. Half the group has less income than the median and half has more. In this sense the median figure is more meaningful (or interpretable) than the mean figure. Because the median household per capita income avoids the difficulties of the other measures and does have a clear interpretation, it is the basis for the following social indicator on equality of income.

The median household per capita income values and ratios are presented in table 4.2 and figure 4.1. An income ratio was computed earlier in this chapter, and ratios have been utilized extensively in previous chapters; however, the composition of this equality measure differs from the other indicators presented. The median household per capita income is not presented for males and females separately, since production and consumption activities are based on joint decisions when family members of both sexes share the available household income. Instead, the comparison will be a minority group's median household per capita income divided by the majority median household per capita income. The numerical value is the income received by members of minority-headed households as a proportion of income received by members of majority households (both male- and female-headed).

An additional set of ratios for income available to members of female-headed households is presented in table 4.2. Much attention has been directed to households where a woman has the full economic burden of supporting the household. For these households, the comparison is between the income available to members of minority or majority female-headed households and that available to all majority-headed households. (For a more detailed description of female-headed households and a discussion of the limitations of the "head of household" concept, see chapter 5, especially footnote 5.)

As seen in table 4.2, the income ratios of the median household per capita income for all households and female-headed households demonstrate that the degree of income inequality is very large indeed for most groups in comparison with majority-headed households. The inequality is larger than would be expected on the basis of more conventional techniques of statistical reporting, such as the median family income (presented for 1969 in table 4.1), which systematically understate the level of inequality.

The values in 1975 also indicate that despite continued improvement from 1959 to 1975 in median household per capita incomes relative to the majority, blacks and American Indians/Alaskan Natives still had per capita incomes that were only half that available to the majority population. Similarly, in American Indian/Alaskan Native and black female-headed households, their relative improvement left them with median household per capita incomes that were only one-third that available to the majority population in 1975.

Both female-headed and all Puerto Rican households experienced continued relative declines in income from 1959 to 1975. The Puerto Rican ratio of 0.50 in 1975 represents a decrease in relative income,

little appropriate policy relevance. Without detailed analysis, the nature of a trend is impossible to describe with such a statistic. Using such a statistic for women and minorities seems especially ambiguous [illegible] the labor force participation varies over time more widely for these groups than for majority males.

since the ratio was higher at 0.52 in 1969 and even higher at 0.59 in 1959. Puerto Rican female-headed households declined from a ratio of 0.49 in 1959 to a ratio of 0.29 in 1975. Income equality is definitely decreasing for this group. Mexican American, Japanese American, Chinese American, and majority female-headed households also experienced a decline in equality of income from 1959 to 1975. These relative declines mean not only that female-headed households generally have lower incomes than majority male-headed households, but that the gap has been increasing over the years.

Earnings Equity

Two plausible inferences from low income ratios are that members of one group get fewer opportunities to produce up to their potential or that they are not as well rewarded for equal levels of achievement. Our sense of the injustice of such conditions derives from the concept of "equity."

"Fair pay," "equal pay for equal work," and "equal reward for equal preparation" are equity concepts and differ from the fundamental equality concept that everyone should have the "same thing." The concept of equity focuses on the distribution of rewards according to the value of effort, skill, or other criteria, a process that can lead to greater inequality. Nonetheless, the dimensions of both equality and equity are important for income indicators, and both have considerable policy relevance.

This study shares with other research on income issues the objective of developing income figures for persons in equivalent situations.[9] If it can be shown that people of different groups (races, sexes, etc.) who have the same type of job, experience, hours of work, productivity, etc., receive different pay, then that difference in pay might be attributable to discrimination based on sex, race, or some other factor that distinguishes the otherwise equal workers.

To isolate the effect of race, sex, or other status on income for the purpose of comparing groups, each group's level of income and levels of genuinely work-related characteristics, such as education, must be recorded. Because these levels will, of course, differ from group to group, they must be adjusted so that the influence of these work-related factors on income is equivalent rather than different from group to group, after which the remaining differences in income between groups may be attributed to such factors as race and sex.

In this study, statistical adjustments were made, by the use of multiple regression, to each minority group's level of education, level of job prestige, income level of the State of residence, weeks worked, hours recently worked per week, and age.[10] (Additional information on this statistical procedure is contained in appendix B.) The hypothetical annual earning figures calculated for each minority and female group after these adjustments can be interpreted as the earnings that would be received by a member of each group if the person had the same level of education, occupational prestige, etc., as the average majority male. These hypothetical annual earnings can then be compared to the expected earnings of a majority male with the same characteristics. Because any difference in the resulting adjusted earnings cannot be due to differences in education, occupational prestige, weeks worked, etc. (since these factors have been made statistically equivalent to the majority male), the resulting differences in earnings are considered here to be the cost of being female or minority, or both. This is inequity of income.

Table 4.3 contains the original mean earnings ratios and the adjusted mean earnings ratios. As mentioned above, the adjusted mean earnings ratio is an indicator of the amount of equity in earnings between minorities or women as compared to majority males. Low ratios between a particular group and majority males indicate low equity or high inequity.

The equity indicator values in table 4.3 and figure 4.2 reveal a high degree of similarity among the minority groups and considerable inequity between minority groups and the majority male group. Women of all groups suffer even more substantial inequity.

From table 4.3 it is apparent that all but two of the adjusted ratios are equal to or higher than the original ratios. It is not surprising to find that when the age, education, etc., of minorities and females is

[9] Larry E. Suter and Herman P. Miller, "Income Differences Between Men and Career Women," *American Journal of Sociology* (January 1973) no. 4, vol. 78, pp. 962-74. Otis Dudley Duncan, "Inheritance of Poverty or Inheritance of Race?" in *On Understanding Poverty*, edited by Daniel P. Moynihan (New York: Basic Books, 1969), and Victor R. Fuchs, "Differences in Hourly Earnings Between Men and Women," *Monthly Labor Review* (May 1971), pp. 9-15.

[10] This technique has been used by others for similar purposes. In a recent study, for example, "Especially, the results were obtained by substituting the means for [majority] men into the raw-score regression coefficients for women [and the other groups]." Suter and Miller, "Income Differences Between Men and Career Women," p. 969.

TABLE 4.3

Adjusted Mean Earnings for Those with Earnings

	Original Means			Original Ratios (group/majority males)			Adjusted[a] Means			Earnings Ratios[b] for Adjusted Means (group/majority males)		
	1959	1969	1975	1959	1969	1975	1959	1969	1975	1959	1969	1975
Males												
Amer. Ind./Alask. Nat.	$2878	$5623	$ 8302	.54	.62	.73*	$3926	$7097	$10575	.73	.78	.92**
Blacks	2808	5434	7470	.52	.59	.65	3793	6885	9741	.71	.75	.85
Mexican Americans	3412	5852	7456	.64	.64	.65	4527	7219	9414	.84	.79	.82
Japanese Americans	5142	9159	12615	.96	1.00	1.10	4490	8363	9999	.84	.91	.88
Chinese Americans	4771	8001	10339	.89	.87	.90	4465	7430	8817	.83	.81	.77
Pilipino Americans	3603	6852	11366	.67	.75	.99	3707	7550	11874	.69	.82	1.04
Puerto Ricans	3200	5839	8269	.60	.64	.72	4654	7776	11233	.87	.85	.98
Majority	5369	9150	11427	1.00	1.00	1.00	5369	9150	11427	1.00	1.00	1.00
Females												
Amer. Ind./Alask. Nat.	$1924	$3378	$ 3958	.36	.37	.35	$2824	$4683	$ 6136	.53	.51	.54
Blacks	1566	3383	4918	.29	.37	.43	2502	4707	6973	.47	.51	.61
Mexican Americans	1790	3030	3527	.33	.33	.31	2572	4298	5525	.48	.47	.48
Japanese Americans	2550	4618	5881	.48	.50	.51	2911	5303	6670	.54	.58	.58
Chinese Americans	2639	4366	6759	.49	.48	.59	3163	5348	7960	.59	.58	.70
Pilipino Americans	2268	4499	6784	.42	.49	.59	2862	4996	6712	.53	.55	.59
Puerto Ricans	2244	4071	4714	.42	.44	.41	2958	5060	6468	.55	.55	.57
Majority	2686	4072	5122	.50	.44	.45	3039	4958	6568	.57	.54	.57

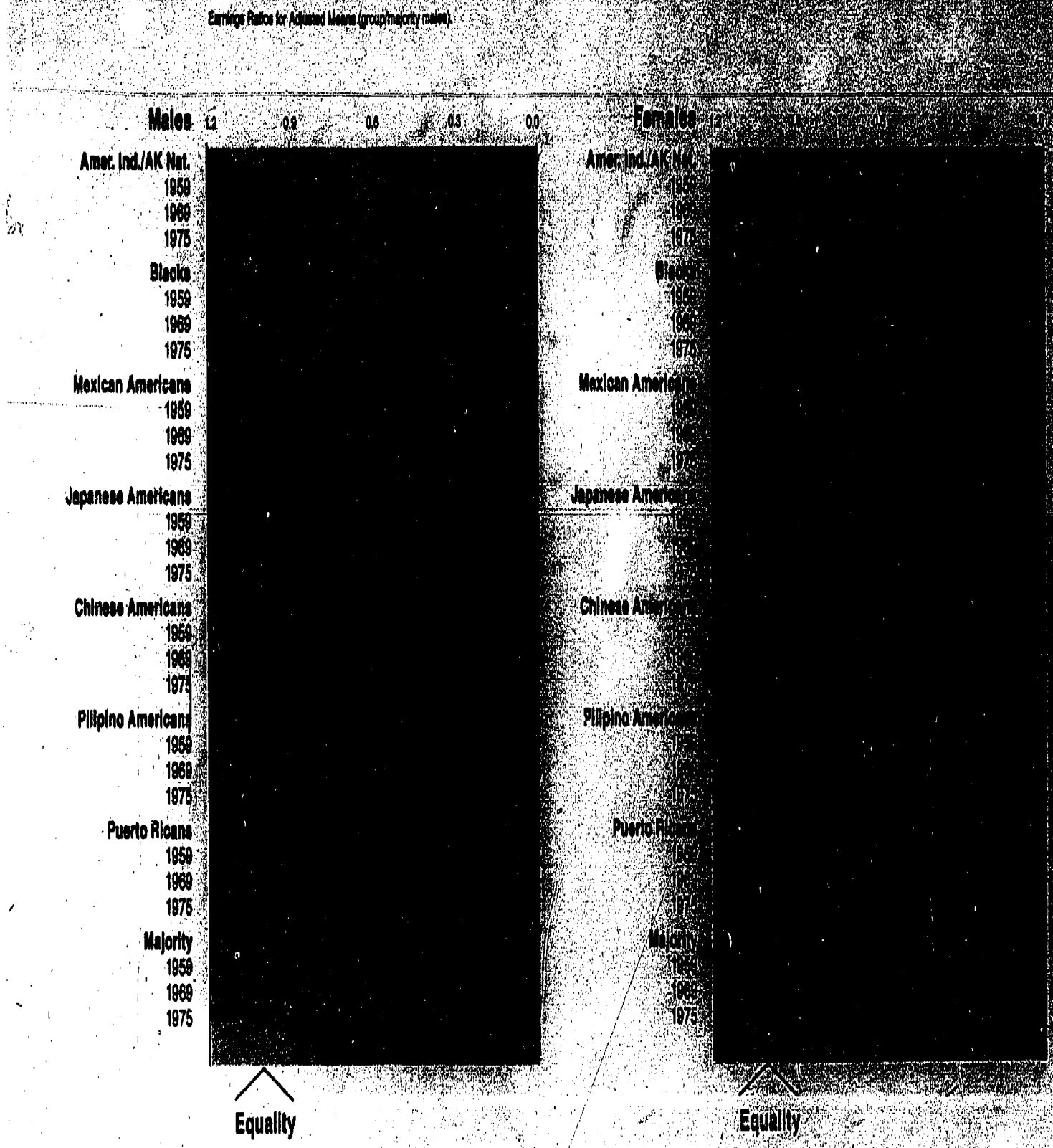
[a] The adjusted technique substitutes the majority male mean values in a regression equation for the following variables: occupational prestige, age, education, weeks worked, hours worked last week, and the average income in the State of residence. See text and appendix B for further details on the method used. Since these adjusted means are hypothetical for a single person, they have no underlying distribution. Therefore, standard tests of significance are not appropriate.

[b] See figure 4.2 for a graphic representation of the indicator values that appear in this table.

* This can be interpreted as follows: "In 1975, American Indian and Alaskan Native males earned, on the average, 73 percent of the majority male average earnings."

** This can be interpreted as follows: "In 1975 American Indian and Alaskan Native males with the same characteristics as majority males (in terms of occupational prestige, age, education, weeks worked, hours worked last week, and State of residence) could be expected to earn 92 percent of the amount that majority males earned."

Figure 4.2 Social Indicator: Adjusted Mean Earnings for Those with Earnings



made equal to that of majority males, the ratios of earnings between them become more similar. However, even after controlling for differences in the level of education, working time, etc., between minorities and females as compared to majority males, the income ratios still remain less than equal (less than 1.00). In fact, for females the ratios are around 0.50 even *after* controlling for the differences, indicating that in 1970 females earned half of what majority males with similar work-related characteristics earned.

When the Japanese and Chinese American males' occupational prestige, education, State of residence, etc., are made equal to that of majority males, the earnings ratio actually declines. This reduction is primarily due to the adjustments for State of residence, since Asian Americans are heavily concentrated in the high-income States of California, Illinois, Hawaii, and New York.

The indicators reveal that minorities and females showed little or no progress toward greater income equity with majority males during the 1960–70 decade. Moreover, the income ratios for Mexican American males, Puerto Rican males, American Indian/Alaskan Native females, and majority females actually declined from 1959 to 1969. Some notable improvements from 1969 to 1975 seem to be reflected in the later indicator values, and most groups showed at least some positive change.

Comparison of the original to the adjusted earnings ratios helps focus attention on the key prospects for improving the conditions of specific groups. A high ratio of adjusted earnings coupled with a low original ratio, as is the case with Puerto Rican males, suggests that major improvements could be achieved in earnings by raising the level of the independent variables (i.e., education, weeks worked, etc.) of the Puerto Rican males to a point equal to majority males. Where both the adjusted and the original ratios are low, as with all the female groups, both the equality of the independent variables and the degree of equity of earnings need drastic improvement. However, even if the low levels of education, occupational prestige, weeks worked, and hours worked could be made equal to those of majority males, all but one of the groups would still receive lower earnings than majority males. Some groups would still average about half the earnings of majority males after the other inequalities were eliminated.

Earnings Mobility

The process of "climbing the financial ladder" is an aspect of income related to social mobility. The notion of upward mobility is important to a wide spectrum of American society and is a basic part of the American ideology. Social mobility seems especially critical to disadvantaged persons, because without it their impoverished conditions will be perpetuated indefinitely. The concept of a "financial ladder" conveys the image of increasing prosperity as one moves through the various stages of life from youth to retirement. This process of increasing prosperity stems in part from increased earning powers due to the accumulation of experience, seniority, and skills in the work setting, as well as the possible accumulation of savings, investments, or equity from homeownership.

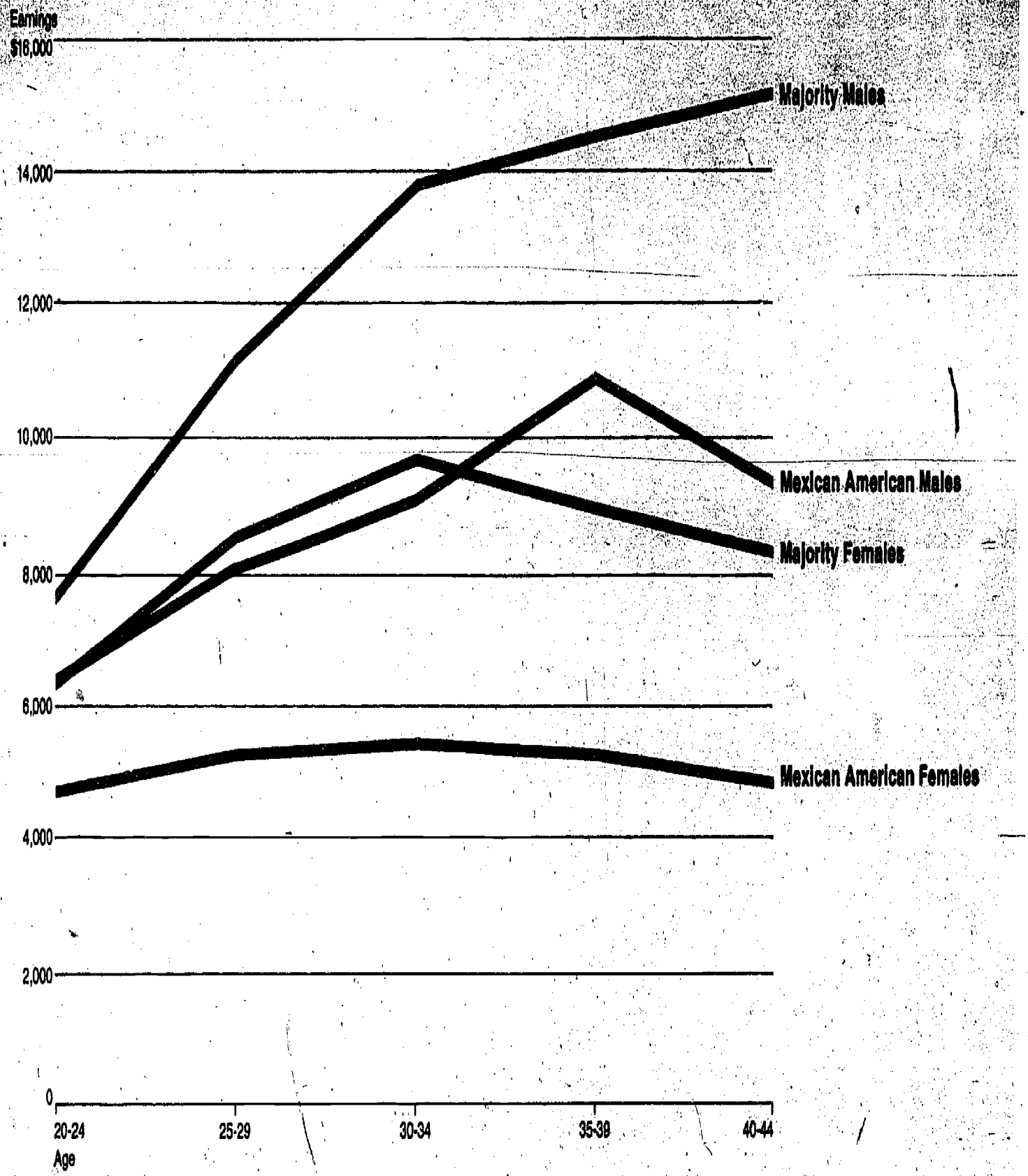
The concept of increasing prosperity is extremely misleading to the extent that it implies a single ladder for the entire society. In fact, different groups of people have different "ladders," and not all groups even ascend the ladders, much less go up at the same rate. Figure 4.3, for example, contains several patterns of earnings ladders, two of which are virtually horizontal.

For the purposes of measuring this phenomenon, a financial ladder is defined as the series of earnings increments that individuals experience as they grow older. For women and minority males the key question is, "Are the steps in the ladder as large as for majority males?" When young people enter the labor market, they typically do not earn the same income as workers who are older, more experienced, or both. As workers grow older, however, they may experience increases in earnings. It also is possible that a worker's earnings will decline with age if, for example, peak productivity or market value for a particular job occurs at a young age and subsequently declines.

Comparison of the financial ladders (the earnings increments) of women and minority males to that of majority males provides the basis of the mobility indicator presented here.[11] Figure 4.3, for example,

[11] One important limitation is that the actual earnings history of individuals is rarely available for analysis. In virtually all surveys dealing with income characteristics, including the U.S. Census of Population, income data are collected only for the previous year. The common procedure for artificially constructing a process through time is to look at the different ages at one time and assume that the resulting pattern is indicative of the pattern that occurs over time as the individuals become older. See, e.g., U.S.,

Figure 4.3 1975 Median Earnings for Majority and Mexican American Male and Female Full-Time Workers with Earnings by Age



Source: See Appendix C for data source and sampling information.

TABLE 4.4

Earnings Mobility

	Raw Measure [a]			Social Indicator Values [b] (Ratios of raw measures to the majority male population)		
	1959	1969	1975	1959	1969	1975
Males						
Amer. Ind./Alask. Nat.	$ 74.40	$145.60	$320.15	.58	.60	.85*
Blacks	60.00	108.90	185.30	.46	.45	.49
Mexican Americans	84.20	136.00	147.40	.65	.56	.39
Japanese Americans	157.50	272.20	536.85	1.22	1.12	1.43
Chinese Americans	156.50	306.50	459.45	1.21	1.26	1.22
Pilipino Americans	69.00	251.80	283.30	.53	1.03	.75
Puerto Ricans	41.20	83.80	97.95	.32	.34	.26
Majority	129.20	243.80	375.75	1.00	1.00	1.00
Females						
Amer. Ind./Alask. Nat.	−19.10	0.20	81.30	−.15	.00	.22
Blacks	4.30	4.80	29.95	.03	.02	.08
Mexican Americans	9.80	10.10	5.55	.08	.04	.02
Japanese Americans	−39.00	79.40	−11.00	−.30	.33	−.03
Chinese Americans	−20.20	40.20	41.70	−.16	.16	.11
Pilipino Americans	−10.00	−6.30	8.35	−.08	−.03	.02
Puerto Ricans	−9.20	−6.60	−20.00	−.07	−.03	−.05
Majority	18.00	22.20	57.55	.14	.09	.15

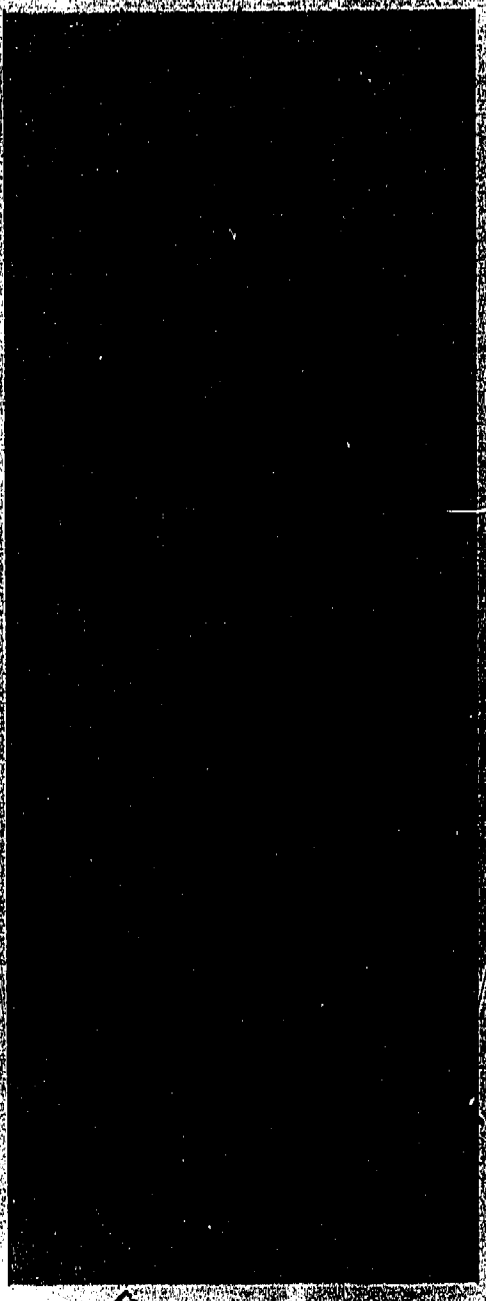
[a] The average annual increment in earnings by single years of age for full-time workers ages 20 to 44. The indicator is based on medians and therefore standard techniques for estimating sampling error do not apply.

[b] See figure 4.4 for a graphic representation of the indicator values that appear in this table.

* This can be interpreted as follows: "In 1975 American Indian and Alaskan Native males' average earnings increment by age was 85 percent as much as the earnings increment for majority males."

Figure 4.4 Social Indicator: Earnings Mobility

Social Indicator Values: Ratios of raw measures to the majority male population.



shows the average earnings in 1975 of four groups by single years of age. It can be hypothesized that the average individual in each group will experience the general rate of increase exhibited by the appropriate curve as he or she grows older. The pattern of the financial ladder for majority males is considerably different from that for Mexican American males, and the patterns for both female groups can hardly be called "ladders," since they are almost horizontal.

Three methods of constructing an indicator of income mobility were considered. Two of the procedures were based on regression analysis, while the third was based on a more direct calculation of average annual earnings increments.[12]

Although the regression approach to a mobility indicator has some appeal and has been used before,[13] the more direct method of calculation was selected because it is a more exact measure of the annual increments.[14] It is simply based on the median earnings of full-year workers at specific ages. The medians were calculated for the 5-year age categories of 20-24 and 40-44 years of age. The average annual increment was then calculated from those medians.[15] Although the average annual dollar increment is an important statistic, the problem of changing dollar values through inflation requires some adjustment to it. The ratio of the minority value to the value for majority males is used to produce a comparative social indicator that neutralizes inflation. Table 4.4 contains both the average dollar increments and the appropriate ratios (see also figure 4.4) showing the relative mobility values.

Although some earnings mobility exists for all minority males, their financial ladder is shorter than that for majority males. The average annual dollar increments for black, Mexican American, and Puerto Rican males were less than half that of majority males in 1976; the decade of the 1960s and the beginning of the 1970s did not change these disparities.

The most striking pattern reflected in the mobility indicators is that females, on the average, do not experience a climb up the earnings ladder. In fact, Japanese American and Puerto Rican females show a pattern of decreasing earnings as they approach age 45. Nor [illegible] of the female groups' increments is above 25 percent of that of majority males in 1975, and, everything else being the same, there are no signs that the indicator values will improve in the future. Low ratios and low annual increments indicate "dead-end jobs," where chances for future monetary gains are minimal.

Poverty

If a government wishes to reduce the extent of poverty or institute special provisions for the poor or for "high poverty areas," it is beneficial to have a way of defining and measuring poverty. Otherwise the success of antipoverty programs will be difficult to determine and admission into these programs will depend only on subjective and variable criteria.[16]

The difficulty of establishing a poverty measure can be appreciated by thinking of some of the many alternative ways of approaching the problem. Poverty could be defined according to some subsistence level of food and shelter. It also could be defined by income alone (either family income, or per capita family income), with some threshold established, such as $4,000 per family or $1,000 per person. Or, poverty could also be defined in terms of possession of certain appliances and facilities considered essential for "normal living." Another approach might be based on neighborhood characteristics. Any or all of the above also could be combined with other factors in a complex statistical procedure.

Regardless of the approach taken, it is evident that poverty is not always an absolute or clear-cut

Department of Commerce, Bureau of the Census, *Methods and Materials* [illegible] pp. 292.

[12] The regression method produces an estimate of the steepness of the slope of a straight line that best summarizes the relationship between age and earnings. Basically, the form of the equation sets at the effect of age on earnings and produces a statistic that can answer the question "On the average, how much difference in earnings would be [illegible] from increasing a person's age by one year?" This is one way of measuring economic mobility. The second regression method utilizes the multiple regression equation described in the previous [illegible] income equity. Since one of the variables used in the equation is age, it is possible to obtain directly the independent effect of age on earnings from these [illegible]. The regression statistics are contained in appendix B.

[13] Robert M. Hauser, "Earnings Differentials Between Whites and [illegible] Mobility," Center for Social Organization Studies, Working [illegible] Year [illegible] pp. 35.

[14] The least squares regression line is based on individual cases with each person having an age and earnings. The slope of that line is influenced by the number of cases at the different ages, since each earner represents a unit of variation to be minimized by the least squares regression line. Differing patterns of labor force participation by age groups, differing age structures, and extreme incomes would all influence the slope of that line.

[15] The 40-44 age category was selected because it contained the peak earnings for majority males. The actual calculation can be obtained by subtracting the median earnings of the 20-24 age category from the 40-44 category and dividing by 20, which is the number of annual increments involved.

[16] Clearly, subjective conclusions based on perceptions of need and qualifications are important, and programs can allow for them, but standardized definitions are also vital and must be established for program evaluation. Without standardized definitions there is the danger that biases and prejudice will lead to discrimination against women and minorities.

TABLE 4.5

Poverty Cutoffs in 1975 by Sex of Head, Size of Family, and Number of Related Children Under 18 Years Old, by Farm-Nonfarm Residence

Size of family unit	Number of related children under 18 years old						
	None	1	2	3	4	5	6 or more
NONFARM							
Male Head							
1 person (unrelated individual):							
Under 65 years	$2,902						
65 years and over	2,608						
2 persons:							
Head under 65 years	3,629	$4,065					
Head 65 years and over	3,258	4,065					
3 persons	4,324	4,361	$4,610				
4 persons	5,469	5,651	5,456	$5,732			
5 persons	6,521	6,802	6,584	6,418	$6,556		
6 persons	7,509	7,734	7,571	7,406	7,187	$7,297	
7 or more persons	9,508	9,792	9,599	9,435	9,217	8,8[illegible]	$8,805
Female Head							
1 person (unrelated individual):							
Under 65 years	$2,685						
65 years and over	2,574						
2 persons:							
Head under 65 years	3,352	$3,660					
Head 65 years and over	3,217	3,660					
3 persons	4,088	3,894	$4,307				
4 persons	5,347	5,540	5,514	$5,456			
5 persons	6,418	6,612	6,584	6,529	$6,309		
6 persons	7,488	7,625	7,571	7,515	7,269	$7,048	
7 or more persons	9,407	9,545	9,517	9,435	9,189	8,997	$8,558
FARM							
Male Head							
1 person (unrelated individual)							
Under 65 years	$2,466						
65 years and over	2,216						
2 persons:							
Head under 65 years	3,084	$3,454					
Head 65 years and over	2,769	3,454					
3 persons	3,591	3,707	$3,918				
4 persons	4,734	4,805	4,637	$4,872			
5 persons	5,713	5,782	5,595	5,455	$5,572		
6 persons	6,552	6,574	6,436	6,295	6,109	$6,202	
7 or more persons	8,254	8,324	8,161	8,020	7,835	7,554	$7,485
Female Head							
1 person (unrelated individual):							
Under 65 years	$2,282						
65 years and over	2,187						
2 persons:							
Head under 65 years	2,850	$3,111					
Head 65 years and over	2,735	3,111					
3 persons	3,473	3,310	$3,661				
4 persons	4,547	4,708	4,687	$4,637			
5 persons	5,455	5,620	5,595	5,549	$5,363		
6 persons	6,366	6,482	6,436	6,389	6,179	$5,991	
7 or more persons	7,995	8,115	8,090	8,020	7,811	7,647	$7,274

Source: U.S., Bureau of the Census, "Characteristics of the Population Below the Poverty Level: 1975," *Current Population Reports*, Series P-60, No. 106, Table A-2.

TABLE 4.6

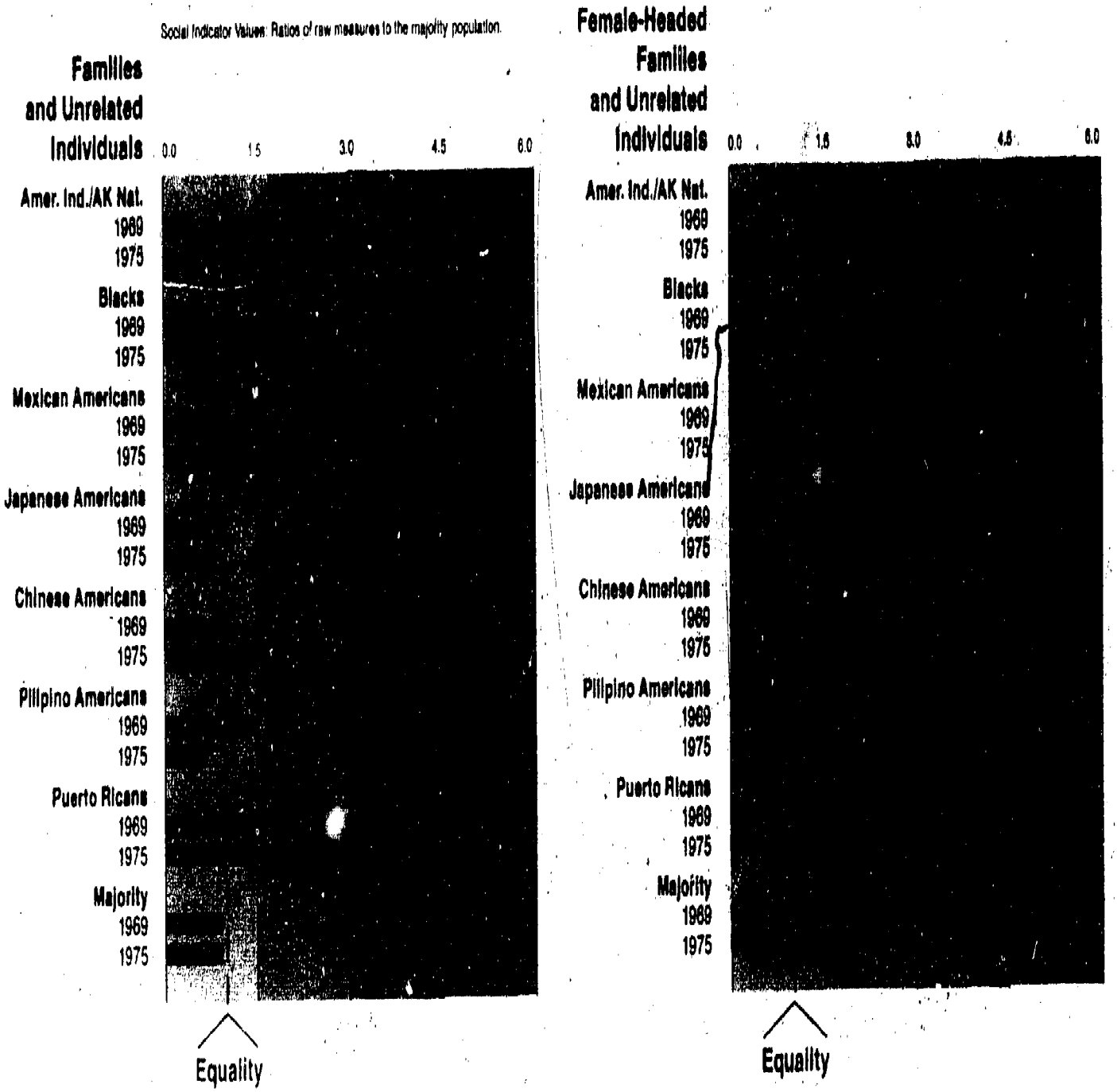
Poverty Rates

	Raw Measure[a]		Social Indicator Values[b] (Ratios of raw measures to the majority population)	
	1969	1975	1969	1975
Families and Unrelated Individuals				
Amer. Ind./Alask. Nat.	**36**	**26**	2.73	2.89*
Blacks	**33**	**28**	2.50	3.11
Mexican Americans	**28**	**24**	2.12	2.67
Japanese Americans	12	**7**	0.91	0.78
Chinese Americans	**16**	**17**	1.21	1.89
Pilipino Americans	**19**	**6**	1.44	0.67
Puerto Ricans	**28**	**32**	2.12	3.56
Majority	13	9	1.00	1.00
Female-Headed Families and Female Unrelated Individuals				
Amer. Ind./Alask. Nat.	**54**	**49**	4.09	5.44**
Blacks	**53**	**46**	4.01	5.11
Mexican Americans	**53**	**46**	4.02	5.11
Japanese Americans	**32**	**22**	2.42	2.44
Chinese Americans	**29**	**19**	2.20	2.11
Pilipino Americans	**39**	**20**	2.95	2.22
Puerto Ricans	**52**	**49**	3.94	5.44
Majority	**28**	**22**	2.12	2.44

[a] The percent of families and unrelated individuals that are below the poverty line.
[b] See figure 4.5 for a graphic representation of the indicator values that appear in this table.
[c] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

* This can be interpreted as follows: "In 1975 American Indian and Alaskan Native-headed families were 2.89 times as likely to be living in poverty as majority-headed families."
** This can be interpreted as follows: "In 1975 American Indian and Alaskan Native female-headed families were 5.44 times as likely to be living in poverty as all majority-headed families."

Figure 4.5 Social Indicator: Poverty Rates



connection. There is a continuum with no sharp line between the poor and nonpoor. Cases are bound to arise where a person or family just barely falls into the statistical category of poverty while a neighbor in a seemingly identical situation is just barely excluded, perhaps because the neighbor has an income that is a few dollars higher per year. In this sense the definition of poverty is certain to have elements of arbitrariness and subjectivity even though the underlying problems are quite real and concrete.

For women and minority men, poverty problems are especially pervasive. Under the current Federal procedures for defining and measuring poverty (described below), in 1974 black people were almost three times more likely to be poor than whites. Persons living in female-headed households were more than three times as likely to be in poverty than others.[17]

The "Poverty Index"

The current statistical definition of poverty used by the Federal Government is the Poverty Index, developed by Mollie Orshansky of the Social Security Administration. A review and analysis of the Poverty Index was recently completed, and this discussion draws heavily on that report. Essentially, the Poverty Index "is an attempt to specify in dollar terms a minimum level of income adequacy for families of different types in keeping with American consumption patterns."[18]

The starting point in the construction of poverty levels for different types of families was to estimate the cost of food that would meet accepted nutritional standards reflected in the Department of Agriculture's "economy food plan." The costs are available for different age and sex combinations. Orshansky used these figures to establish food costs for 62 different types of families. The final step was to estimate the amount of income needed to purchase necessities other than food. Nonfood necessities were estimated to cost twice the food expenditure, so that triple the food cost (a multiplier of three) became the poverty cutoff level. Adjustments were made for different types of families to reflect relatively higher fixed costs for families in smaller households. The cutoff points for farm families were adjusted to compensate for the use of food that was not purchased.

Table 4.5 contains the complete set of Orshansky poverty thresholds for 1975. Each person or family has a cutoff level that can be used as a standard to determine if the person or family is below or above the poverty line. If the income is less than that indicated in the table, that person or family is considered to have been in poverty in 1975. Each year the poverty cutoffs are adjusted for the changing value of the dollar through the use of the Consumer Price Index.

In general, the Poverty Index is a reasonable way of measuring the statistically problematic condition and dimension of poverty.[19] The primary advantages over other approaches are:

- it is linked to the fundamental necessity of food; and
- it produces comparable information over time, since the index is linked to the Consumer Price Index and is therefore adjusted to match the inflation in the economy.

Although it was originally developed as a statistical measure and social indicator, the Poverty Index has been used widely for administrative purposes:

> Federal programs for the poor differ in design. Some programs are devised to aid areas and some are devised to aid families or individuals directly. In the former case, the poverty measure is used in an allocative formula to distribute the appropriation, typically a fixed amount, among the subunits of the nation designated by the legislation. In the second type of program, a poverty cutoff may be used as an income eligibility criterion for individual applicants.[20]

Thus, the Poverty Index not only reflects the level of poverty in the Nation and local areas but is used to relieve some of the hardships of poverty through

[17] U.S. Department of Health, Education and Welfare, Social Security Administration, *Poverty Status of Families Under Social Security and Medicare Definitions: 1974*, Research Report No. 48 (Washington, D.C.: U.S. Government Printing Office, 1976), p. 1.

[18] Mollie Orshansky, "Counting the Poor: Another Look at the Poverty Profile," *Social Security Bulletin*, January 1965, p. 3.

[19] One key issue not fully resolved in the Poverty Index is the extent to which it underestimates the number of women in poverty. The threshold level for nonfarm families is reduced by 10 percent for each adult female in the family. Because the average age of adult women is higher than that of adult men, the average income needed by women is lower. For example, the cutoff for a nonfarm family of four with a male head under 65 years of age is $4,275, while the cutoff for a family of four with a female head under 65 years of age is $3,924. Each additional person is added at $1,000 for the first person, $750 for the second person, and $500 for each additional person. Thus, a family of four with a female head under 65 years of age is assumed to require $3,924 to meet its needs, while a family of four with a male head under 65 years of age is assumed to require $4,275 to meet its needs. The difference of $351 is 8.2 percent of the $4,275 figure. Therefore, the 10 percent reduction for female heads is slightly more than adequate to compensate for the lower needs of women. The threshold for nonfarm families is reduced by 10 percent for each adult female in the family. Because the average age of adult women is higher than that of adult men, the average income needed by women is lower. For example, the cutoff for a nonfarm family of four with a male head under 65 years of age is $4,275, while the cutoff for a family of four with a female head under 65 years of age is $3,924. Each additional person is added at $1,000 for the first person, $750 for the second person, and $500 for each additional person. Thus, a family of four with a female head under 65 years of age is assumed to require $3,924 to meet its needs, while a family of four with a male head under 65 years of age is assumed to require $4,275 to meet its needs. The difference of $351 is 8.2 percent of the $4,275 figure. Therefore, the 10 percent reduction for female heads is slightly more than adequate to compensate for the lower needs of women. The threshold for nonfarm families is reduced by 10 percent for each adult female in the family. Because the average age of adult women is higher than that of adult men, the average income needed by women is lower. For example, the cutoff for a nonfarm family of four with a male head under 65 years of age is $4,275, while the cutoff for a family of four with a female head under 65 years of age is $3,924. Each additional person is added at $1,000 for the first person, $750 for the second person, and $500 for each additional person. Thus, a family of four with a female head under 65 years of age is assumed to require $3,924 to meet its needs, while a family of four with a male head under 65 years of age is assumed to require $4,275 to meet its needs. The difference of $351 is 8.2 percent of the $4,275 figure. Therefore, the 10 percent reduction for female heads is slightly more than adequate to compensate for the lower needs of women.

[20] *The Measure of Poverty*, p. 14-15.

various government programs. If the Poverty Index discriminates against some segments of the population by not properly including them, then those needy persons excluded also may be excluded from the benefits allocated for the alleviation of poverty.

The Poverty Indicator

The indicator developed to measure the prevalence of poverty is based on the proportion of families and unrelated individuals (those not living with one or more relatives) who are below the poverty line. The actual social indicator is the ratio of the minority percentage to the majority percentage. Table 4.6 contains the poverty indicator statistics for 1969 and 1975. No information is available to calculate this indicator for 1959, since the index was not used at that time. The poverty ratio indicators are contained in figure 4.5 and in columns 3 and 4 of table 4.6.

The table reflects three important facts about poverty in America. First, minority families are far more likely to fall into poverty than the majority population—in most cases, about three times as likely. More specifically, American Indian Alaskan Native families are 2.89 times, blacks 3.11 times, Mexican Americans 2.67 times, Chinese Americans 1.89 times, and Puerto Ricans 3.56 times as likely to be in poverty as majority families.

Second, a tremendous disparity in rates exists for female-headed families in poverty in comparison to majority families. Minority female-headed families are two to five times as likely to be in poverty as majority-headed families. American Indian Alaskan Native and Puerto Rican female-headed families were 5.44 times as likely to be in poverty in 1975 as the average majority family. Other specific ratios are 5.11 for blacks and Mexican Americans, 2.44 for Japanese Americans, 2.11 for Chinese Americans, 2.22 for Pilipino Americans, and 2.44 for majority female-headed families.

Finally, although improvement occurred between 1969 and 1975 in the percentage of families in poverty for most groups, minority- and female-headed families, relative to majority-headed families, became even more economically vulnerable.

Conclusion

The social indicators developed and presented in this chapter reflect different dimensions of the financial conditions of women and minority men. As in other chapters, these indicators have been useful in revealing serious inequalities between majority males and minorities and women.

The indicator values for median household per capita income for 1959, 1969, and 1975 show that most minority and female-headed households have only half the income that is available to majority households. Equally disturbing is that no noticeable relative improvement has occurred for most minority and female-headed populations over the past 16 years. In fact, the incomes available to Mexican Americans and Puerto Ricans in 1975 were the same or less relative to majority males' income as they were in 1970 and in 1960.

The statistical technique of multiple regression was used to measure the degree of inequality of income. Through this procedure, adjustments were made to the earnings of the female and minority groups to compensate for differences vis-a-vis majority males in such income-affecting factors as educational level, occupational prestige, age, and income level of the State of residence.

The indicator values reveal that if these factors could be increased—if past imbalances between the groups and majority males could be erased—most groups would show gains in their relative income. However, these gains would *not* be enough to eliminate inequality of income, for all but one of the groups would still earn less than majority males earned in 1976—especially women, who would earn approximately one-half the amount of majority males even if these differences in education, employment history, etc., were erased. These residual disparities in income may result from differences in race-ethnicity or gender per se.

The third aspect of the financial conditions of women and minorities considered in this chapter was movement up the "financial ladder." The indicator developed for this dimension of income revealed that women can hardly be described as climbing a financial ladder, since their pattern is virtually horizontal with very small, and often negative, earnings increments. Although some movement up the financial ladder seems to exist for minority males, it is far less than what can be expected for majority males.

The last social indicator compares minority and female rates of poverty to the rate for the majority population. Women and minority men are greatly overrepresented in conditions of poverty. This is especially true for female-headed families. The female-headed families in many of the minority

groups were over five times as likely to be in poverty as were majority families in 1975. The very great inequalities were not limited to the female-headed families, however. Many of the groups had rates of poverty more than twice that of the majority in 1975, regardless of the sex of the family head, and most of the minority- and female-headed families were relatively more economically disadvantaged in 1975 than in 1969.

Chapter 5

Housing

In statistical reports, housing refers essentially to the physical structure and mechanical equipment of the housing unit and to the characteristics of the relationship between the occupants and the housing unit (e.g., overcrowding). Elements measured and analysed for evaluations of housing have included the amount of space available, the number of rooms, the number of bathrooms, the age of the unit, its rental or market value, the number of occupants, and the condition of various elements in the unit. In addition, it should be emphasized that:

> . . . not only are the multiple features of the housing structure itself essential parts of the "housing package"; so too are the land on which it stands, the public utilities physically connected with it, the neighborhood within which it is located, the political jurisdiction under which it falls, and the patterns of accessibility it has with other destinations in the urban area.[1]

The importance of housing to our personal and community well-being—both economic and social—is generally recognized.

Although the amount of information collected on housing each year is substantial, the lack of an agreed-upon definition of substandard housing leaves us without a direct measure of the quality of housing or the ability to identify bad housing. In some instances, it is even impossible to determine if an element of housing can be evaluated in a meaningful way: for example, is living in the suburbs better than living in the city? On the other hand, some characteristics are almost universally valued highly:

> The amount of space, the number of rooms, the availability of indoor plumbing, lower noise levels and cleaner air all appear to have positive valuation in many, if not all societies and in all income groups within particular societies.[2]

To date, except for comparisons between black and majority housing, statistical analyses of even the generally accepted elements of housing quality have rarely considered the extent of housing inequalities between the majority and other groups in the society. There is a need for a multiplicity of indicators designed to assess the equality of specific housing conditions between the majority and female and minority groups.

Five such conditions were chosen for housing indicator development in this report: housing location; homeownership; crowding; presence of basic facilities, such as hot water and a complete kitchen; and relative housing costs.[3] Unfortunately, most of these conditions were not measured on the 1976 Survey of Income and Education, so most indicator values are limited to 1960 and 1970. However, information on homeownership was gathered, and indicator values have been produced for all three time periods. The indicators developed here are not intended to measure the prevalence of inadequate housing conditions, but rather the existence of

[1] United Nations, *Social Indicators for Housing and Urban Development* (New York: United Nations, 1973), p. 14.

[2] Ibid., p. 6.

[3] When data on other dimensions of housing become available, the form of the indicators presented here can be applied to the new information. For instance, important questions concerning the working condition of elements in the household have not been asked on the decennial census. The census asks whether a heating system exists in the household, but there is no question on the working condition of the system, if one exists. In other words, a radiator may be recorded as existing in an apartment, but whether it produces any heat is not recorded. Questions providing information on the working condition of features in the household are asked on the Annual Housing Survey. However, at this time the sample size of that survey can provide tabulations for only the larger groups.

inequalities among majority-, minority-, and female-headed households.[4]

In this chapter, each indicator is a comparison of the minority or female condition to the majority condition. The method of comparison is similar to that used for the other indicators, but there are some important changes in the calculation of the housing indicators. The first is that the unit of analysis for housing information is the household, rather than an individual person designated as the head of the household. A statistic with the household as the unit of analysis could be interpreted along the following lines: 50 percent of the households headed by American Indians and Alaskan Natives live in units with plumbing facilities.

Since any given household may be composed of both males and females who share the housing conditions, a different category of indicators representing households headed by women[5] was developed to determine whether conditions were gender-related.

About one-fourth of all households in the Nation, according to the Bureau of the Census, are headed by women—that is, there is no adult male present.[6] The category includes women of various marital statuses (single, widowed, divorced, separated, and married with the spouse absent); of various ages (young, middle-aged, and senior citizens); with various family situations (with and without children); and with various employment, occupational, and financial characteristics. As women, one thing they have in common is that they are often subject to forms of prejudice and discrimination that prevent them from having the same opportunities in housing as male-headed households.[7]

Therefore, each housing indicator for each minority group will be presented with two classifications. One classification will compare (without regard to the sex of the household head) minority-headed households to majority-headed households, and another will compare female-headed households by racial and ethnic group to majority-headed households.

A fundamental problem in the construction of comparative housing indicators stems from the fact that some minority groups have considerably different geographical distributions than the majority population. A group's housing profile may be distorted by its regional location, since housing markets, construction styles, and other factors differ from area to area. A method of comparing women and minority men to majority men must be developed to adjust for differences in the regional distribution of the two populations being compared. The method used here is equivalent to comparing the groups within each State (and thus within a roughly

[4] The United Nations housing indicator report has endorsed this approach which has been used extensively in the previous chapters.

> The very concept of welfare is unclear and problematical, and with even modest agreement on what it comprises, it is extremely difficult to quantify it, let alone to determine whether measurements of the sort necessary would be feasible at a less than [illegible] cost. However, if measures of absolute [illegible] of well being are not really to be expected, it is none the less to be hoped that levels of well being [illegible] be compared: one local group with another, one region with another, the same group over different periods of time, possibly even one national average with another. Welfare comparisons do not require as stringent measurement standards as absolute welfare levels. For this purpose, data can be collected on those aspects of a household's or group's condition which are believed to be dependably connected with its welfare.

United Nations Ad[illegible] *Indicators for Housing and Urban Development*, p. 12.

[5] The census does not use the category "head of household" as a designation of the person with the power or authority in the household. It is simply used to allow every other member of the household to designate how [illegible] or she is related to an individual nominated as their common reference. In the past the male was *always* designated the "head" whenever a husband and wife were living together. Since households would always be classified as headed by a male if the male spouse were present, it would be difficult to measure households for males and females separately.

This one-sided classification has come under fire recently because it ignores the possibility that households with two partners (or two or more adults) can view the female rather than the male, as the head, or view the household as having no real head but rather equal partners sharing the responsibilities of running the household. (See, e.g., Arthur S. Flemming, Chairman, U.S. Commission on Civil Rights, letter to Robert L. Hagan, Acting Director, Bureau of the Census, Jan. 18, 1977.) Because the current "head of household" designation has been shown to be inappropriate, the Census Bureau is currently revising the way the household data are collected and reported. The following note printed in its current publications addresses this issue:

> In the past the Census Bureau has designated a head of household to serve as the central reference person for the collection and tabulation of data for individual members of the household (or family). However, recent social changes have [illegible] in a trend toward more equal status for all members of the household (or family), making the term "head" less relevant in the analysis of household and family data. As a result, the Bureau is currently developing new techniques of enumeration and data presentation which will eliminate the concept of "head." While much of the data [currently available] are based on the concept of "head," methodology for future Census Bureau [material] will reflect a gradual movement away from this traditional practice. (U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, no. 311 (August 1977), following p. 10.)

The Commission will welcome the change to a more equitable designation in the future, but until the information is collected in a new format, the Commission is limited by the old procedures. However, one set of indicator values presented here compares minority-headed households to majority-headed [illegible] without regard to the gender of the head.

In ad[illegible] most households are designated as headed by a male, there [illegible] where the female was designated as the head because there w[illegible] in the household to be designated as the head. In the United States there were 16.8 million households headed by females in 1975. (From U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, no. 282 (1976), p. 3.) Comparisons will also be made between households headed by a female and those headed by the majority. (Included in majority-headed households are those headed by majority females.)

[6] Ibid.

[7] For example, U.S. Department of Housing and Urban Development, *Women and Housing* (1977).

similar climate and housing market) and accumulating the within-State differences as if the minority and majority had the same population distribution among all the States.[8] Greater comparability is thus achieved in the housing indicators that follow.

Non-Central City Metropolitan Households

> Racial, ethnic and sex discrimination, which until very recently was openly enforced by real estate agents, builders, developers, mortgage lenders, landlords, and public officials, has severely restricted the housing choices, and hence the personal liberty, of minorities and women. Because free access to housing is basic to the enjoyment of many other liberties and opportunities, the restrictions in housing placed on minorities and women have far-reaching consequences which touch virtually every aspect of their lives.[9]

One of the most visible effects of housing discrimination is the segregation and concentration of minorities in certain well-defined residential areas in almost all cities, while suburban areas tend to be almost exclusively white. To some extent, the degree of dispersion of a minority group throughout a metropolitan area reflects the group's degree of equality of choice and opportunity[10] in the metropolitan housing market, although dispersion can only measure this indirectly.

The extent to which minority and majority households are located equally outside of the central city in metropolitan areas has been selected as the measure of dispersion.[11] The actual indicator is the comparison of the percentage of metropolitan minority households that are non-central city dwellers and the percentage of the metropolitan majority who are non-central city dwellers.

Table 5.1 and figure 5.1 indicate that metropolitan minority-headed households are less likely to be located outside central cities than majority-headed households. This fact should come as no surprise. What is important to note about this table (and the other housing indicators that follow) is the degree of inequality and whether any changes occurred in the status of minority groups relative to the majority population in this dimension of housing over time. For example, only about one-third as many metropolitan black households as majority-headed households are situated outside of the central city area. For black female-headed households in comparison with the majority-headed households, the ratio is even lower: only about one-quarter of the black female-headed households are situated outside of the central city. Changes in the indicator values over the decade for the black population were minimal. Although Mexican American-headed households had higher ratios of dispersion than other minority groups, they experienced a slight decrease in the relative likelihood of being located outside of the central city during the 1960s. The same phenomenon occurred for the American Indian/Alaskan Native-headed households. In 1960, 74 percent as many American Indian/Alaskan Native-headed households as majority-headed households were situated outside of the central city; by 1970, the proportion had fallen to 70 percent. During the 1960s, Puerto Rican-headed households experienced an increase relative to majority-headed households in the amount of dispersion, but in 1970 their incidence of living outside of the central city still remained only about half (0.48) that of majority-headed households.

Homeownership

Homeownership is common in the United States. In 1970, about two-thirds of all American housing units were owner occupied and less than one-third were renter occupied.[12] The percentage of housing units that were owner occupied remained fairly constant, at around 43 to 48 percent, from 1900 until the end of World War II. At that point, single-family, owner-occupied units became more and more preva-

[8] The method of direct standardization was used to produce comparable housing indicators. Both the within-State majority percentage or rate for the characteristic being measured and the minority or female-headed figure were adjusted so that they would have the same weight in the accumulation of an adjusted, or standardized, national figure. The weight used in a State was derived from the State's percentage of the national population's A State was excluded from the accumulation if the sample used in this report contained fewer than 10 households headed by a person from the particular minority or female group.)

The indicator on relative housing costs was modified after the standardization was completed and was not standardized as were the others. Since the value for this indicator is the percentage of income spent on housing, the value of income serves as a built in adjustment for the level of living in each area. This reduces the importance of having standardized figures.

[9] U.S. Commission on Civil Rights, *Twenty Years After Brown* (1978), p. 99. The material in this publication first appeared as a series of reports released in 1975.

[10] William Grigsby and Louis Rosenburg, *Urban Housing Policy* (New York: APS Publications, 1975), pp. 113-27.

[11] The measurement of dispersion was confined to metropolitan places, since it was only possible to distinguish the central city-suburban residential location for this category. Therefore, persons living in smaller cities and rural areas are excluded from this indicator. From U.S. Department of Commerce, Bureau of the Census, *Public Use Samples of Basic Records from the 1970 Census: Description and Technical Documentation*, p. 22.

[12] Anthony Downs, *Urban Problems and Prospects* (Chicago: Markham Publishing Co., 1970), p. 156.

TABLE 5.1

Non-Central City Metropolitan Households

	Standardized Measure[a]		Social Indicator Values[b] (Ratios of Standardized Measures to the Majority Population)	
	1960	1970	1960	1970
All Households				
Amer. Ind./Alask. Nat.	**36**[c]	**39**	.74	.70[e]
Blacks	**17**	**20**	.34	.37
Mexican Americans	**41**	**44**	.89	.84
Japanese Americans	**18**	**45**	.39	.80
Chinese Americans	**18**	**33**	.37	.59
Pilipino Americans	**32**	**32**	.68	.56
Puerto Ricans	**21**	**27**	.42	.48
Majority	—[d]	—[d]	1.00	1.00
Female-Headed Households				
Amer. Ind./Alask. Nat.	NA[f]	**29**	NA	.58
Blacks	**12**	**15**	.25	.28
Mexican Americans	**32**	**36**	.67	.69
Japanese Americans	**23**	**29**	.40	.50
Chinese Americans	**08**	**14**	.17	.26
Pilipino Americans	NA	**17**	NA	.30
Puerto Ricans	**05**	**20**	.11	.34
Majority	**40**	**45**	.80	.81

[a] The standardized percentage of households located outside of the central city. Housing indicators were standardized on the basis of minority and majority state of residence to control for the fact that differences could be a function of differing housing structures and markets in various localities.

[b] See figure 5.1 for a graphic representation of the indicator values that appear in this table.

[c] Bold type indicates that the differences between these values and the majority benchmark are statistically significant at the 0.10 level. See appendix C for sampling information and data source.

[d] It is not possible to present a single measure for the majority population since the majority value changes depending on how it is weighted against each minority population. Each could be calculated by dividing the raw standardized measure by the corresponding ratio.

[f] NA indicate that values were not reported due to an insufficient sample size.

[e] This can be interpreted as follows: "In 1970 American Indian and Alaskan Native-headed households were 70 percent as likely to be situated outside of the central city as were majority-headed households."

Figure 5.1 Social Indicator: Non-Central City Metropolitan Households

Social Indicator Values: Ratios of standardized measures to the majority population.

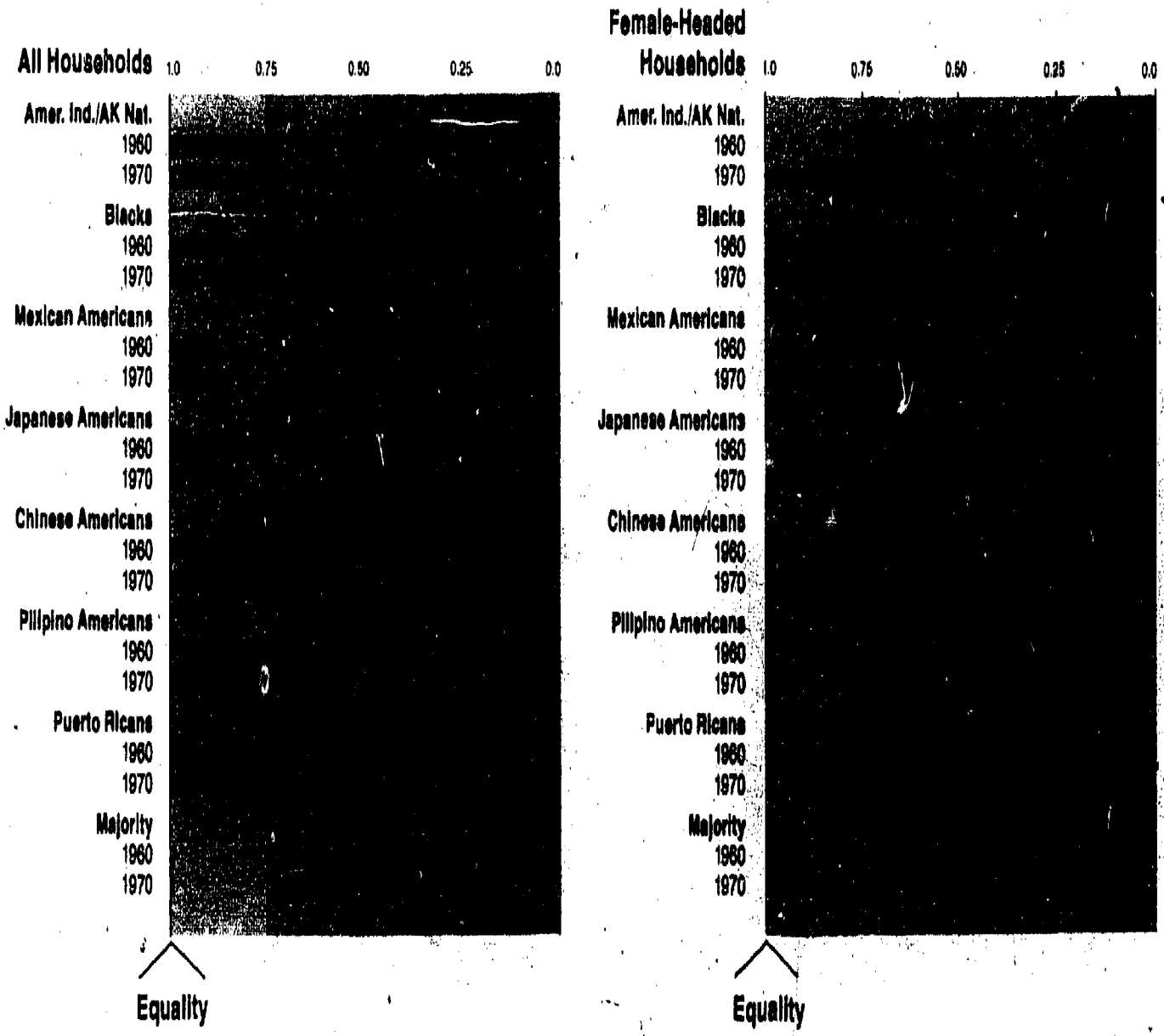


TABLE 5.2

Households That Are Owner Occupied

	Standardized Measure [a]			Social Indicator Values [b] (Ratios of standardized measures to the majority population)		
	1960	1970	1976	1960	1970	1976
All Households						
Amer. Ind./Alask. Nat.	**41***	**45**	**46**	**.68**	**.68**	**.70***
Blacks	**37**	**42**	**42**	**.58**	**.63**	**.64**
Mexican Americans	**52**	**52**	**47**	**.87**	**.84**	**.77**
Japanese Americans	**31**	**43**	**35**	**.58**	**.66**	**.56**
Chinese Americans	**36**	**42**	**39**	**.64**	**.64**	**.61**
Pilipino Americans	**34**	**35**	**41**	**.62**	**.54**	**.64**
Puerto Ricans	**23**	**33**	**32**	**.37**	**.51**	**.50**
Majority	—	—	—	1.00	1.00	1.00
Female-Headed Households						
Amer. Ind./Alask. Nat.	**42**	**37**	**24**	**.78**	**.57**	**.37**
Blacks	**29**	**30**	**28**	**.46**	**.45**	**.43**
Mexican Americans	**42**	**37**	**25**	**.71**	**.61**	**.41**
Japanese Americans	**24**	**28**	**18**	**.44**	**.45**	**.30**
Chinese Americans	**28**	**26**	**16**	**.55**	**.47**	**.24**
Pilipino Americans	NA[d]	**11**	**20**	NA	**.19**	**.31**
Puerto Ricans	**11**	**16**	**10**	**.21**	**.26**	**.16**
Majority	**50**	**51**	**45**	**.79**	**.78**	**.68**

[a] The standardized percent of owner-occupied households.

[b] See figure 5.2 for a graphic representation of the indicator values that appear in this table.

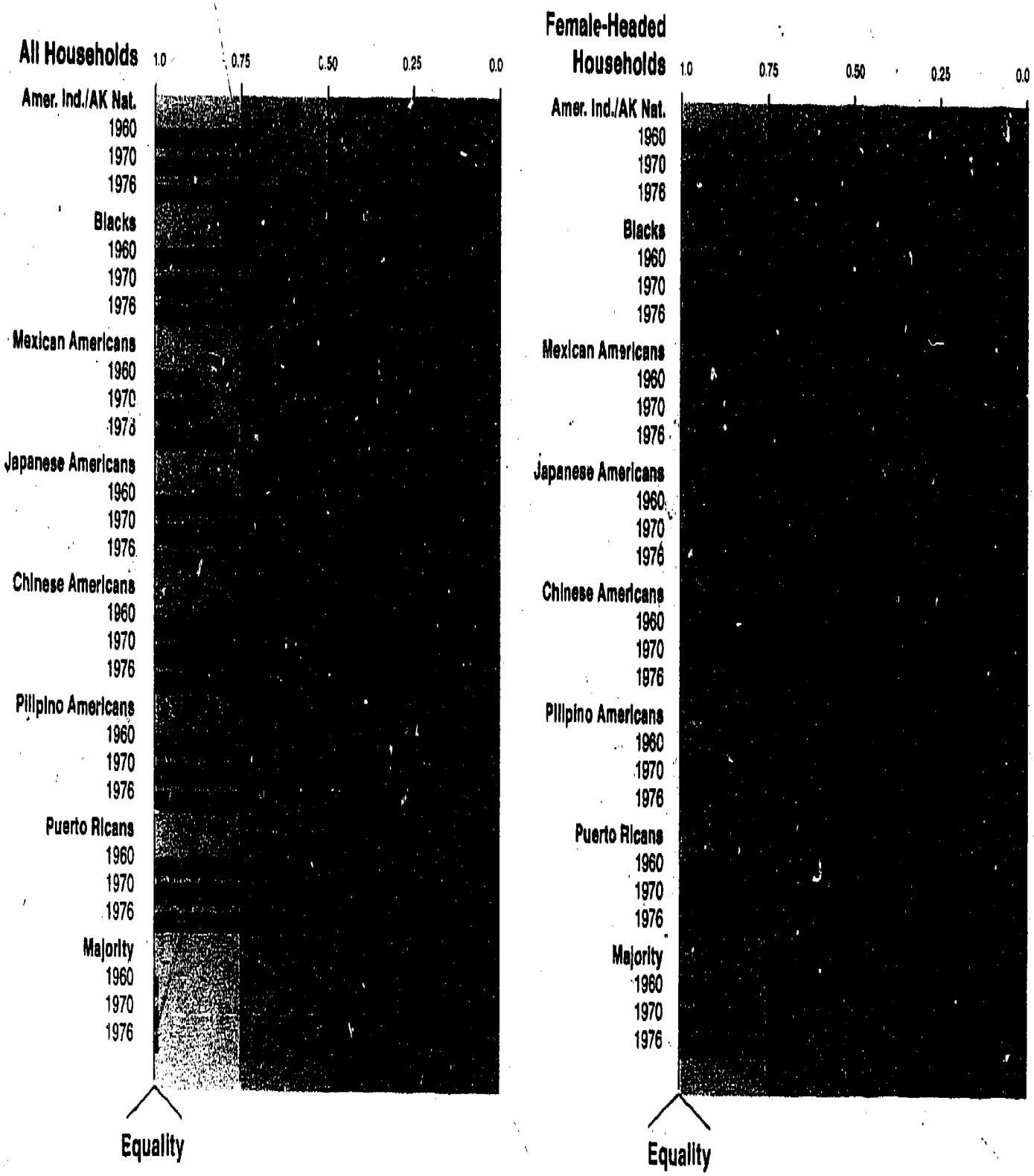
[c] Bold type indicates that the differences between these values and the majority benchmark were statistically significant at the 0.10 level. See appendix C for sampling information and data source.

[d] Values were not reported due to an insufficient sample size.

* This can be interpreted as follows: "In 1976 American Indian and Alaskan Native-headed households were 70 percent as likely to be owner-occupied as majority-headed households."

Figure 5.2 Social Indicator: Households that are Owner-Occupied

Social Indicator Values: Ratios of standardized measures to the majority population.



*Values were not available due to an insufficient number of cases.

lent in the housing market as the process of suburbanization intensified.[13]

Homeownership is generally considered both financially and psychologically desirable. Policies (such as the Federal income tax) that exclude interest expenses and real estate taxes from taxable income provide financial advantages to home buying. The appreciation of home and property values provides an additional financial incentive, that of investment, for homeownership. By providing a form of independence and freedom that may be lacking in rental situations, homeownership is also often associated with psychological benefits. Regardless of the factual basis for these attractions, people clearly consider homeownership beneficial. In fact, "few values in American society are regarded as highly as the ownership of a home of one's choice. Homeownership has always been viewed as a 'stabilizing and positive influence in the United States.'"[14]

As might be expected, however, homeownership is not shared equally among the various racial and ethnic groups in American society. While two-thirds of the Nation's households were owner occupied in 1970, the comparable percentages for minorities and women were considerably lower.[15]

Two practices of lending institutions contribute to the disparity in ownership rates. In the first place, minorities and women face discrimination in obtaining loans.[16] Even in studies in which certain variables are held constant, the racial, ethnic, and gender disparities in credit rejection rates persist.

> In every case, minority rejection rates are considerably higher than for whites among persons having the same gross annual income, the same gross assets, the same outstanding indebtedness, the same monthly debt burden, and the same number of years in their present occupations. . . . In addition, sexual discrimination in lending practices which has been documented by the FHLBB [Federal Home Loan Bank Board] results in a disproportionate impact on minority families.[17]

In addition, minorities are disadvantaged because the lending institutions are less likely to invest in neighborhoods that are perceived to be deteriorated or likely to become so. Many of these neighborhoods are located in central cities where high concentrations of minorities are found.

> Thus, it is a disturbing fact that in selected areas of metropolitan America, disinvestment practices have prevented the development of a healthy housing market. It has become apparent that attaining homeownership has become more difficult for some Americans than for others wholly apart from their credit-worthiness. . . . [D]isinvestment has a discriminatory effect on low income groups which, in turn, has a disproportionate impact on American minorities.[18]

Minorities suffer from this process of disinvestment both by being deprived of equal opportunities for homeownership and by having their neighborhoods deteriorate further.

> Although many factors contribute to neighborhood deterioration, the decision by an area's lending institutions to extricate themselves from neighborhoods they predict will deteriorate is critical in this process of decay. This disinvestment decision reflects a loss of confidence in the community as a viable economic investment and has grave consequences for the neighborhood as well as for the city as a whole.[19]

The indicator developed for homeownership is the ratio of the homeownership rates of minority groups to the majority. Table 5.2 and figure 5.2 show the indicator values for ratios of homeownership between the groups. There are considerable disparities among the minority, female, and majority rates in ownership of homes. For example, in 1976 Puerto Rican-headed households were only 50 percent as likely to live in owner-occupied units as majority-headed households. This figure has been standardized in order to discount regional differences in housing; therefore, the 50 percent figure should not be dismissed as being depressed by the tendency of Puerto Rican-headed households to be in New York, where homes are less likely to be owned. The other minority-headed households ranged from a little more than half to a little more than two-thirds as likely as majority-headed households to live in owner-occupied units.

[13] Ibid., pp. 156–57.
[14] Frances E. Werner, William M. Frej, and David M. Madway, "Redlining and Disinvestment: Causes, Consequences, and Proposed Remedies," *Clearinghouse Review*, no. 7, vol. 10 (October 1976), pp. 504.
[15] U.S. Department of Commerce, Bureau of the Census, *Census of Population: 1970, Subject Reports*, Final Report PC(2)-1B, *Negro Report* (1973), p. 153, table 10; and *Census of Population: 1970, Subject Reports*, Final Report PC(2)-1F, *American Indian Report* (1973), p. 129, table 10.
[16] U.S., Commission on Civil Rights, *Mortgage Money: Who Gets It?* (1974).
[17] Werner, et al., "Redlining," p. 506.
[18] Ibid., pp. 504–05.
[19] Ibid., p. 501.

As in the other housing indicators, minority female-headed households show the greatest disparity with majority-headed households. Puerto Rican and Chinese American female-headed households were only 16 and 24 percent, respectively, as likely to live in owner-occupied units as majority-headed households. While the majority female-headed household rate of homeownership is about two-thirds that of majority-headed households, none of the minority female-headed groups equals even the lowest rate for minority-headed households generally, much less the majority-headed rate.

In general, there are few gains in homeownership over time reflected in table 5.2 and figure 5.2. The common pattern is for the ratios to decline or remain fairly constant. The only group of female-headed households to show a gain in relative ownership from 1970 to 1976 was the Pilipino Americans, and they still had only one-third the homeownership rate of majority households. Minority- and female-headed households, then, continue to be much more likely to live in rental housing and thus less likely to attain the financial and psychological benefits of homeownership.

Overcrowding

"Overcrowding is one of the oldest concerns of housing policy in the United States."[20] It has been viewed in the past as a factor in physical and mental illness.[21] Although few would argue with the proposition that overcrowded conditions in the U.S. might once have produced physically dangerous effects, in more recent times "... standards of overcrowding must, therefore, be made largely on grounds of comfort and equity, not health and safety."[22]

Paramount among these comforts is privacy: a housing unit often serves as a place to be alone. Access to privacy generally is identified as good. A common measurement used to define decent housing has included the concept of privacy: the number of square feet of living space per person, as well as the number of persons per room, has been utilized to denote the general amount of privacy enjoyed (or, alternatively, the amount of overcrowding that may exist).[23]

Many sources of opinion, including *Toward a Social Report* and *Social Indicators, 1973*, have endorsed the standard that a person is considered to be living in an overcrowded situation if there is more than one person (including children) per room.[24] This study adopts the same definition. The indicator of overcrowding is the ratio of the percentage overcrowded of a minority group to the percentage overcrowded for the majority. Indicators are separately designated for overcrowding in owner-occupied units and rental units. In 1970 approximately 7 percent of all owner-occupied units in the United States and 11 percent of the rental units were defined as overcrowded.[25]

Table 5.3 and figure 5.3 indicate that minority groups generally are much more likely to be living in overcrowded conditions than the majority population, regardless of geographical location or type of tenure. Mexican American rental households, for example, were almost six times as likely to be overcrowded as majority-headed rental households in 1970. Owner-occupied Mexican American-headed households show a similar disparity; they were five times as likely to be overcrowded in 1970 as the majority-headed households. In addition, all of the overcrowding indicators for the Mexican American population showed greater disparities with the majority population in 1970 than in 1960.

Other minority-headed rental households also displayed high rates of overcrowding in comparison to majority-headed households. American Indian Alaskan Native-, black-, Chinese American-, Pilipino American-, and Puerto Rican-headed rental households were all more than twice as likely to be overcrowded as majority-headed rental households in 1970. In addition, black, Mexican American, Pilipino American, and Puerto Rican female-headed households were over twice as likely to be overcrowded than majority-headed rental households. Table 5.3 and figure 5.3 also show similar patterns of overcrowding for minority- and female-headed households living in owner-occupied units. It is not surprising that female-headed households generally showed smaller disparities compared to majority-headed households than did minority-headed households with no male present, a female-headed household, by definition, generally has one less person to share household space.

[20] Grigsby and Rosenburg, *Urban Housing Policy*, p. 42.
[21] Ibid.
[22] Ibid.
[23] Ibid., pp. 42-43.
[24] U.S. Department of Health, Education, and Welfare, *Toward a Social Report*, p. 35, and U.S. Office of Management and Budget, *Social Indicators, 1973*, p. 195.
[25] U.S. Department of Commerce, Bureau of the Census, *Housing Characteristics for States, Cities and Counties, United States Summary*, vol. 1, part 1, (1972) table 4, p. 1-22.

TABLE 5.3

Overcrowding

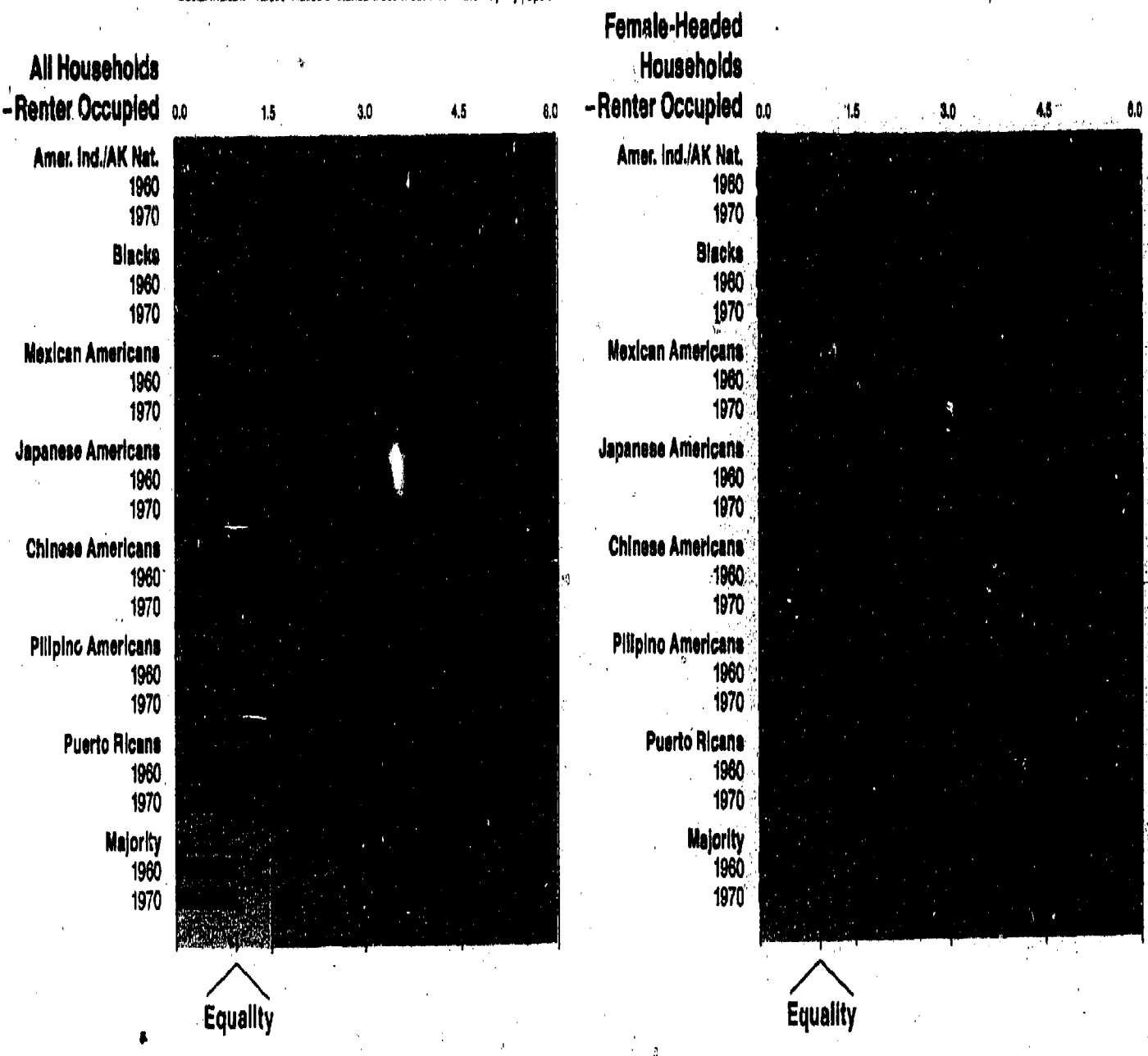
	RENTER OCCUPIED				OWNER OCCUPIED			
	Standardized Measure[a]		Social Indicator Values[b] (Ratios of Standardized Measures to the Majority Population)		Standardized Measure[c]		Social Indicator Values (Ratios of Standardized Measures to the Majority Population)	
	1960	1970	1960	1970	1960	1970	1960	1970
All Households								
Amer. Ind./Alask. Nat.	**42**[d]	**22**	3.51	2.88*	**32**	**16**	4.17	2.89**
Blacks	**31**	**20**	2.21	2.33	**18**	**13**	2.13	2.31
Mexican Americans	**45**	**35**	2.70	5.88	**35**	**30**	3.28	5.07
Japanese Americans	**15**	**10**	1.44	1.36	07	05	.95	.84
Chinese Americans	**17**	**20**	1.57	2.88	**14**	**16**	2.33	2.87
Pilipino Americans	**18**	**26**	1.68	3.80	**31**	**15**	4.51	2.74
Puerto Ricans	**37**	**24**	3.16	3.24	**24**	**18**	3.75	3.23
Majority	—	—	1.00	1.00	—	—	1.00	1.00
Female-Headed Households								
Amer. Ind./Alask. Nat.	**31**	18	2.32	2.74	**48**	**17**	3.64	3.22
Blacks	**24**	**19**	1.66	2.14	09	**08**	1.10	1.54
Mexican Americans	**31**	**24**	1.86	4.10	**21**	**18**	2.00	2.96
Japanese Americans	**03**	**03**	.22	.40	08	**00**	1.32	.04
Chinese Americans	NA[e]	10	NA	1.43	NA	05	NA	.76
Pilipino Americans	NA	**15**	NA	2.17	NA	**18**	NA	2.63
Puerto Ricans	**26**	**20**	2.40	2.78	NA	**10**	NA	1.94
Majority	**06**	**03**	.47	.42	**02**	**02**	.28	.29

[a] The standardized percent of renter-occupied houses that are overcrowded (more than 1.01 persons per room).
[b] See figure 5.3 for a graphic representation of the indicator values that appear in this table.
[c] The standardized percent of overcrowded owner-occupied households.
[d] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.
[e] NA indicates that values were not reported due to insufficient sample size.

* This can be interpreted as follows: "In 1970 American Indian and Alaskan Native-headed rental households were 2.88 times as likely to be overcrowded as majority-headed rental households."
**This can be interpreted as follows: "In 1970 American Indian and Alaskan Native-headed owner-occupied households were 2.89 times as likely to be overcrowded as majority-headed owner-occupied households.

Figure 5.3 Social Indicator: Overcrowding in Households

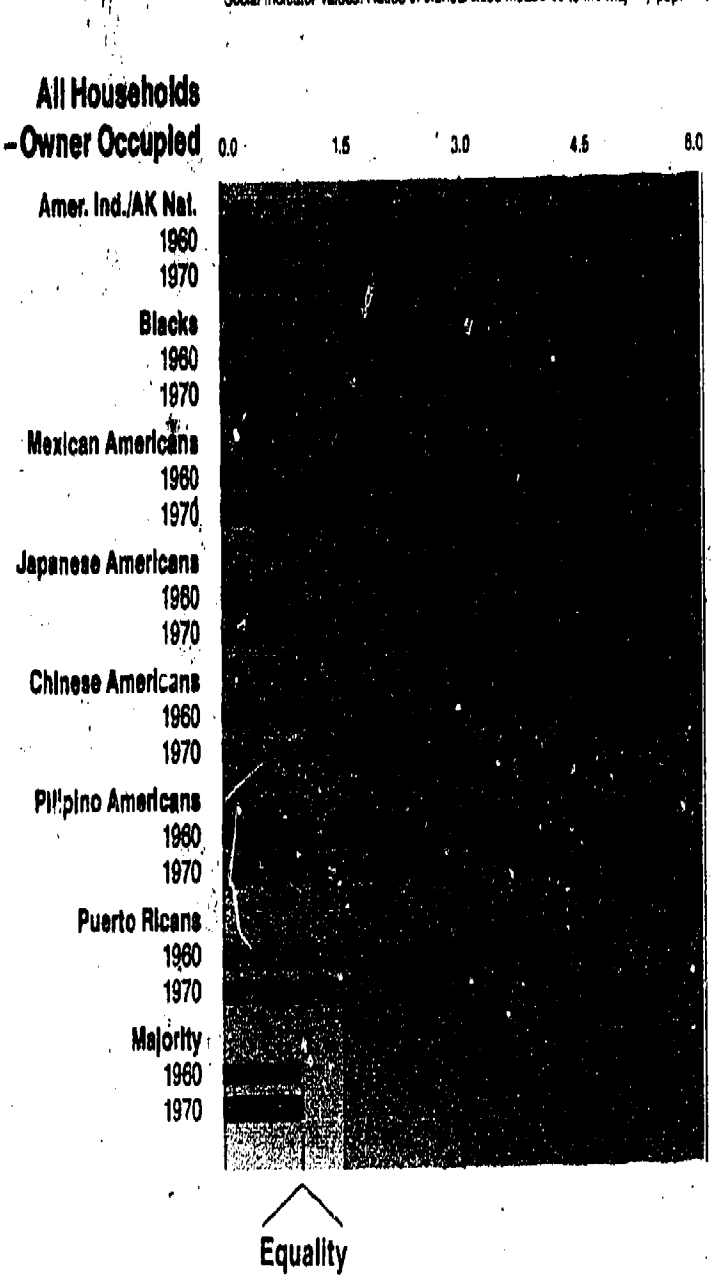
Social Indicator Values: Ratios of standardized measures to the majority population.

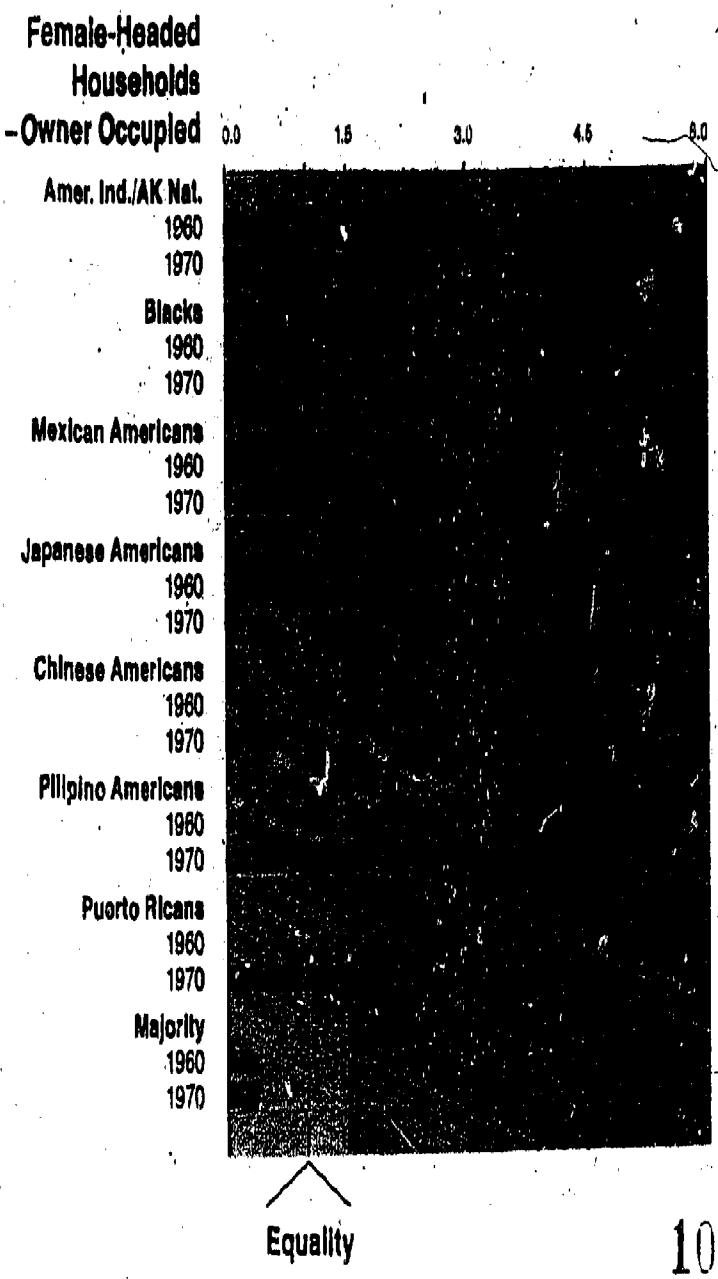


*Values were not available due to an insufficient number of cases.

Figure 5.3 Social Indicator: Overcrowding in Households (continued)

Social Indicator Values: Ratios of standardized measures to the majority population.





*Values were not available due to an insufficient number of cases.

In general, minority homeowners were more disproportionately situated in crowded conditions in 1960 than were minority renters. For example, in 1960 American Indian/Alaskan Native-headed rental households were 3.51 times as likely as the majority rental households to be overcrowded, but American Indian/Alaskan Native-headed owner-occupied units were 4.17 times as likely as majority-headed owner-occupied units to be overcrowded. The disparity in overcrowding between renter-occupied units and owner-occupied units had been equalized by 1970 for most groups, although overcrowding remained a common condition for minority households. For instance, Chinese American-headed rental households were 2.88 times as likely to be overcrowded as majority-headed households in 1970 and 2.87 times as likely for owner-occupied units in 1970.

In summary, the overcrowding indicators show convincingly that minorities live more frequently in overcrowded conditions than the majority population. In many of the groups of minority- and female-headed households, overcrowding occurs two to three times more frequently as in majority-headed households, with the rate for Mexican American households in 1970 at six times that of the majority.

Housing Completeness

Housing in the United States ranges from the luxurious mansions of the very rich to the shanty huts of migrant workers. Americans live in some of the worst conditions imaginable and in some of the best. Previous attempts to develop a standard for the systematic, objective measurement of housing conditions have not proved successful. For the 1960 census, for example, the enumerators were to categorize the housing unit as sound, deteriorating, or dilapidated on the basis of specified visible defects relating to weather tightness, extent of disrepair, hazards to the physical safety of the occupants, and inadequate or makeshift construction.[26] A problem with this approach is that different enumerators have different standards. Even with uniform descriptions of the conditions, the reliability of the evaluations proved to be problematic. Similar information, moreover, was not collected for the 1970 census and, therefore, is not available on the conditions of housing units in 1970.

An alternative approach, used by the census in both 1960 and 1970, does not depend on the enumerator's assessment of the condition of a unit, but simply on the presence or absence of specified facilities. A housing unit that lacks hot water or a flush toilet or a heating system may be classified as somehow substandard owing to the unavailability of these items.

One basic problem with this approach is that the presence of an item does not tell us whether it is in good working condition. A toilet may be present, for example, but it may work only half the time. Future plans for the census do not include an attempt to assess the condition of the facilities in a housing unit. Although the Annual Housing Survey does collect information on the actual working order of facilities,[27] its sample size does not allow for reliable estimates of housing conditions for some of the minority groups discussed in this report.[28]

In the absence of a clear-cut standard of housing quality, a "housing completeness" indicator has been developed based on information about the presence of specific housing facilities gathered during the 1960 and 1970 censuses. To be "complete," a housing unit must have a flush toilet, hot water, complete kitchen, bathtub or shower, central heat, and direct access from the outside or through a common or public hall. A complete kitchen is defined for this purpose as one including a sink with piped water, a range or cookstove (excluding portable cooking equipment), and a refrigerator (excluding ice boxes).[29] These facilities are commonly accepted as basic necessities of life in the United States.[30] The actual housing completeness indicator is based on the percentage of the housing units that has all of the features. The percentage is standardized by State of residence and then converted to a ratio of completeness of minority housing compared to that of majority housing.

[26] U.S., Department of Commerce, Bureau of the Census, *Public Use Samples of Basic Records from the 1960 Census*, Technical Document No. 100 (1962), p. 95.

[27] U.S., Department of Housing and Urban Development, *The Annual Housing Survey: A New Look in Evaluating Housing Needs* (pamphlet) (October 1974), p. 6.

[28] Census Bureau staff report that the "slow response and breakdowns" reported in the Annual Housing Survey diminishes the importance of this report's concern about the working order of housing facilities. Manuel D. Plotkin, Director, Bureau of the Census, letter to Louis Nunez, Acting Staff Director, U.S. Commission on Civil Rights, May 17, 1978.

The Commission believes, however, that the working order per se is important and that the relative incidence of "breakdown" for the different groups studied here might be very revealing.

[29] For categorizations see U.S., Department of Commerce, Bureau of the Census, *Public Use Samples of Basic Records From the 1970 Census: Description and Technical Documentation*, p. 162.

[30] United Nations, *Social Indicators for Housing and Urban Development*, p. 10.

TABLE 5.4

Complete Household Facilities

	Standardized Measure [a]		Social Indicator Values [b] (Ratios of Standardized Measures to the Majority Population)	
	1960	1970	1960	1970
All Households				
Amer. Ind./Alask. Nat.	**55**	**85**	.62	.88*
Blacks	**69**	**88**	.79	.92
Mexican Americans	**73**	**89**	.79	.91
Japanese Americans	**87**	**94**	.95	.98
Chinese Americans	**77**	**90**	.85	.94
Pilipino Americans	**82**	**94**	.89	.98
Puerto Ricans	**82**	**93**	.90	.97
Majority	—	—	1.00	1.00
Female-Headed Households				
Amer. Ind./Alask. Nat.	**57**	**84**	.63	.87
Blacks	**67**	**86**	.76	.90
Mexican Americans	**67**	**86**	.73	.88
Japanese Americans	89	**92**	.96	.95
Chinese Americans	**79**	**86**	.85	.89
Pilipino Americans	NA [d]	**91**	NA	.95
Puerto Ricans	**84**	**95**	.89	.98
Majority	**87**	**94**	.97	.98

[a] The standardized percent of households with all of the following items: hot water, plumbing, flush toilet, complete kitchen, heat, bathtub or shower, and direct access to household.

[b] See figure 5.4 for a graphic representation of the indicator values that appear in this table.

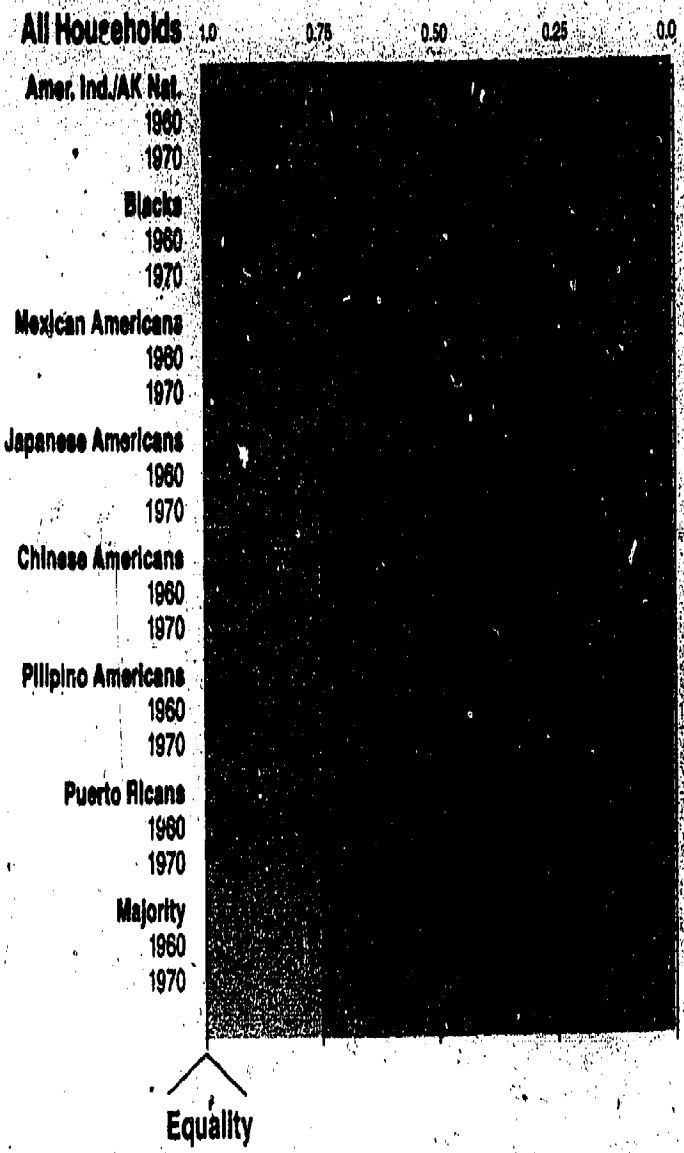
[c] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

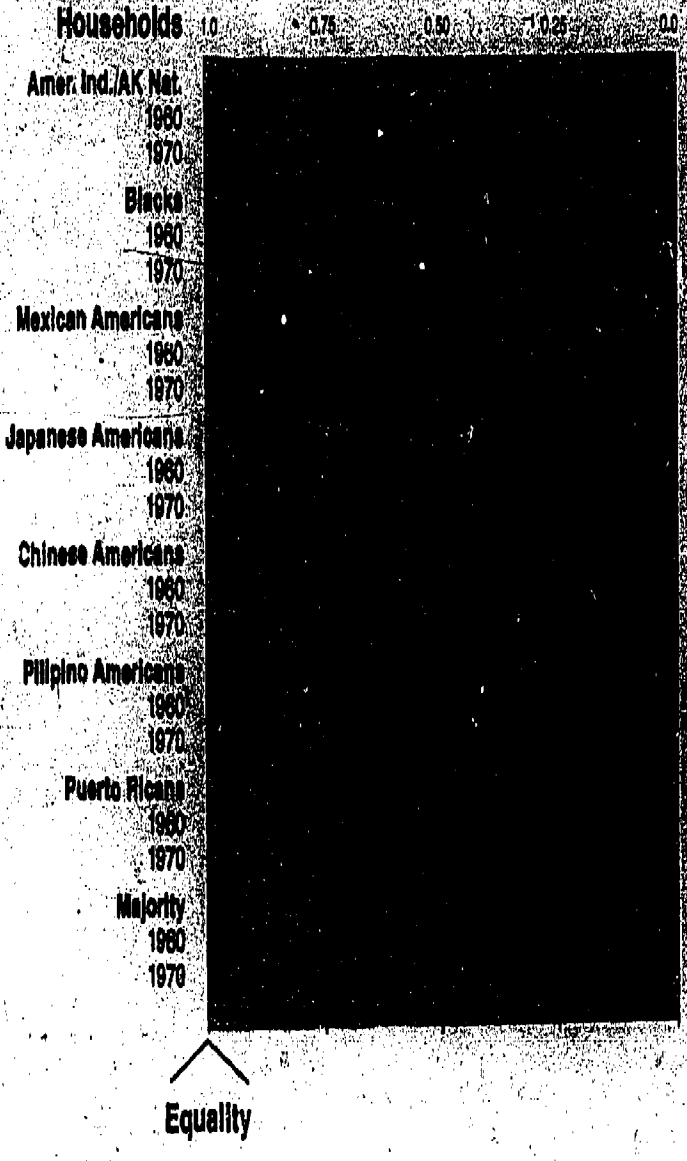
[d] Values were not reported due to an insufficient sample size.

* This can be interpreted as follows: "In 1970 American Indian and Alaskan Native-headed households were 88 percent as likely to have complete housing facilities as majority-headed households."

Figure 5.4 Social Indicator: Households with Complete Facilities

Social Indicator Values: Ratios of standardized measures to the majority population.





*Values were not available due to an insufficient number of cases.

TABLE 5.5

Percent Who Pay 25 Percent or More of Their Income for Housing

	Raw Measure [a]		Social Indicator Values [b] (Ratios of raw measures to the majority population)	
	1960	1970	1960	1970
All Households				
Amer. Ind./Alask. Nat.	28.1	**41.2**[c]	.84	1.19*
Blacks	**48.5**	**46.7**	1.44	1.35
Mexican Americans	30.8	**36.8**	.92	1.07
Japanese Americans	29.4	37.1	.88	1.08
Chinese Americans	30.0	36.5	.89	1.06
Pilipino Americans	30.9	37.8	.92	1.10
Puerto Ricans	35.9	**43.4**	1.07	1.26
Majority	33.6	34.5	1.00	1.00
Female-Headed Households				
Amer. Ind./Alask. Nat.	**50.0**	**66.5**	1.49	1.93
Blacks	**71.8**	**67.9**	2.14	1.97
Mexican Americans	**64.1**	**65.3**	1.91	1.89
Japanese Americans	**48.8**	**54.4**	1.45	1.58
Chinese Americans	NA[d]	**53.5**	NA	1.55
Pilipino Americans	NA	**58.4**	NA	1.69
Puerto Ricans	**56.8**	**72.6**	1.69	2.10
Majority	**59.4**	**63.1**	1.77	1.83

[a] The percent of the rental households having a gross rent (i.e., including utilities) of 25 percent or more of the family income. Only those households with a complete kitchen, bathtub or shower, heat, a flush toilet, direct access to apartment, plumbing, and hot water were included in this measure.

[b] See figure 5.5 for a graphic representation of the indicator values that appear in this table.

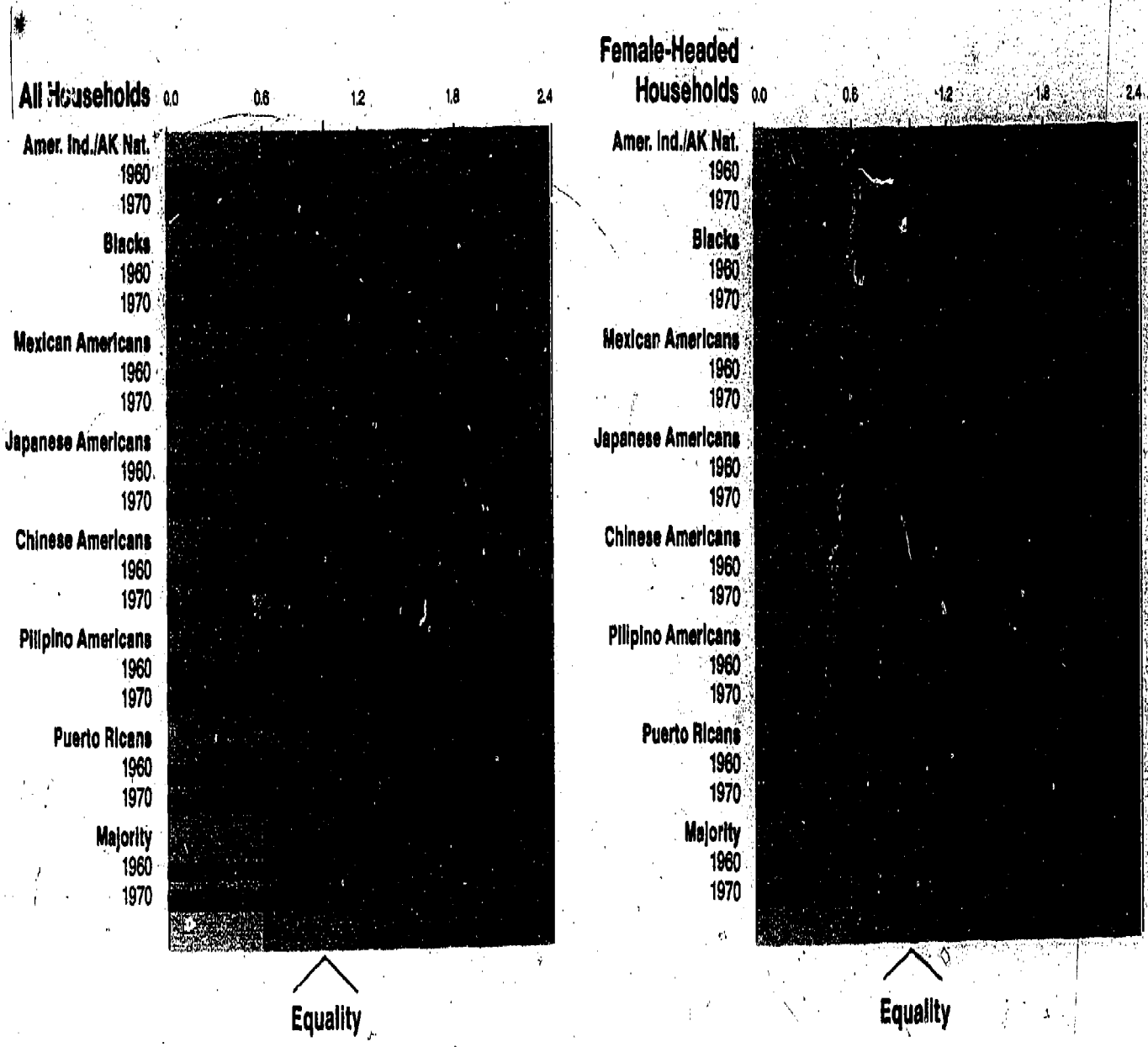
[c] Bold type indicates that the difference between this value and the majority benchmark is statistically significant at the 0.10 level. See appendix C for sampling information and data source.

[d] NA indicates that values were not reported due to an insufficient sample size.

*This can be interpreted as follows: "In 1970 American Indian and Alaskan Native-headed households were 19 percent more likely than majority-headed households to spend 25 percent or more of their income for rent."

Figure 5.5 Social Indicator: Percent Who Pay 25 Percent or More of Their Income for Housing

Social Indicator Values: Ratios of raw measures to the majority population.



*Values were not available due to an insufficient number of cases.

Table 5.4 indicates that all the ratios were relatively high in 1970. This is not surprising, since we are dealing with the presence of the most basic aspects of human comfort in a housing unit. Most of the groups improved their standing with regard to the majority during the 1960s decade (see also figure 5.4). Black female-headed households, for example, went from a ratio of 0.76 in 1960 to a ratio of 0.90 in 1970. What is surprising, however, is that the ratios for some minority-headed households in 1970 were still as low as 90 percent of that of the majority population.

Relative Housing Costs

The proportion of a family's income going to housing costs can be a critical factor in the family's financial situation. With minor exceptions, housing costs cannot be deferred or reduced from month to month while other expenditures, such as those for clothing and entertainment, and even food, can be. "A widely held objective in the U.S. is for no family to pay more than 20% to 25% of its income for housing. . ."[31] However, for low-income families, even though there may be 75 to 80 percent of the budget left for other expenditures, the dollar amounts left may be insufficient to provide an adequate diet, clothing, or medical care.

While the housing completeness indicator showed that minorities and women are somewhat more likely to live in less adequate housing than the majority, the issue addressed here is the extent to which minority and majority people spend equal proportions of their incomes on housing costs to obtain *similar* housing conditions. The relative housing costs indicator consequently is based only on those units that have complete housing facilities, in order to control for the inequalities displayed by the last indicator. Therefore, as a minimum, all of the structural features are present in the households for which the relative cost is to be measured. Housing costs were measured in terms of the yearly gross rent as a proportion of yearly income (rent-income ratio) for those living in rental units.[32]

The resulting indicator is a comparison of the extent to which minority-, female-, and majority-headed households spent more than 25 percent of the household's income for rent. Table 5.5 indicates that among renters, minority- and female-headed households are more likely than majority-headed households to spend 25 percent or more of their income for housing (see also figure 5.5). The disparity is the greatest between female-headed and majority-headed households. At least 50 percent more of the female-headed households than majority-headed households spent 25 percent or more of their income for housing in 1970. Puerto Rican female-headed households were 110 percent more likely than majority-headed households to spend over 25 percent of their income for housing in 1970.

Furthermore, most female-headed households fared worse with respect to majority-headed households in 1970 than in 1960. For example, in 1960 Japanese American female-headed households were 45 percent more likely to spend more than 25 percent of their income on housing than majority-headed households; in 1970 that figure rose to 58 percent.

Minority-headed households are also more likely to spend over 25 percent of their income for housing than majority households, and, in most instances, their proportionate housing costs actually increased between 1960 and 1970. For example, in 1960 the percent of households paying an excessive amount of their incomes for rent was approximately the same for Puerto Ricans and majority-headed households, but by 1970 Puerto Rican-headed households were 26 percent more likely than majority-headed households to spend more than 25 percent of their income for housing.

In summary, minority- and female-headed households are much more likely to spend 25 percent or more of their incomes on housing costs than the majority, a condition that results in less disposable income for other necessities. Furthermore, the indicators show greater disparities between minorities and the majority in 1970 than 1960.

Conclusion

This analysis has shown that minorities and women were less likely to live outside of the central city than the majority and that movement outside of the central city took place during the 1960s at a lower rate for women and minority male households than for majority households. Although the indicator values vary, most minority-headed households were

[31] Grigsby and Rosenburg, *Urban Housing Policy*, p. 47, see also, Committee for Economic Development, *Financing the Nation's Housing Needs* (New York: Committee for Economic Development, April 1973), p. 48.

[32] Analysis was confined to rental units, since a monthly or yearly amount of money spent for housing is not available for owner-occupied units. *Public Use Samples of Basic Records from the 1970 Census: Description and Technical Documentation*, p. 167.

only about one-half to two-thirds as likely to be situated outside of the central city as majority-headed households. Female-headed households showed even less likelihood of being located outside of the central city. Most female-headed households were from one-quarter to one-half as likely to be located outside of the central city as majority-headed households.

With so many of the minority and female-headed households situated inside central cities, it is not surprising that the indicator values of homeownership for women and minority men were less than those for majority-headed households. Almost without exception, minority- and female-headed households were, at best, two-thirds as likely to be owner occupied as majority households in 1976. The financial and psychological costs of these disparities are incalculable.

Disparities in overcrowding were equally large for rental and owner-occupied units in 1970 for the various groups' households. Overcrowding occurred two or three times more often for minority- and minority female-headed households than majority-headed households, regardless of whether the household was owner or renter occupied. For many of the minority- and female-headed households, the degree of overcrowding disparity in comparison to majority-headed households became larger during the 1960s.

Although a measure could not be developed based on the amount of disrepair in a household, a more basic indicator reflected the presence or absence of essential elements in the household. Even the most essential household elements, such as a toilet, a kitchen, a heating system, and a bathtub, were found absent in greater numbers for minority- and female-headed households in comparison to majority-headed households.

The housing cost indicator values show that minority households pay a larger portion of their incomes for their housing than majority-headed households and, therefore, have smaller portions left for such other necessities of life as food, clothing, transportation, and medical expenses than majority households. Furthermore, the disparities in the amount of earnings spent for rent tended to increase during the 1960s for almost all of the minority- and female-headed households in relation to majority-headed households, indicating that the proportional expenditure for housing of minorities and women in comparison to the majority is increasing, not declining. Given the fact that women and minority men earn far less than minority males (table 4.3), the ramifications of this disparity in housing costs become even greater.

All of the housing indicators have revealed considerable inequalities in housing conditions among minority-, female-, and majority-headed households in 1960, in 1970, and, in the case of the homeownership indicator, 1976. In some cases the inequality became even larger over time. In other cases, where improvement of conditions occurred, minorities and women still remained at levels far below majority males, and thus far from the goal of equality of housing conditions.

Chapter 6

Conclusion, Findings, and Recommendations

There is no more important goal in the Nation than achieving equality of opportunity and equity of reward among all persons, regardless of their sex, racial, or ethnic characteristics. The difficulty in making substantial progress toward this goal is familiar; it also is difficult to measure whether there is such progress. The indicators developed and presented in this report serve two functions. In the first place, they focus attention on some important and specific forms of equality. Second, they provide measurements of the degree of equality for these characteristics in 1960, 1970, and 1976, thus allowing us to review our progress over this time period.

These indicators have demonstrated many forms of inequality. Because the patterns are complex and, in some cases, varied, the indicators are best appreciated through reference to the individual tables and textual discussions. Some general tendencies, however, stand out. In the area of education, minorities and women are more likely to be behind in school, not enrolled in high school, without a high school or college education, educationally overqualified for the work they do, and earning less than comparably educated majority males.

In addition, women and minority males are more likely to be unemployed (especially if they are teenagers), to have less prestigious occupations, and to be concentrated in different occupations than majority males. With regard to income, minorities and women have less per capita household income; lower earnings even after such determinants of earnings as education, weeks of work, age, and occupational prestige have been adjusted to equality among groups; smaller annual increases in earnings with age; and a greater likelihood of being in poverty.

Finally, minority- and female-headed households are more likely to live in central cities than the suburbs where majority-headed households live, less likely to be homeowners, more likely to live in overcrowded conditions, and more likely to spend more than a quarter of their family income on rent.

Although these indicators are useful, they do not fulfill the general need for social indicators for women and minorities. They are but an initial attempt with limited data sources. A more adequate system of social indicators for women and minority men is needed so that our progress toward equality can be monitored in a wide range of areas (such as health, quality of housing and neighborhoods, and criminal victimization) in which the effects of discrimination and disadvantage continue to prevent some groups of people from enjoying the opportunities and benefits available to most of their fellow citizens.

A number of characteristics of the Federal statistical system hinder developing an adequate system of social indicators of equality for women and minority men. Some of these are:

The Federal Statistical System's Approach to Social Indicators. The Federal Government's involvement in the social indicator field has consisted of a very limited program to produce chartbooks of trends.[1] The major limitation placed on the social indicator program has been that the statistics used in these chartbooks are all selected from existing material. Thus, the indicators were not developed or designed for any specific set of purposes, such as the measurement of particular types of well-being; rather, statistical information was located, selected, and designated "social indicators." This approach omits the conceptualization of issues and creation of

[1] U.S., Executive Office of the President, Office of Management and Budget, *Social Indicators, 1973* (1973); and U.S., Department of Commerce, Bureau of the Census, and Office of Federal Statistical Policy and Standards, *Social Indicators, 1976* (1977).

original tables that made up the primary effort of this Commission report. This study was able to select characteristics to measure constrained only by the available census and survey tapes, while the OMB social indicator projects were limited to selecting from already calculated statistics that, apparently, best served the needs of the chartbooks.

Under some conditions this might not be a critical deficiency for the task of displaying important trends. If, for example, adequate tables and statistical descriptions of trends are available, then confining the preparation of a chartbook to existing material might be sufficient. It is clear, however, that adequate statistical material is not available for women and minority men.

One reason for this, to be discussed below, derives from the typical design of surveys, which results in a very small sample of minorities. Another reason is that even when adequately large samples of minorities are represented in surveys and censuses, the forms of published tables rarely lend themselves to a meaningful assessment of how the conditions of minorities and women compare to those of majority males. It is this comparison that is essential to any assessment of the degree of equality and equity, as well as the trends toward (or away from) these goals. Although various agencies occasionally produce special reports on particular minority groups or women, these reports are usually collections of existing numbers that were byproducts of routine data collection. These reports rarely permit comparisons with majority males to measure types of equality.

For example, the major sources of published statistics on minorities from the 1970 census are the *Subject Reports*, [2] which include reports on American Indians/Alaskan Natives, the black population, persons of Spanish origin, Puerto Ricans on the U.S. mainland, and a report on Japanese, Chinese, and Pilipinos in the United States. These reports contain information presented by region, State, Standard Metropolitan Statistical Area (SMSA), and city, and for American Indians/Alaskan Natives by tribe and reservation. To make comparisons with the majority male population, it is necessary to search through other census publications for comparable statistics. It usually is necessary also to convert raw population numbers to more useful statistics, such as percentages or averages, before meaningful comparisons can be made. Although the subject reports on minorities are useful, they do not facilitate assessment of the relative well-being of minorities and women.

In short, the strategy used in creating the Federal Government's social indicator program and publications prevented including the critically important type of social indicators of equality developed and presented in this report.

The Sampling Design of Surveys. Almost all of the statistical information produced by the Federal statistical system comes from samples of one kind or another. The decennial censuses have been the only data collection activity designed to get information from or about every person in the Nation. Among the surveys taken by the Government, many provide pertinent information for developing social indicators. These include the Health Interview Survey, the Health Examination Survey, the Crime Victimization Survey, the National Longitudinal Survey, the Registration and Voting Survey, the Annual Housing Survey, and the Current Population Survey. These surveys are conducted regularly and are based on a large sample of persons or households.

The Current Population Survey provides the most widely used statistical information for social indicators. It is from this survey that we obtain estimates of the level of unemployment, the extent of poverty, educational characteristics of youth, levels of earnings, levels of fertility, and many other measures. Although a considerable amount of useful information is collected in these surveys, only limited information can be reported separately for women and, especially, for minorities. This is because sound statistical policy precludes reporting estimates based on a very small number of cases (persons or households). The survey design itself fails to include a sufficient number of minorities in the samples. There are generally enough majority females in random samples to permit reliable statistical analyses, but the number of minority females often is not sufficient. For example, while the Current Population Survey is based on about 47,000 households and 100,000 persons, information is not reported for Puerto Ricans, Asian Americans (as a total group or by separate groups), or American Indians/Alaskan Natives. Information on employment characteristics is regularly reported each month for a combined

[2] U.S., Department of Commerce, Bureau of the Census, *Census of Population: 1970 Subject Reports*, Final Report PC(2) 1B, *Negro Report* (1973); PC(2) 1F, *American Indian Report* (1973); PC(2) 1C, *Persons of Spanish Origin* (1973); PC(2)-1D, *Persons of Spanish Surname* (1973); and PC(2) 1G, *Japanese, Chinese, and Filipinos in the United States* (1973).

group of "black and other," with the "other" consisting of other races rather than other minority groups. For persons of Spanish origin or descent, the information is reported quarterly but is not separated for Mexican Americans, Puerto Ricans, or others.

Since the samples lack adequate minority representation, studies of minority conditions generally are limited to analysis based on information from the decennial census. It is very difficult to keep track of important trends when the information is collected and reported only once in a decade. Furthermore, the censuses have not included many kinds of information vital to the development of an adequate system of social indicators for minorities and women. For example, this report was limited in the indicators developed because the decennial censuses did not collect information on such matters as housing quality, literacy, and the number of "discouraged workers."

The Identification of Minorities. An essential element in establishing an adequate social indicator system for women and minorities is the existence of comparable statistical information over time. It is not enough, however, for the indicators to be consistently calculated. It also is vital for the minority groups to be appropriately defined and identified at the time of data collection and for that identification to be uniform from one time to the next.

In many questionnaires and vital records there is no identification of the minorities discussed in this report. Inadequate identification of Hispanics, for example, is common in birth and death records, and races other than whites and blacks are not identified in the Annual Housing Survey. These types of deficiencies make impossible the subsequent minority-majority comparisons essential to the measurement of equality. Even when information is collected on minority groups, it may not be useful for purposes of comparisons over time and with other studies because minority group identification was not uniform. The composition of various minority groups differs depending on whether the identification is based on birthplace, nationality, race, ethnicity, national origin or descent, language, etc. This problem is most complex and serious for the Hispanic groups, but it applies to all minority groups in varying degrees.

As the types of hindrances discussed above are removed from Federal statistical policies, progress can be made in developing an adequate system of social indicators for women and minority men. A few recent developments provide some encouragement. Starting in 1985, for example, there will be a mid-decade census that, properly designed and executed, should allow for more frequent analyses of the conditions of minorities and women.

Although current social indicator analysis for conditions of equality is limited by the particular items included in the census and large sample survey questionnaires (such as the 1976 Survey of Income and Education), the existing raw data permit some useful statistical analysis. Meaningful measurements can be constructed on the basis of existing data to measure the well-being of women and minority men, compared to majority males, in many important facets of life. Using fairly simple procedures, this report has developed a number of such "social indicators of equality."

These indicators should provide signals to the Nation that inequalities or problems exist and that intended remediation has not occurred. When an indicator signals that conditions are unsatisfactory, a chain of events should be triggered to address the problem area and bring the conditions to a more satisfactory state. Continued measurements should be used to gauge the ongoing effects of such attempts to achieve satisfactory conditions for women and minority men. These indicators could have been produced by the Federal statistical system previously to assess the progress toward social and economic equality in the Nation, but were not.

By providing finer detail than measures based on the total population, indicators such as these can facilitate policy and program planning. They can be used to identify characteristics of groups, such as the degree of overcrowding in housing and the level of teenage unemployment, that require remedial action. Although these indicators may be somewhat rudimentary, they should suggest the need to direct programs toward certain groups and provide alternative mechanisms within programs to serve different needs for different groups.

Such indicators also should be useful to program evaluators. Insight into the trends for various subject areas or groups is necessary to help identify the consequences—or lack of apparent impact—of specific programs designed to remedy certain undesirable social conditions. While the indicators alone will not decipher the causes of social trends, their clear delineation of trends should be sufficient to stimulate more intensive scrutiny of programs or to suggest

adjustments to them. Through these indicators, attention is focused on the limited effect of recent Federal efforts to enhance the conditions of women and minority men relative to majority males, indicating a need for more effective policy and program formation.

The concern of societies with "how well we are doing" has existed for centuries. Annually, the President of the United States addresses this subject in the state of the Union address. With the use of the type of social indicators contained in this report, we can state more adequately how the Nation is doing in the task of achieving its goal of equality.

Findings

The social indicators presented in this report provide clear documentation of many continuing and serious problems of inequality afflicting the groups studied. In addition to the inequalities discussed below, deficiencies in the Federal statistical system also have been identified.

Education

Delayed Education. The percentage of women and minority men in 1976 who were 2 or more years behind the average grade for their age was approximately twice the percentage for majority males. Although there was slight relative improvement during the 1960s for some of the groups,[3] most groups became relatively more delayed from 1970 to 1976,[4] indicating increased inequality.

High School Nonattendance. The percentage of persons between 15 and 17 years of age who were not enrolled in school in most instances has declined since 1960 and even since 1970 for many groups,[5] but, as of 1976, relative to majority males, the likelihood of being in school has not improved for most groups.[6] In fact, young people in some groups are at least twice as likely as majority males to be out of school at this important stage in their development.[7]

High School Completion. Despite noticeable improvement between 1960 and 1976 in high school completion by women and minority men, most groups in 1976 remain considerably less likely than majority males to have completed high school.[8]

College Completion. The percentage of persons from 25 to 29 years of age who have completed 4 years of college is far lower for most minority and female groups than for majority males.[9] Although most groups improved slightly relative to majority males during the decade of the 1960s, there were some whose rates declined relative to majority males from 1970 to 1976,[10] and, in 1976, most groups remained less than 35 percent as likely as majority males to have completed college.[11]

High School Overqualification. The percentage of high school graduates who are employed in occupations that typically require less than a high school degree was much higher for minority males, minority females, and majority females than for majority males in 1976.

College Overqualification. The percentage of college graduates who are employed in occupations that typically require less than a college degree is generally higher for minority males than for majority males. The disparity generally declined slightly during the decade of the 1960s, but increased during the first part of the 1970s. The relative advantage of some female groups became statistically nonsignificant by 1976.[12]

Earnings Differentials for College-Educated Persons. The median income was considerably lower for women and minority males with 4 or more years of college than for majority males with comparable educational attainment. The disparity has tended to diminish somewhat over time, but not for all groups,[13] and the disparity in earnings still remained very large in 1976. For instance, *none* of the college-

[3] Mexican American and Puerto Rican males and American Indian/Alaskan Native females.

[4] American Indian/Alaskan Native, black, Mexican American, and Puerto Rican males and American Indian/Alaskan Native, black, Mexican American, and Puerto Rican females.

[5] American Indian/Alaskan Native and Mexican American males and American Indian/Alaskan Native, Mexican American, and Puerto Rican females.

[6] American Indian/Alaskan Native and Mexican American males and American Indian/Alaskan Native, Mexican American, and Puerto Rican females.

[7] American Indian/Alaskan Native (2.0) and Mexican American (2.2) males and American Indian/Alaskan Native (3.0), Mexican American (2.8), and Puerto Rican (3.2) females.

[8] American Indian/Alaskan Native, black, Mexican American, and Puerto Rican males and American Indian/Alaskan Native, black, Mexican American, Pilipino American, and Puerto Rican females.

[9] American Indian/Alaskan Native, black, Mexican American, and Puerto Rican males and American Indian/Alaskan Native, black, Mexican American, Puerto Rican, and majority females.

[10] American Indian/Alaskan Native males and American Indian/Alaskan Native, black, and Puerto Rican females.

[11] American Indian/Alaskan Native, black, Mexican American, and Puerto Rican males and American Indian, Alaskan Native, black, Mexican American, and Puerto Rican females.

[12] American Indian/Alaskan Native, Puerto Rican, and majority females.

[13] The disparity has increased or remained the same, relative to majority males, for Mexican American, Japanese American, and Chinese American males.

educated female groups earned as much as 70 percent of the majority male average in 1976.

Unemployment and Occupations

Unemployment. The percentage of the labor force that is out of work and actively seeking work is generally much higher for minority people of both sexes and for majority females than for majority males. For many minority groups, the unemployment rate is from two to three and one-half times the rate of majority males.[14] During the decade of the 1960s and the first half of the 1970s, the disparity increased in most cases.[15] Unemployment for minority and female teenagers was even worse than for the total minority populations. In most cases, the rates were more than four times the majority male unemployment rate in 1976, and they ranged upward to nine times that rate.[16]

Occupational Prestige. The average occupational prestige of most minorities and women was much lower than for majority males.[17] Some slight relative improvement occurred during the early 1970s for minority males,[18] but there were slight relative declines for some of the female groups.[19]

Occupational Mobility. The average improvement in prestige scores for those who changed occupations between 1965 and 1970 was generally less for minority males and females than for majority males.

Occupational Segregation. About two-thirds to three-fourths of the women and between one-third and one-half of the minority males would have had to change occupations to have occupational distributions identical to that of majority males in 1976. During the 16 years between 1960 and 1976, the degree of occupational dissimilarity worsened for most of the groups.[20]

Income and Poverty

Income Equality. Minority and female-headed households tended to have considerably less per capita income than majority-headed households. In some cases this disparity was so great that the average per capita income for minority and female-headed households was no more than half that for majority households.[21] The relative per capita income has remained about the same from 1959 to 1975.

Equity of Earnings. Even after statistically equalizing levels of educational attainment, occupational prestige, age, hours and weeks worked, and cost of living in different localities, minority males still earned substantially less than majority males, and minority and majority women still earned only half as much as majority males.

Earnings Mobility. The average expected increase in earnings with each year of age between 20 and 44 is much less for all women and most minority men than for majority men.[22] For women, there is virtually no "financial ladder," since there is little or no improvement in earnings from ages 20 to 44 for full-time workers. The pattern has changed little during the past 16 years.

Poverty. Minority and female-headed families are much more likely to be in a state of poverty than are majority families. Most groups had more than twice the rate of poverty of majority families[23] and many minority female-headed families had more than five times the majority rate of poverty.[24]

Housing

Non-Central City Metropolitan Households. Minority-headed households in metropolitan areas are much more likely than majority households to be concentrated within the central city. There is an even greater disparity between minority female-headed households and majority-headed households. In general, the decade of the 1960s did little to increase the similarity in residential location between the majority- and minority-headed households.

[14] American Indian Alaskan Native (2.07), black (2.69), and Puerto Rican (2.76) males and American Indian Alaskan Native (2.64), black (3.20), Mexican American (2.52), and Puerto Rican (3.78) females.

[15] Black, Mexican American, Chinese American, and Puerto Rican males and American Indian Alaskan Native, black, Mexican American, Puerto Rican, and majority females.

[16] American Indian Alaskan Native (5.92), black (8.1), Mexican American (4.12), and Puerto Rican (9.36) males and American Indian Alaskan Native (6.1), black (8.69), Mexican American (4.59), Pilipino American (4.12), and Puerto Rican (6.47) females.

[17] American Indian Alaskan Native, black, Mexican American, Pilipino American, and Puerto Rican males and American Indian Alaskan Native, black Mexican American, Puerto Rican, and majority females.

[18] American Indian Alaskan Native, black, Japanese American, Chinese American, Pilipino American, and Puerto Rican males.

[19] Mexican American, Puerto Rican, and majority females.

[20] Mexican American, Japanese American, Chinese American, Pilipino American, and Puerto Rican males and American Indian/Alaskan Native, Mexican American, Japanese American, Chinese American, Pilipino American, Puerto Rican, and majority females.

[21] Mexican American- and Puerto Rican-headed households and American Indian/Alaskan Native, black, Mexican American, Pilipino American, and Puerto Rican female-headed households.

[22] American Indian/Alaskan Native, black, Mexican American, Pilipino American, and Puerto Rican men.

[23] American Indian/Alaskan Native- (2.89), black- (3.11), Mexican American- (2.67), and Puerto Rican- (3.56) headed households.

[24] American Indian/Alaskan Native (5.44), black (5.11), Mexican American (5.11), and Puerto Rican (5.44) female-headed families

Homeownership. Homes of majority households are much more likely to be owned, rather than rented, compared to homes of minority and female-headed households. Little, if any, relative improvement in this characteristic has occurred during the 16-year period studied.

Overcrowding. Minority- and female-headed households tended to be very much more likely to be overcrowded than majority households, some of the groups were more than three times as likely to have an overcrowded household[25] and this disparity tended to increase during the decade of the 1960s.

Housing Costs. Minority- and female-headed households disproportionately spent an excessive percentage of their income for rent. The disparity was especially great for female-headed households, and the general tendency was an increase in this disparity during the 1960s.

The Federal Statistical System

Orientation. The Federal social indicator program, reflected in such publications as *Social Indicators, 1973* and *Social Indicators, 1976*, is designed to report statistics but does not provide adequate social indicators of equality for women and minorities.

Procedures and Techniques. Major Federal data collection and recording procedures produce statistical bases that hamper developing adequate social indicators of equality for women and minorities that would be comparable over time.

- The most complete data compilation, the decennial Census of Population and Housing, has failed to provide adequate data important for developing some critical social indicators of equality for minorities and women (e.g., discouraged workers, quality of housing facilities).
- The sample sizes for such frequent major surveys as the Current Population Survey and the Annual Housing Survey are too small to include the minority representation necessary for comparable assessment of the conditions and characteristics of the groups discussed in this report.
- Questionnaire design has not ensured proper identification of minorities. Definitions of different groups vary from census to census and survey to survey and, thereby, limit comparability of data from different sources and times.

[25] For renter-occupied Mexican American (3.88), black and other American (3.8), and Puerto Rican- (3.24) headed households and American Indian, Eskimo, and Aleut (4.1) female-headed households. For owner-occupied Mexican American (5.07) and Puerto Rican- (3.23) headed households and American Indian, Eskimo, and Aleut (3.22) female-headed households.

Recommendations

1. The President should direct the heads of departments and agencies with programs affecting the well-being of women and minority men to review the implications of and follow up on the findings of this report.

The social indicators of equality presented in this report demonstrate that women and minority men have not achieved equal status with majority males on a series of 21 measures of equality in the areas of education, income, employment, occupations, poverty, and housing. Despite some absolute improvement in many of the areas, and despite efforts throughout the society to move toward equality over the 16-year period reviewed (1960–76), majority males have continued to enjoy broader opportunities and to reap disproportionate benefits while women and minority males have in many instances fallen even further behind.

A main function of social indicators is to depict trends in social conditions and thereby facilitate evaluation of the society's progress toward (or away from) its stated goals. The sample indicators developed by the Commission focus on issues of equality and equity. While these measures can provide a more finely detailed status report or trend line than more commonly used statistics, they serve primarily to quantify specific inequalities and to identify problem areas. Policymakers and program managers must follow up on these signals if they are to identify specific program lapses or needs, to specify causal and other factors impeding maximum impact of intended remedial efforts, to delineate differences among program beneficiaries that warrant program adjustments, and even to clarify areas where additional indicators are needed. In other words, the indicators can serve as an invaluable planning and evaluation tool, but their potential will not be realized unless program officials actively pursue solutions to the problems the indicators highlight.

For example, the detailed unemployment statistics presented here reveal persistent minority unemployment rates about twice that of majority males. Federal programs to reduce unemployment that do not address this inequality not only neglect the legitimate needs of the minority community but effectively perpetuate the problem. Similarly, the

continuing extremely high rates of teenage unemployment indicate an urgent need for more effective programs targeted specifically toward reducing minority teenage unemployment.

These indicators also reveal an extreme inequality in the incidence of poverty among female-headed families. A serious effort to deal with this problem requires intensive reappraisal of a variety of programs that affect low-income people, including programs ameliorating the immediate hardships of poverty, providing adequate child care for working parents, and overcoming the persistently depressed earnings and low-prestige occupational segregation of working women.

These examples suggest the importance of renewed commitment on the part of Federal officials to address such problems and devote commensurate resources to attacking them. Such followup action should include reappraisal of currently used program statistics in light of the Commission's detailed analysis, review of appropriate program goals and results, development of specific program plans targeted at clearly defined problem areas, and, where appropriate, revision of data collection and analysis systems to provide continuing program impact information permitting assessment of the changing status of women and minority males compared to majority males.

In view of the interdepartmental implications of the indicators presented in this report, the Commission believes a White House-level discussion to be necessary to provide the impetus for effective program agency followup. In some cases, such as the poverty example mentioned above, only an interdepartmental effort can attempt in a meaningful way to remediate the condition highlighted.

2. **The President should direct his Reorganization Project staff to reconsider the efficacy of assigning primary responsibility for coordinating Federal statistical policymaking to any agency other than OMB.**

In a May 11, 1978, memorandum addressed to heads of Executive departments and agencies, the President announced he had instructed his Reorganization Project staff to review the organization of the Federal statistical system in order to improve coordination, including the responsiveness of data to policy needs. The Commission agrees that such a review is needed.

One of the key barriers in the Federal statistical system to developing adequate social indicators of equality for minorities and women is the fragmentation and apparent lack of urgency among the agencies collectively called the "Federal statistical community." While the Department of Commerce, currently assigned responsibility for coordinating Federal statistical policy, must play a central role in executing that policy, other departments (e.g., Health, Education, and Welfare; Labor; and Housing and Urban Development) and the National Commission on Employment and Unemployment Statistics have significant interests in and contributions to make to the Federal statistical system.

In view of the interdepartmental nature of the statistical community, White House-level attention and direction is required to ensure the elimination of duplication of effort and the design of systems and measures that facilitate program planning and implementation and provide adequate assessments of equality and equity in our society. The Commission believes, therefore, that responsibility for coordinating and determining Federal statistical policy should be restored to OMB.

3. **The President should direct his Reorganization Project staff to establish a specific and detailed plan for overcoming the Federal statistical system's deficiencies as identified in this report and for developing a social indicator system that includes measures of equality and equity comparing the status of women and minority men to that of the majority male population.**

This report has identified a number of deficiencies in the Federal statistical system that hamper developing an adequate social indicator system reflecting the realities of the unequal status of women and minority men compared to majority men, and changes in that status over time. Although this report exploits available data to provide a variety of examples of more adequate indicators, future progress in this field will depend in part on whether these deficiencies are overcome.

In considering appropriate organizational changes in the Federal statistical system, the Reorganization Project staff should clearly define priorities for the revamped statistical community. Among these must be designing systems for data collection and analysis that more adequately serve the needs of domestic policymaking.

Building on the work begun in the Commerce Department's working paper, "A Framework for Planning U.S. Federal Statistics, 1978-1989," the statistical community should take a number of steps to improve the quality, quantity, reliability, and frequency of critical social measures.

In particular, the group should:

- design additional social indicators of the types devised for this report on the basis of existing data;
- promote research and development aimed toward creating additional indicators for the smaller minority groups and other subgroups of the population (e.g., the elderly);
- plan and produce a social indicator report on women and minority men compared to majority men (using this report as a preliminary model) after completion of each census;
- develop refinements in census questions that permit analysis of such vital indicators as discouraged workers and housing quality;
- step up efforts to minimize census undercounts of racial and ethnic minority groups; and
- reconsider the sample design of such major surveys as the Current Population Survey and the Annual Housing Survey to expand representation of minority groups (by, for example, enlarging the total sample or oversampling minority groups) to permit frequent analysis of their data for evaluating the Nation's progress toward equality.

APPENDIX A

Census Occupational Titles,[1] Corresponding Educational Requirements, and Prestige Scores

Census Code	Occupational Title	Educational Requirements[2]	Prestige Scores[3]
	PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS		
001	Accountants		61
002	Architects		71
	Computer specialists		
003	Computer Programmers		63
004	Computer systems analysts		66
005	Computer specialists, n.e.c.		65
	Engineers		
006	Aeronautical and astronautical engineers		69
010	Chemical engineers		70
011	Civil engineers		63
012	Electrical and electronic engineers		68
013	Industrial engineers		64
014	Mechanical engineers		67
015	Metallurgical and materials engineers		68
020	Mining engineers		65
021	Petroleum engineers		67
022	Sales engineers		63
023	Engineers, n.e.c.		66
024	Farm management advisors		61
025	Foresters and conservationists		45
026	Home management advisors		62
	Lawyers and judges		
030	Judges		78
031	Lawyers		76
	Librarians, archivists, and curators		
032	Librarians		64
033	Archivists and curators		56
	Mathematical specialists		
034	Actuaries		69
035	Mathematicians		75
036	Statisticians		64
	Life and physical scientists		
042	Agricultural scientists		59
043	Atmospheric and space scientists		65
044	Biological scientists		68
045	Chemists		68
051	Geologists		72

1. Occupational Categories and Titles from U.S. Bureau of the Census, *Public Use Samples of Basic Records from the 1970 Census: Description and Technical Documentation*, pp. 100–110; and *Public Use Samples of Basic Records from the 1960 Census; Technical Document No. 100*, pp. 47–53.

2. A value of 1 or 0 means a high school education (completion of the 12th grade) is not typically required. A value of 2 means completion of the 12th grade is typically required. Some of these occupations require some additional training, but not a college degree. Occupations without an educational designation were not used in the overqualification indicator because they typically required a college education or could not be classified. Categories constructed from information provided in U.S., Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook*, 1975–75 Edition.

3. Prestige scores taken from Lloyd V. Temme, *Occupation: Meanings and Measures*, pp. 270–334. The highest score is 88.

Census Code	Occupational Title	Ed. Req.	Prestige Scores
052	Marine scientists		71
053	Physicists and astronomers		74
054	Life and physical scientists, n.e.c.		74
055	Operations and systems researchers and analysts		60
056	Personnel and labor relations workers		58
	Physicians, dentists, and related practitioners		
061	Chiropractors		62
062	Dentists		77
063	Optometrists		67
064	Pharmacists		61
065	Physicians, medical and osteopathic		88
071	Podiatrists		65
072	Veterinarians		69
073	Health practitioners, n.e.c.		61
	Nurses, dietitians, and therapists		
074	Dietitians		47
075	Registered nurses		54
076	Therapists		56
	Health technologists and technicians		
080	Clinical laboratory technologists and technicians		52
081	Dental hygienists		55
082	Health record technologists and technicians		55
083	Radiologic technologists and technicians		47
084	Therapy assistants		37
085	Health technologists and technicians, n.e.c.		47
	Religious workers		
086	Clergymen		60
090	Religious workers, n.e.c.		54
	Social scientists		
091	Economists		68
092	Political scientists		67
093	Psychologists		73
094	Sociologists		71
095	Urban and regional planners		68
096	Social scientists, n.e.c.		69
	Social and recreation workers		
100	Social workers		61
101	Recreation workers		52
	Teachers, college and university		
102	Agriculture teachers		72
103	Atmospheric, earth, marine, and space teachers		71
104	Biology teachers		73
105	Chemistry teachers		73
110	Physics teachers		73
111	Engineering teachers		73
112	Mathematics teachers		72
113	Health specialties teachers		75
114	Psychology teachers		75
115	Business and commerce teachers		73
116	Economics teachers		73
120	History teachers		70
121	Sociology teachers		72
122	Social science teachers, n.e.c.		74
123	Art, drama, and music teachers		68
124	Coaches and physical education teachers		69
125	Education teachers		75
126	English teachers		70
130	Foreign language teachers		69

Census Code	Occupational Title	Ed. Req.	Prestige Scores
131	Home economics teachers		73
132	Law teachers		77
133	Theology teachers		69
134	Trade, industrial, and technical teachers		58
135	Miscellaneous teachers, college and university		72
140	Teachers, college and university, subject not specified		67
	Teachers, except college and university		
141	Adult education teachers		58
142	Elementary school teachers		64
143	Prekindergarten and kindergarten teachers		51
144	Secondary school teachers		63
145	Teachers, except college and university, n.e.c.		49
	Engineering and science technicians		
150	Agriculture and biological technicians, except health	2	42
151	Chemical technicians	2	46
152	Draftsmen	2	50
153	Electrical and electronic engineering technicians	2	48
154	Industrial engineering technicians	2	46
155	Mechanical engineering technicians	2	48
156	Mathematical technicians	2	57
161	Surveyors	2	49
162	Engineering and science technicians, n.e.c.	2	46
	Technicians, except health and engineering and science		
163	Airplane pilots	2	63
164	Air traffic controllers		52
165	Embalmers	2	50
170	Flight engineers	2	51
171	Radio operators	2	39
172	Tool programmers, numerical control	2	56
173	Technicians, n.e.c.	2	45
174	Vocational and educational counselors		65
	Writers, artists, and entertainers		
175	Actors	2	52
180	Athletes and kindred workers	2	39
181	Authors		68
182	Dancers	2	40
183	Designers	2	56
184	Editors and reporters		65
185	Musicians and composers		45
190	Painters and sculptors		53
191	Photographers	2	43
192	Public relations men and publicity writers		62
193	Radio and television announcers	2	49
194	Writers, artists, and entertainers, n.e.c.	2	54
195	Research workers, not specified		63
196	Professional, technical, and kindred workers—allocated	2	60
	MANAGERS AND ADMINISTRATORS, EXCEPT FARM		
201	Assessors, controllers, and treasurers: local public administration		52
202	Bank officers and financial managers		60
203	Buyers and shippers, farm products	2	49
205	Buyers, wholesale and retail trade	2	51
210	Credit men		56
211	Funeral directors	2	54
212	Health administrators		61
213	Construction inspectors, public administration	2	50

Census Code	Occupational Title	Ed. Req.	Prestige Scores
215	Inspectors, except construction, public administration	2	48
216	Managers and superintendents, building		42
220	Office managers, n.e.c.	2	57
221	Officers, pilots, and pursers; ship	2	43
222	Officials and administrators; public administration, n.e.c.		54
223	Officials of lodges, societies, and unions	2	56
224	Postmasters and mail superintendents	2	49
225	Purchasing agents and buyers, n.e.c.		50
226	Railroad conductors	2	46
230	Restaurant, cafeteria, and bar managers	2	44
231	Sales managers and department heads, retail trade	2	48
233	Sales managers, except retail trade	2	61
235	School administrators, college		69
240	School administrators, elementary and secondary		71
245	Managers and administrators, n.e.c.	2	53
246	Managers and administrators, except farm—allocated	2	53
	SALES WORKERS		
260	Advertising agents and salesmen		54
261	Auctioneers	0	38
262	Demonstrators	0	28
264	Hucksters and peddlers	0	25
265	Insurance agents, brokers, and underwriters	2	50
266	Newsboys	0	05
270	Real estate agents and brokers	2	48
271	Stock and bond salesmen	2	66
280	Salesmen and sales clerks, n.e.c.	2	38
281	Sales representatives, manufacturing industries	2	47
282	Sales representatives, wholesale trade	2	43
283	Sales clerks, retail trade	2	31
284	Salesmen, retail trade	2	40
285	Salesmen of services and construction	2	41
296	Sales workers—allocated	2	39
	CLERICAL AND KINDRED WORKERS		
301	Bank tellers	2	44
303	Billing clerks	1	38
305	Bookkeepers	2	46
310	Cashiers	2	27
311	Clerical assistants, social welfare	2	35
312	Clerical supervisors, n.e.c.	2	52
313	Collectors, bill and account	2	35
314	Counter clerks, except food	0	33
315	Dispatchers and starters, vehicle	1	38
320	Enumerators and interviewers	2	30
321	Estimators and investigators, n.e.c.	2	48
323	Expediters and production controllers	2	44
325	File clerks	2	35
326	Insurance adjusters, examiners, and investigators	2	56
330	Library attendants and assistants	2	33
331	Mail carriers, post office	0	35
332	Mail handlers, except post office	0	31
333	Messengers and office boys	0	17
334	Meter readers, utilities	0	34
	Office machine operators		
341	Bookkeeping and billing machine operators	2	41
342	Calculating machine operators	2	38

Census Code	Occupational Title	Ed. Req.	Prestige Scores
343	Computer and peripheral equipment operators	2	44
344	Duplicating machine operators	2	30
345	Key punch operators	2	40
350	Tabulating machine operators	2	36
355	Office machine operators, n.e.c.	2	34
360	Payroll and timkeeping clerks	2	45
361	Postal clerks	1	41
362	Proofreaders	2	41
363	Real estate appraisers	2	60
364	Receptionists	2	36
	Secretaries		
370	Secretaries, legal	2	48
371	Secretaries, medical	2	48
372	Secretaries, n.e.c.	2	48
374	Shipping and receiving clerks	2	32
375	Statistical clerks	2	42
376	Stenographers	2	43
381	Stock clerks and storekeepers	2	34
382	Teacher aides, exc. school monitors	2	29
383	Telegraph messengers	2	0
384	Telegraph operators	2	41
385	Telephone operators	1	36
390	Ticket, station, and express agents	2	44
391	Typists	2	38
392	Weighers	1	26
394	Miscellaneous clerical workers	1	40
395	Not specified clerical workers	1	40
396	Clerical and kindred workers—allocated	1	40
	CRAFTSMEN AND KINDRED WORKERS		
401	Automobile accessories installers	1	35
402	Bakers	2	34
403	Blacksmiths	1	36
404	Boilermakers	1	40
405	Bookbinders	2	36
410	Brickmasons and stonemasons	1	36
411	Brickmasons and stonemasons, apprentices	1	36
412	Bulldozer operators	0	30
413	Cabinetmakers	1	34
415	Carpenters	1	39
416	Carpenter apprentices	1	37
420	Carpet installers	1	34
421	Cement and concrete finishers	0	31
422	Compositors and typesetters	2	44
423	Printing trades apprentices, exc. pressmen	2	36
424	Cranemen, derrickmen, and hoistmen	1	32
425	Decorators and window dressers	2	44
426	Dental laboratory technicians	1	45
430	Electricians	2	44
431	Electrician apprentices	2	40
433	Electric power linemen and cablemen	0	44
434	Electrotypers and stereotypers	2	43
435	Engravers, exc. photoengravers	2	36
436	Excavating, grading, and road machine operators; exc. bulldozer	0	31
440	Floor layers, exc. tile setters	1	34
441	Foremen, n.e.c.		43

Census Code	Occupational Title	Ed. Req.	Prestige Scores
442	Forgemen and hammermen	1	35
443	Furniture and wood finishers	0	33
444	Furriers	2	39
445	Glaziers	2	37
446	Heat treaters, annealers, and temperers	1	33
450	Inspectors, scalers, and graders; log and lumber	2	29
452	Inspectors, n.e.c.	2	41
453	Jewelers and watchmakers	1	41
454	Job and die setters, metal	1	39
455	Locomotive engineers	2	48
456	Locomotive firemen	2	46
461	Machinists	1	42
462	Machinist apprentices	1	38
	Mechanics and repairmen		
470	Air conditioning, heating, and refrigeration	2	41
471	Aircraft	1	43
472	Automobile body repairmen	1	33
473	Automobile mechanics	1	37
474	Automobile mechanic apprentices	1	31
475	Data processing machine repairmen	1	48
480	Farm implement	1	37
481	Heavy equipment mechanics, incl. diesel	1	39
482	Household appliance and accessory installers and mechanics	1	38
483	Loom fixers	1	33
484	Office machine	1	43
485	Radio and television	1	41
486	Railroad and car shop	1	38
491	Mechanic, exc. auto, apprentices	1	38
492	Miscellaneous mechanics and repairmen	1	38
495	Not specified mechanics and repairmen	1	39
501	Millers; grain, flour, and feed	1	27
502	Millwrights	2	43
503	Molders, metal	0	34
504	Molder apprentices	0	33
505	Motion picture projectionists	2	38
506	Opticians, and lens grinders and polishers	2	37
510	Painters, construction and maintenance	1	31
511	Painter apprentices	1	33
512	Paperhangers	1	34
514	Pattern and model makers, exc. paper	2	44
515	Photoengravers and lithographers	2	45
516	Piano and organ tuners and repairmen	1	38
520	Plasterers	0	36
521	Plasterer apprentices	0	34
522	Plumbers and pipe fitters	2	43
523	Plumber and pipe fitter apprentices	2	41
525	Power station operators	0	47
530	Pressmen and plate printers, printing	2	43
531	Pressman apprentices	2	37
533	Rollers and finishers, metal	0	30
534	Roofers and slaters	1	30
535	Sheetmetal workers and tinsmiths	0	42
536	Sheetmetal apprentices	0	40
540	Shipfitters	0	43
542	Shoe repairmen	0	26
543	Sign painters and letterers	1	39
545	Stationary engineers	2	42

Census Code	Occupational Title	Ed. Req.	Prestige Scores
546	Stone cutters and stone carvers	1	28
550	Structural metal craftsmen	1	40
551	Tailors	0	32
552	Telephone installers and repairmen	0	41
554	Telephone linemen and splicers	0	41
560	Tile setters	1	35
561	Tool and die makers	2	44
562	Tool and die maker apprentices	2	41
563	Upholsterers	1	28
571	Specified craft apprentices, n.e.c.	1	*
572	Not specified apprentices	1	*
575	Craftsmen and kindred workers, n.e.c.	2	34
580	Former members of the Armed Forces	2	*
586	Craftsmen and kindred workers—allocated	1	38
	OPERATIVES, EXCEPT TRANSPORT		
601	Asbestos and insulation workers	0	37
602	Assemblers	1	30
603	Blasters and powdermen	1	35
604	Bottling and canning operatives	0	21
605	Chainmen, rodmen, and axmen; surveying	1	29
610	Checkers, examiners, and inspectors, manufacturing	0	34
611	Clothing ironers and pressers	0	24
612	Cutting operatives, n.e.c.	0	27
613	Dressmakers and seamstresses, except factory	0	29
614	Drillers, earth	0	32
615	Dry wall installers and lathers	0	38
620	Dyers	0	24
621	Filers, polishers, sanders, and buffers	1	24
622	Furnacemen, smeltermen, and pourers	0	28
623	Garage workers and gas station attendants	1	18
624	Graders and sorters, manufacturing	1	21
625	Produce graders and packers, except factory and farm	1	14
626	Heaters, metal	0	37
630	Laundry and dry cleaning operatives, n.e.c.	0	19
631	Meat cutters and butchers, exc. manufacturing	1	36
633	Meat cutters and butchers, manufacturing	1	28
634	Meat wrappers, retail trade	1	27
635	Metal platers	1	34
636	Milliners	1	30
640	Mine operatives, n.e.c.	0	27
641	Mixing operatives	0	27
642	Oilers and greasers, exc. auto	0	25
643	Packers and wrappers, except meat and produce	1	23
644	Painters, manufactured articles	0	30
645	Photographic process workers	1	36
	Precision machine operatives		
650	Drill press operatives	1	32
651	Grinding machine operatives	1	32
652	Lathe and milling machine operatives	1	32
653	Precision machine operatives, n.e.c.	1	36
656	Punch and stamping press operatives	1	32
660	Riveters and fasteners	1	26
661	Sailors and deckhands	2	29
662	Sawyers	0	22

* Prestige score was not available.

Census Code	Occupational Title	Ed. Req.	Prestige Scores
663	Sewers and stitchers	0	29
664	Shoemaking machine operatives	0	20
665	Solderers	0	31
666	Stationary firemen	0	34
	Textile operatives		
670	Carding, lapping, and combing operatives	0	20
671	Knitters, loopers, and toppers	0	26
672	Spinners, twisters, and winders	0	22
673	Weavers	0	29
674	Textile operatives, n.e.c.	0	23
680	Welders and flame-cutters	1	33
681	Winding operatives, n.e.c.	1	32
690	Machine operatives, miscellaneous specified	1	29
692	Machine operatives, not specified	1	*
694	Miscellaneous operatives	1	28
695	Not specified operatives	1	28
696	Operatives, except transport—allocated	1	28
	TRANSPORT EQUIPMENT OPERATIVES		
701	Boatmen and canalmen	0	31
703	Busdrivers	1	30
704	Conductors and motormen, urban rail transit	0	36
705	Deliverymen and routemen	2	31
706	Fork lift and tow motor operatives	0	23
710	Motormen; mine, factory, logging camp, etc.	1	26
711	Parking attendants	1	14
712	Railroad brakemen	1	36
713	Railroad switchmen	1	32
714	Taxicab drivers and chauffeurs	0	24
715	Truck drivers	0	29
726	Transport equipment operatives—allocated	1	30
	LABORERS, EXCEPT FARM		
740	Animal caretakers, exc. farm	0	23
750	Carpenters' helpers	0	09
751	Construction laborers, exc. carpenters' helpers	0	21
752	Fishermen and oystermen	0	18
753	Freight and material handlers	1	23
754	Garbage collectors	0	12
755	Gardeners and groundskeepers, exc. farm	0	16
760	Longshoremen and stevedores	1	25
761	Lumbermen, raftsmen, and woodchoppers	0	15
762	Stockhandlers	0	15
763	Teamsters	0	22
764	Vehicle washers and equipment cleaners	0	13
770	Warehousemen, n.e.c.	1	25
780	Miscellaneous laborers	0	19
785	Not specified laborers	0	18
796	Laborers, except farm—allocated	0	18
	FARMERS AND FARM MANAGERS		
801	Farmers (owners and tenants)	0	31
802	Farm managers	0	39
806	Farmers and farm managers—allocated	0	35

* Prestige score was not available.

Census Code	Occupational Title	Ed. Req.	Prestige Scores
	FARM LABORERS AND FARM FOREMEN		
821	Farm foremen	0	33
822	Farm laborers, wage workers	0	10
823	Farm laborers, unpaid family workers	0	10
824	Farm service laborers, self-employed	0	30
846	Farm laborers and farm foremen—allocated	0	10
	SERVICE WORKERS, ETC. PRIVATE HOUSEHOLD		
	Cleaning service workers		
901	Chambermaids and maids, except private household	0	17
902	Cleaners and charwomen	0	18
903	Janitors and sextons	0	23
	Food service workers		
910	Bartenders	0	31
911	Busboys	0	*
912	Cooks, except private household	0	30
913	Dishwashers	0	*
914	Food counter and fountain workers	0	15
915	Waiters	0	24
916	Food service workers, n.e.c., except private household	0	14
	Health service workers		
921	Dental assistants	2	44
922	Health aides, exc. nursing	1	39
923	Health trainees	2	27
924	Lay midwives	1	33
925	Nursing aides, orderlies, and attendants	1	34
926	Practical nurses	1	43
	Personal service workers		
931	Airline stewardesses	2	45
932	Attendants, recreation and amusement	0	17
933	Attendants, personal service, n.e.c.	0	26
934	Baggage porters and bellhops	0	21
935	Barbers	0	28
940	Boarding and lodginghouse keepers	0	33
941	Bootblacks	0	02
942	Child care workers, exc. private household	0	23
943	Elevator operators	0	18
944	Hairdressers and cosmetologists	1	39
945	Personal service apprentices	0	21
950	Housekeepers, exc. private household	0	37
952	School monitors	1	19
953	Ushers, recreation and amusement	0	04
954	Welfare service aides	1	43
	Protective service workers		
960	Crossing guards and bridge tenders	1	15
961	Firemen, fire protection	2	41
962	Guards and watchmen	1	26
963	Marshals and constables	2	34
964	Policemen and detectives	2	37
965	Sheriffs and bailiffs	2	35
976	Service workers, exc. private household—allocated	0	26

* Prestige score was not available.

Census Code	Occupational Title	Ed. Req.	Prestige Scores
	PRIVATE HOUSEHOLD WORKERS		
980	Child care workers, private household	0	30
981	Cooks, private household	0	17
982	Housekeepers, private household	0	16
983	Laundresses, private household	0	02
984	Maids and servants, private household	0	11
986	Private household workers—allocated	0	20
	WORKERS NOT CLASSIFIABLE BY OCCUPATION		
991	Unemployed persons, last worked 1959 or earlier		*
995	Occupation not reported		*

Changed Occupational Titles

The occupational titles are exactly the same for 1970 and 1976. Educational requirements and prestige scores for those occupational titles that were not the same in 1960 as in the 1970 or 1976 list given above are:

Occupational Title	Ed. Req.	Prestige Score
Airplane pilots and navigators	2	63
Professors and instructors, geology and geophysics		71
Professors and instructors, statistics		72
Professors and instructors, natural sciences (n.e.c.)		72
Professors and instructors, nonscientific subjects		67
Farm and home management advisers		61
Funeral directors and embalmers	2	50
Lawyers and judges		76
Librarians		64
Musicians and music teachers		45
Nurses, student professional		54
Osteopaths		88
Statisticians and actuaries		64
Sports instructors and officials		39
Technicians, medical and dental		47
Technicians, electrical and electronic	2	48
Technicians, other engineering and physical sciences	2	46
Agents (n.e.c.)	2	38
Express messengers and railway mail clerks	2	*
Office machine operators	2	40
Secretaries	2	48
Salesmen and sales clerks (n.e.c.)	2	38
Brickmasons, stonemasons, and tile setters	1	36
Conductors, bus and street railway	1	36
Fruit, nut, and vegetable graders and packers	1	14
Meat cutters, except slaughter and packing house	1	36
Motormen, street, subway, and elevated railway	1	36
Truck and tractor drivers	1	29
Operatives and kindred workers (n.e.c.)	1	38
Housekeepers, private household	1	16
Truck drivers' helpers	1	22

* Prestige score was not available.

Appendix B

Regression Technique for Income Equity Indicator

The statistical technique of multiple regression was utilized in the development of the income equity indicator. One application of the technique is to produce an equation that will allow the researcher to predict a variable (e.g., the amount of earnings per year) from other characteristics (e.g., educational attainment, occupational prestige, work history, etc.) associated with the predicted variable in an entire population.

It is evident that certain elements in our lives influence other elements. Educational attainment, for example, has often been singled out as an important element in life, as reflected in the familiar phrase, "To get ahead you have to have a good education." If characteristics that might influence the amount of money an individual earns can be identified and measured, the technique of multiple regression can be used to assess the degree of influence each characteristic has. It could be determined, for example, that each year of educational attainment, on the average, increases earnings by a certain number of dollars after other factors are taken into account.

For the purposes of developing the best prediction of the earnings of people, the relationship between each independent variable and earnings is included in an equation for an entire population (e.g., American Indian/Alaskan Native males). A value of expected earnings can be produced based on any particular set of characteristics (values of independent variables) individuals may possess.

The equation that allows the prediction of income has the following form:

$$y' = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6$$

For the purposes of this report, the following variables were considered to have important influence on the amount of earnings: the age of the worker— x_1; educational attainment— x_2; prestige score for the worker's occupation— x_3; mean income of the worker's State (a weight for regional cost of living)— x_4; number of weeks worked during the preceding year— x_5; and number of hours worked in the week preceding the census date of April 1 — x_6.[1] Each b value, or coefficient, represents the average amount of additional income received for each additional unit of x; a is a constant; and y' is the predicted income.

In order to predict, for example, the income of a particular American Indian or Alaskan Native male in 1970, the following steps would be taken:

1. Use American Indian/Alaskan Native males' equation derived from census data to predict income, i.e.,

$$y' = -7363.03 + 39.97x_1 + 364.62x_2 + 68.68x_3 + .89x_4 + 796.98x_5 + 334.07x_6$$

The b value for educational attainment (x2) indicates that for each additional unit of educational attain-

[1] The following operational definitions of independent variables were used in the regression equations:
Age of a person — 1-year intervals of age.
Educational attainment — coded on the basis of a seven-point scale of the number of school years completed: (1) none 4th grade; (2) 5–7th; (3) 8th; (4) 9–11th; (5) 12th; (6) 1 year of college–3 years of college; (7) 4 or more years of college.
Prestige score — a number assigned to each occupational title representing the relative prestige of the occupation. The prestige scores range from a low of 1 to a high of 88 for a physician. (Prestige scores were added to each record on the Public Use Sample Tapes, based on the values developed by Lloyd Temme. See appendix A for a complete listing of coded occupations.
Lloyd V. Temme, *Occupation: Meanings and Measures*, Washington, Bureau of Social Science Research, 1975.)
A cost of living weight — the mean income value of the person's State.
The census has coded the number of weeks worked into six categories. They are: (0) 1–13 weeks; (1) 14–26; (2) 27–39; (3) 40–47; (4) 48–49; (5) 50–52. In 1976 the actual number of weeks worked is available and was used in place of the categories.
Hours worked — the number of hours worked in the week preceding the census date of April 1. A seven-point scale conforming with that of the census classification scheme was utilized: (0) 1–14 hrs.; (1) 15–29; (2) 30–34; (3) 35–39; (4) 40; (5) 41–48; (6) 49–50; (7) 60 or more hrs. In 1976 the actual numbers were used.

ment, $364.62 will be added to the estimated earnings.

2. Substitute in the particular American Indian or Alaskan Native male's levels of x's (his educational achievement, occupational prestige score, etc.). For purposes of this example it will be assumed that his level for each of the independent variables is the same as the average for all American Indian Alaskan Native males. This being the case, this particular American Indian or Alaskan Native male would be expected to have the same income as the average income of the entire population. This is demonstrated when the American Indian Alaskan Native male average value is substituted in each of the independent variables:

$$y' = 7363.03 + (39.97)(36.47) + (364.62)(4.07) + (68.68)(33.01) + (.89)(3750.10) + (796.98)(3.92) + (334.07)(3.95)$$

This person's occupational prestige score was 33.0, which is also the average occupational prestige score of the American Indian/Alaskan Native male population.

3. Solve for y'. The income value obtained for this person is $5,[illegible]3. As this was indeed the mean income of all American Indian Alaskan Native males in 1970, the equation has successfully predicted a particular American Indian or Alaskan Native male's income from his other characteristics.

The mean earnings of American Indian/Alaskan Native males in 1970 were $5,623; however, the mean earnings for majority males were $9,150. This is a difference of $3,527. How much of the $3,527 gap between American Indian Alaskan Native males and majority males can be attributed to imbalances between the two populations in educational attainment, occupational prestige, or the amount of work that has been available to members of each group? If the average American Indian/Alaskan Native male had the same educational attainment, occupational prestige, full-time work experience, etc., as the average majority male, what would the level of his income be? Substituting the majority males' mean values for each variable into the equation for American Indian/Alaskan Native males statistically (hypothetically) makes the levels of the variables of American Indian/Alaskan Native males equivalent to the levels of majority males. What has not been changed is the American Indian/Alaskan Native male's unique ability (as expressed in the coefficient values) to convert each additional unit of a variable into added income. As Duncan states:

> It follows, therefore, that the hypothetical calculations are to be taken to represent what would happen only if the [American Indian/Alaskan Native males] were allowed to play the same game as Whites in addition to receiving a "handicap score" bonus to compensate for the effects of impediments to achievement in past generations.[2]

Substituting the majority males' mean values of each variable provides the following equation:

$$\text{adjusted } y' = -7363.03 + (39.97)(39.70) + (364.62)(4.86) + (68.68)(40.51) + (.89)(3854.47) + (796.98)(4.38) + (334.07)(4.21)$$

The adjusted mean income for the American Indian/Alaskan Native male population would be $7,097. Therefore, by increasing the education, occupational prestige, etc., of Native American males to that of majority males, an increase of $1,747 in average yearly earnings would be gained. However, the majority males themselves had incomes averaging $9,150 in 1970. The difference ($9,150 – $7,097 = $2,053) in earnings between the two groups could be attributed to disadvantages based on racial or ethnic background or to other variables—but not to the variables in the equation, for the regression operation has eliminated the disparity attributable to these factors. This regression procedure was used for the social indicator of earnings equity precisely because it makes possible such inferences about the origins of differences in earnings between minorities and the majority.

See table B-1 for the actual statistics developed for the earnings equity indicator.

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[2] Otis Dudley Duncan, "Inheritance of Poverty or Inheritance of Race," in *On Understanding Poverty*, Daniel P. Moynihan, ed. (New York: Basic Books, 1968), pp. 85–109.

TABLE B-1

Regression Statistics From The Earnings Equity Indicator

Group	Constant	Age [1]		School		Prestige		State Income		Weeks Worked [2]		Hours Per Week [3]		Average Earnings (Unadjusted)
Male		B	$\bar{X}$	B	$\bar{X}$	B	$\bar{X}$	B	$\bar{X}$	B	$\bar{X}$	B	$\bar{X}$	
Am. Ind./Alask. Nat. 1959	-3179.25	11.084	36.981	256.84	3.3392	34.062	27.859	0.4720	3706.2	480.04	3.6400	84.903	4.0512	$ 2878
Am. Ind./Alask. Nat. 1969	-7363.03	39.971	36.474	364.62	4.0685	68.684	33.009	0.8875	3750.1	796.98	3.9256	334.07	3.9538	5623
Am. Ind./Alask. Nat. 1975	-14892.7	98.411	34.305	345.66	4.3618	83.545	34.511	1.5053	3599.4	192.24	40.273	53.53	42.369	8302
Black 1959	-3432.35	15.220	39.321	191.17	3.1545	37.156	26.792	0.6532	3634.9	370.48	3.8649	59.950	3.9495	2808
Black 1969	-6670.03	37.686	39.361	411.41	3.8630	72.415	30.50	0.8173	3765.6	663.60	4.1586	254.08	3.8800	5434
Black 1975	-14080.4	54.992	37.004	613.20	4.3669	100.45	31.267	0.9384	3740.5	151.63	41.276	99.26	39.570	7470
Mexican Am. 1959	-6637.02	29.468	36.446	266.38	2.8578	57.840	27.546	1.0762	4033.6	470.19	3.9194	102.95	4.2415	3412
Mexican Am. 1969	-10322.9	57.079	36.502	369.08	3.5056	85.437	31.064	1.3856	4078.5	738.10	4.1831	343.74	4.0865	5852
Mexican Am. 1975	-13587.4	78.663	33.720	555.26	4.0073	82.596	31.362	0.7867	4111.9	155.00	42.345	92.607	40.791	7456
Japanese Am. 1959	-7929.11	30.312	37.671	240.45	4.7294	58.820	37.801	0.8696	4422.7	666.48	4.4239	385.24	4.4481	5142
Japanese Am. 1969	-13228.0	107.49	41.631	525.14	5.2800	138.70	41.386	0.6428	4396.6	890.06	4.4487	659.56	4.1270	9159
Japanese Am. 1975	-29835.2	101.88	41.618	501.12	5.5255	188.33	41.009	2.9370	4395.4	186.89	46.835	148.77	40.711	12615
Chinese Am. 1959	-6901.58	40.543	41.871	429.16	4.0567	71.933	40.531	0.2381	4451.0	632.52	4.3433	334.02	4.5276	4771
Chinese Am. 1969	-13040.9	95.590	38.960	648.78	5.1140	123.73	43.635	0.6031	4441.4	904.01	4.1543	528.95	4.0969	8001
Chinese Am. 1975	-18321.5	96.368	38.336	965.37	5.5837	172.59	45.316	-0.155	4329.3	194.94	45.732	81.681	42.991	10339
Pilipino Am. 1959	-2986.46	9.5712	47.446	74.037	2.9868	33.792	27.996	0.5693	4437.2	582.48	4.1638	3.9672	4.2260	3603
Pilipino Am. 1969	-6834.72	46.959	42.265	160.49	4.3898	119.10	35.875	0.1978	4422.8	913.42	4.1273	510.91	4.0713	6852
Pilipino Am. 1975	-7662.44	17.434	38.629	-127.2	5.4353	215.08	39.323	-1.126	4442.6	207.01	47.110	141.51	41.260	11366
Puerto Rican 1959	431.484	32.241	33.539	169.44	3.1034	47.783	29.359	-0.533	4609.2	460.13	3.9906	93.770	4.0427	3200
Puerto Rican 1969	-3016.26	59.391	34.615	409.43	3.5248	77.889	31.703	-0.308	4570.4	701.33	4.2586	333.45	3.9179	5839
Puerto Rican 1975	-8797.28	111.47	35.252	722.88	4.1479	132.56	32.450	-0.711	4548.4	149.30	42.805	65.781	40.764	8269
Majority 1959	-7821.86	38.540	41.187	470.50	4.3352	82.382	38.142	0.7324	3833.4	639.44	4.2742	199.43	4.4201	5369
Majority 1969	-14198.9	99.762	39.696	736.19	4.8560	144.82	40.509	0.9909	3854.5	977.49	4.3831	437.84	4.2096	9150
Majority 1975	-20559.3	93.838	38.201	796.00	5.1681	164.04	40.112	1.1245	3812.6	201.72	44.627	104.99	42.083	11427

[1] See footnote 1, appendix B, for definition of variable coding.

[2] In 1976, the actual number was used.

[3] In 1976, the actual number was used.

TABLE B-1 Continued

Group	Constant	Age [1]		School		Prestige		State Income		Weeks Worked [2]		Hours Per Week [3]		Average Earnings (Unadjusted)
Female		B	$\bar{X}$	B	$\bar{X}$	B	$\bar{X}$	B	$\bar{X}$	B	$\bar{X}$	B	$\bar{X}$	
Am. Ind./Alask. Nat. 1959	-3407.84	14.774	37.130	279.84	4.0093	51.445	32.643	0.2209	3642.3	338.97	3.1435	34.381	3.2593	$1924
Am. Ind./Alask. Nat. 1969	4147.03	17.959	35.898	210.44	4.4267	58.256	34.789	0.3307	3756.6	544.37	3.3715	55.22	3.3082	3378
Am. Ind./Alask. Nat. 1975	8614.89	30.666	31.949	340.46	4.6950	67.545	34.641	0.3543	3591.9	98.230	34.960	80.216	36.759	3958
Black 1959	-3002.70	6.3536	39.630	122.61	3.6030	41.753	27.177	0.4534	3711.2	239.31	3.3810	81.052	3.0668	1566
Black 1969	5480.78	25.969	38.727	312.14	4.2794	65.886	31.488	0.6235	3786.8	411.31	3.6677	182.00	3.1778	3383
Black 1975	11013.3	28.430	36.446	486.92	4.6790	85.573	33.055	0.7128	3763.4	110.07	39.252	78.921	35.295	4918
Mexican Am. 1959	3649.82	16.791	33.763	156.45	3.4296	29.398	30.618	0.5206	4052.0	315.63	3.2681	87.165	3.3872	1790
Mexican Am. 1969	5158.41	26.530	33.874	169.41	3.8223	48.300	32.143	0.6646	4077.8	488.08	3.4074	219.33	3.2673	3030
Mexican Am. 1975	7020.53	22.035	30.887	195.08	4.0708	49.565	30.903	0.4597	4126.8	94.220	34.918	65.353	36.022	3527
Japanese Am. 1959	3971.95	11.748	36.522	165.50	4.6234	40.628	36.232	0.3766	4362.2	406.86	3.7003	214.80	3.2933	2550
Japanese Am. 1969	7514.00	41.587	39.031	355.87	5.1260	79.946	38.300	0.3775	4358.1	566.53	3.9178	537.06	3.2731	4618
Japanese Am. 1975	15887.9	41.417	38.464	241.94	5.3679	99.291	37.532	1.5566	4369.7	90.316	42.379	137.30	32.946	5881
Chinese Am. 1959	2140.77	18.090	35.640	105.71	4.3400	42.135	38.197	0.0193	4517.0	404.22	3.5813	156.40	3.4039	2639
Chinese Am. 1969	6378.98	42.749	36.098	335.20	4.7793	81.237	40.042	0.1797	4496.0	636.05	3.6071	387.34	3.2125	4366
Chinese Am. 1975	-12190.0	64.646	35.014	-295.3	5.3422	195.26	40.122	0.5037	4360.9	147.93	38.970	67.776	36.409	6759
Pilipino Am. 1959	-1301.53	26.284	32.481	155.64	4.6731	9.0006	36.788	-.0308	4353.4	351.48	3.6250	153.64	3.3654	2268
Pilipino Am. 1969	-8231.71	51.566	34.008	102.55	5.4892	99.640	41.836	0.6857	4388.8	694.92	3.4246	227.40	3.5453	4499
Pilipino Am. 1975	11761.5	35.336	33.189	455.14	5.7868	116.23	41.671	0.3597	4404.0	158.10	43.067	39.962	37.584	6784
Puerto Rican 1959	-694.754	10.198	33.204	102.40	3.2428	20.811	31.089	-.0037	4678.3	390.51	3.5052	76.964	3.5013	2244
Puerto Rican 1969	-5487.76	32.245	33.824	221.24	3.9520	57.211	35.208	0.5143	4580.8	626.43	3.7286	272.58	3.2574	4071
Puerto Rican 1975	-15549.1	12.859	31.615	193.41	4.1478	61.216	33.368	1.4266	4545.2	123.36	35.540	169.36	36.273	4714
Majority 1959	-4283.75	24.462	40.127	323.72	4.6859	30.545	39.650	0.2865	3875.1	471.63	3.5538	143.22	3.3090	2686
Majority 1969	-6480.61	27.111	39.119	281.75	4.9446	70.156	40.202	0.5040	3849.6	561.94	3.6437	414.98	3.1099	4072
Majority 1975	-11461.6	27.288	36.656	466.40	5.1738	76.005	39.583	0.5978	3824.5	115.77	39.221	97.019	34.380	5122

[1] See footnote 1, Appendix B, for definition of variable coding.

[2] In 1976, the actual number was used.

[3] In 1976, the actual number was used.

Appendix C

Data File Composition And Sampling Information

The social indicator values for this report are based on special files created from the Public Use Samples tapes from the 1960 and 1970 censuses[1] and the Public Use Sample tapes from the 1976 Survey of Income and Education.[2] These data sources were selected on the basis of the relevance of the information on the tapes for purposes of creating measures of equality and the necessity of having a sufficient sample size of minority persons. The specific census tapes selected were the 15 percent and 5 percent State tapes for 1970 and the 20 percent State tapes for 1960.

Subsample populations were chosen with the intent of obtaining groups as comparable as possible, using the same group definitions for 1960, 1970, and 1976. In defining the various minority groups, an attempt was made to avoid any overlap among the various groups or inclusion of population segments for whom the data would be unreliable because of the small number of cases obtained from the census tapes. In particular, the guidelines for selection were as follows: The categories of black, American Indian/Alaskan Native,[3] and Japanese, Chinese, and Pilipino Americans were composed of those individuals who identified themselves or were identified by another member of their household as such on the "race" item of the questionnaires. The only exception to this approach was that an individual reported as black on the racial item but identified as Puerto Rican or Mexican American on the origin item was categorized according to the origin item.

The Puerto Rican category was composed of individuals who identified themselves or were identified by another member of their household as being of Puerto Rican descent on the 5 percent sample in 1970 and on the 1976 SIE sample. For the other samples (20 percent in 1960 and 15 percent in 1970), the criterion was that either the person or at least one parent was born in Puerto Rico.

The Mexican American category included persons classified by the Census Bureau as having a "Spanish Surname," the only consistent identifier for this group in the 1960 and 1970 censuses and available only for the five Southwestern States of Arizona, California, Colorado, New Mexico, and Texas. Spanish-surnamed persons separately designated as "of Puerto Rican birth or parentage" were not included as Mexican Americans, nor were individuals born in, or with parentage from, nations other than Mexico and the United States. Consequently, only those persons residing in the five Southwestern States could be included. Persons in the 5 percent sample and the SIE sample identified themselves as being of Mexican origin or descent, and only those from the five Southwestern States were included to provide a comparable representation of Mexican Americans. For the future, the self-identification categories of "Mexican" or "Mexican American" as part of the Spanish origin question promise to yield a more inclusive and meaningful method of group designation for social indicator research.

[1] U.S., Department of Commerce, Bureau of the Census, *Public Use Samples of Basic Records from the 1970 Census: Description and Technical Documentation*, April 1972, and same, for 1960, in *Technical Document 100*.
[2] U.S., Department of Commerce, Bureau of the Census, *Data Access Descriptions, Microdata From the Survey of Income and Education*, no. 42 (January 1978). The 1976 Survey of Income and Education is based on 151,170 households, making it one of the largest nondecennial surveys ever conducted. Most of the interviews took place during May and June of 1976. Adjustments to the data were made to make the sample representative of the total population, thereby improving the reliability of the statistical estimates.
[3] This group includes those designated as Aleut and Eskimos living in Alaska.

The "majority" was identified as the population remaining after all of the above-mentioned groups were separately identified.[4] All majority persons were individuals self-identified as "white" by race, but the majority is not identical to the "white" category in published census reports, since it does not include Puerto Ricans and Mexican Americans who were designated as "white." Included in the majority category are "white" persons born in U.S. territories or possessions (excluding Puerto Rico) or in foreign nations (other than Mexico), as well as those born in the United States of parents having the same type of birthplace.

Quality checks were conducted with the data files generated by the selection method just described. The Public Use Samples tapes issued by the Census Bureau are in themselves a sample that has been devised and checked on a stratification model based on household size, gender, "Negro non-Negro" status of household head, and whether the household's living quarters are owner or renter occupied, or group quarters, or listed as vacant.[5] As an economy measure, the black and majority files were reduced to a number of cases comparable with the other groups on a randomized selection basis.[6] The quality checks showed that this reduction did not result in any noticeable subsample weaknesses.

The files for each group were further limited to those below the age of 75. Since the primary emphasis in this report concerned with civil rights is on such items as education, employment, occupation, and income of those of school age and in the labor force, the absence of individuals over 74 was not a critical problem in this study. Future development of social indicators of equality, however, should attempt to incorporate data on the 75 and older population.

Since the social indicators calculated for this report are based on samples from populations rather than on entire populations, each indicator is an estimate rather than an exact measurement. That is, a condition is estimated to prevail in a population according to its frequency in a sample from the population. The indicators of equality presented in this report are all statistical comparisons with a majority standard. The difference of percentages and difference of means tests of significance were used where appropriate, and the level of significance selected for this report was 10 percent. Where it could be determined that the difference between the minority or female group and the majority male group is not statistically significant, the raw measure is identified as such in the table, and the findings are not reported as representing a condition of inequality. A lack of statistical significance is a result of either small samples or small observed differences, or both, plus the level of significance used.

Because this is a complex issue, only a brief statement will be provided here; persons seeking more information are referred to introductory statistical textbooks.[7] If a difference between a group's raw measure and the majority benchmark value is significant at the 10 percent level, random samples of those particular sizes would yield differences as large as the observed differences less than 10 percent of the time, if there were no differences between the two groups in the total population.

Readers are encouraged to view the statistical tests as only one part of the larger statistical decisionmaking context rather than as a critical and firm standard. The records selected from the censuses are actually 1 percent subsamples from larger samples, and the statistics that could be checked from the subsamples are virtually identical to the complete samples. The records from the Survey of Income and Education are weighted differentially according to the likelihood of having persons with some of the observed characteristics appear in a random sample. For both data sources, then, confidence in the representativeness of the samples and the reliability of the estimates is greater than would normally exist for the sample sizes used.

A second aspect of the context of the statistical tests is the time-series nature of the raw numbers. With small samples, time-series data are especially useful for detecting large fluctuations that could be due to sampling error alone. Having three time periods for which observations are available increases the likelihood that such deviations from the pattern due to sampling error will be spotted and treated with suspicion and caution. Having measures for 16 separate groups also serves this function of a

[4] Hawaiians, Koreans, and Vietnamese were not included in the majority category, but the lack of a representative sample for these populations made it impossible to do further indicator development for them.

[5] U.S. Department of Commerce, Bureau of the Census. *Public Use Samples of Basic Records from the 1970 Census*, pp. 6-8.

[6] Only the majority population was sampled further from the 1976 SIE tapes.

[7] Descriptions and instructions for these tests can be found in standard introductory statistics books. See, for example, Herman J. Loether and Donald G. McTavish, *Inferential Statistics for Sociologists, an Introduction* (Boston: Allyn and Bacon, Inc., 1974), chapter 7.

set of reference numbers usually lacking in tests of statistical significance.

For many indicators developed and presented in this report, standard tests of significance are simply not available. In every case, however, no statistical measure was presented for an indicator based on fewer than 25 persons in either group involved in the comparison. Table C–1 provides the number of persons on which each indicator and test of significance is based for each group, and table C–2 contains the standard deviations for the prestige and prestige mobility raw measures.

TABLE C-1A

Number of Cases for Each Social Indicator from Decennial Census Tapes

EDUCATION

Group	Text Table	Social Indicator	Amer. Ind./ Alask. Nat.	Blacks	Mexican Am.	Japanese Am.	Chinese Am.	Pilipino Am.	Puerto Ricans	Majority
Males 60	2.1	Percent Delayed	120	363	759	96	30	44	169	291
Males 70			479	1289	2525	291	227	152	616	450
Females 60			125	379	699	113	31	37	175	306
Females 70			450	1240	2352	260	178	152	585	436
Males 60	2.2	Percent Not Attending H.S.	168	457	1027	98	33	50	225	356
Males 70			563	1534	2896	309	241	166	835	497
Females 60			164	491	1014	117	36	40	251	348
Females 70			535	1456	2841	277	196	167	794	476
Males 60	2.3	Percent H.S. Completion	210	577	1164	115	79	48	481	442
Males 70			641	1517	3180	392	502	261	1294	682
Females 60			195	656	1221	147	72	49	454	468
Females 70			683	1880	3405	460	450	288	1426	702
Males 60	2.4	Percent College Completion	183	569	1252	142	101	64	462	456
Males 70			527	1306	2544	355	309	293	1103	577
Females 60			173	645	1138	270	77	61	465	474
Females 70			545	1454	2604	464	340	379	1316	576
Males 60	2.5	Percent H.S. Overqual.	226	906	1490	784	338	171	392	1977
Males 70			1300	3713	6377	2518	1889	947	1690	3046
Females 60			200	1059	1263	722	217	123	348	1794
Females 70			1308	4441	5079	2608	1369	1100	1637	2762
Males 60	2.6	Percent College Overqual.	62	335	556	326	224	81	136	885
Males 70			496	1241	2337	1340	1348	557	461	1515
Females 60			65	387	306	235	118	62	83	667
Females 70			432	1497	1319	1181	867	746	430	1104
Males 59	2.7	Median Income: College	28	144	213	208	169	51	60	490
Males 69			177	471	698	783	925	358	177	769
Females 59			19	190	116	110	80	40	34	311
Females 69			136	654	343	605	561	544	184	509

TABLE C-1A Continued

EMPLOYMENT AND OCCUPATIONS

Group	Text Table	Social Indicator	Amer. Ind./ Alask. Nat.	Blacks	Mexican Am.	Japanese Am.	Chinese Am.	Pilipino Am.	Puerto Ricans	Majorit
Males 60	3.1	Percent Unemployed	958	4030	7496	1182	742	629	2153	4057
Males 70			2592	8490	17026	2877	2305	1560	5523	4382
Females 60			396	2656	2727	780	264	150	1072	1971
Females 70			1636	7088	8346	2398	1454	1078	2750	2596
Males 60	3.2	Percent Teenage Unemployed	65	232	583	43	13	19	135	204
Males 70			179	585	1444	136	117	66	402	303
Females 60			43	112	360	35	15	16	109	140
Females 70			163	468	1069	110	108	53	286	248
Males 60	3.4	Mean Prestige	1094	4251	7867	1223	745	653	2154	4339
Males 70			3375	9999	19298	3267	2800	1844	5961	4989
Females 60			610	3670	4427	1112	355	220	1430	3031
Females 70			2776	9765	13270	3342	2002	1451	4160	4014
Males 65-70	3.5	Mean Prestige Mobility	324	842	1858	291	223	160	588	1009
Females 65-70			167	635	672	271	107	104	244	530
Males 60	3.6	Percent Segregated	801	3683	6889	1153	715	598	1966	39087
Males 70			1142	3902	8358	1386	1117	753	2519	2867
Females 60			349	2416	2466	755	255	122	953	18079
Females 70			714	3290	4202	1165	722	527	1205	24627

TABLE C-1A Continued

INCOME AND POVERTY

Group	Text Table	Social Indicator	Amer. Ind./ Alask. Nat.	Blacks	Mexican Am.	Japanese Am.	Chinese Am.	Pilipino Am.	Puerto Ricans	Majori
Persons 59	4.2	Median P/C Available Income	5156	18226	32883	4209	2389	2128	9074	15436
Persons 69			14453	43401	79597	10543	8519	6789	27923	16483
Female Head 59			673	3206	2993	208	113	115	1116	945
Female Head 69			2278	10679	8807	774	400	410	6289	1056
Males 59	4.3	Adjusted Earnings	625	3191	6169	1031	635	531	1711	3487
Males 69			2057	7161	14704	2614	2106	1375	4606	3889
Female 59			216	2005	1932	624	203	104	766	1560
Females 69			1249	5838	6563	2080	1219	928	2082	1560
Males 59	4.4	Med. Earnings/ Year	168	711	1307	216	104	65	455	714
Males 69			541	1698	3707	571	410	297	1386	848
Females 59			53	383	447	139	49	32	168	345
Females 69			285	1254	1592	470	307	197	682	474
Households 69	4.6	Percent Poverty	2216	7199	9738	1915	1461	1162	4175	6260
Female Head 69			585	2483	1762	417	231	209	1159	1477

TABLE C-1A Continued

HOUSING

Group	Text Table	Social Indicator	Amer. Ind./ Alask. Nat.	Blacks	Mexican Am.	Japanese Am.	Chinese Am.	Pilipino Am.	Puerto Ricans	Majority
Households 60	5.1	Percent Non-Central City	121	2762	4266	492	457	205	2045	2550
Households 70			1215	8449	13639	1829	1852	1059	6738	3207
Female-Head 60			11	740	610	47	25	0	340	354
Female-Head 70			237	2949	2341	313	161	153	1902	501
Households 60	5.2	Percent Own Homes	972	4492	7012	1024	583	433	2120	4507
Households 70			3472	12040	18476	3126	2270	1640	7205	5285
Female-Head 60			141	1179	980	110	42	11	352	561
Female-Head 70			761	4075	3101	504	203	199	1962	749
Households 60	5.3	Percent Over-crowded: Owned	492	1642	3803	506	204	156	154	2827
Households 70			1733	4965	9937	1737	977	606	000	3481
Female-Head 60			48	318	442	37	0	0	0	208
Female-Head 70			321	1186	1232	155	59	44	108	302
Households 60		Percent Over-crowded: Rented	396	2786	3209	511	327	260	1916	1591
Households 70			1648	7013	8539	1296	1207	955	6152	1719
Female-Head 60			26	796	538	73	11	0	332	234
Female-Head 70			368	2811	1869	306	136	154	1848	271
Households 60	5.4	Percent Complete Facilities	972	4492	7012	1024	583	433	2120	4507
Households 70			3472	12040	18476	3126	2270	1640	7205	5285
Female-Head 60			141	1179	980	110	42	0	354	561
Female-Head 70			761	4075	3101	504	203	199	1962	749
Households 60	5.5	Housing Cost	196	1493	1737	238	237	110	1542	1243
Households 70			1152	5206	6423	852	935	621	5475	1503
Female-Head 60			36	460	298	43	19	8	269	277
Female-Head 70			322	2149	1421	246	127	132	1627	372

TABLE C-1B

Number of Unweighted Cases for Each Social Indicator from SIE Tapes

Group	Text Table		Amer. Ind./ Alask. Nat.	Blacks	Mexican Am.	Japanese Am.	Chinese Am.	Pilipino Am.	Puerto Ricans	Majority
Males 76	2.1	Percent Delayed	129	1301	248	55	18	28	57	1403
Females 76			132	1319	226	77	21	34	44	1365
Males 76	2.2	Percent Not Attending H.S.	148	1396	279	56	18	31	61	1473
Females 76			153	1405	259	78	21	39	61	1454
Males 76	2.3	Percent H.S. Completion	202	1374	289	124	57	57	78	2013
Females 76			244	1745	322	131	44	77	90	2040
Males 76	2.4	Percent College Completion	166	1152	270	117	70	46	73	1928
Females 76			171	1543	309	124	78	100	101	1889
Males 76	2.5	Percent H.S. Overqual.	550	4684	772	746	318	300	192	11090
Females 76			608	6329	715	858	293	369	197	12265
Males 76	2.6	Percent College Overqual.	181	1891	333	422	225	173	77	5586
Females 76			214	2294	198	427	168	218	60	5197
Males 75	2.7	Median Income: College	43	567	93	210	128	81	19	2622
Females 75			36	655	38	160	75	108	10	1442
Males 76	3.1	Unemployed	910	7466	1533	804	321	399	391	13219
Females 76			629	7413	916	774	231	370	245	9133
Males 76	3.2	Percent Teenage Unemployment	96	813	184	55	14	29	29	1320
Females 76			80	708	117	59	15	33	34	1086
Males 76	3.4	Mean Prestige	1063	8463	1675	876	351	435	419	14665
Females 76			967	9273	1293	903	298	440	347	12196
Males 76	3.6	Percent Segregated	1074	8656	1718	888	368	456	435	14832
Females 76			977	9368	1303	908	303	443	351	12284
Persons 75	4.2	Median P/C Available	4186	35569	6531	2528	1063	1730	2074	44761
Female Head 75			738	11172	964	192	67	85	558	3279

TABLE C-1B Continued

Group	Text Table		Amer. Ind./ Alask. Nat.	Blacks	Mexican Am.	Japanese Am.	Chinese Am.	Pilipino Am.	Puerto Ricans	Majority
Males 75	4.3	Adjusted Earnings	945	7274	1482	827	314	373	361	13468
Females 75			725	7293	950	792	230	369	229	9782
Males 75	4.4	Med. Earnings/ year	143	1152	163	131	53	53	74	2092
Females 75			91	1058	154	138	27	64	39	1437
Familes 75	4.6	Percent Poverty	1224	11534	1738	865	354	476	640	15794
Female Head 75			331	4551	360	162	56	74	226	3304
Households 76	5.2	Percent Own Homes	1271	12189	1793	905	366	493	643	17133
Female Head 76			532	6661	571	287	119	133	296	5736

TABLE C–2

Standard Deviations for Prestige and Prestige Mobility Values

	Prestige			
	1960	1970	1976	Prestige Mobility
Males				
Amer. Ind./Alask. Nat.	12.0987	13.4545	13.0170	14.6209
Blacks	11.4331	12.0927	13.0265	12.7720
Mexican Americans	13.0444	12.9496	13.7056	13.5837
Japanese Americans	15.3919	16.8214	16.1264	15.3075
Chinese Americans	16.0400	17.6362	17.7113	15.2351
Pilipino Americans	16.9182	18.6473	18.9020	15.4179
Puerto Ricans	10.4402	11.3410	13.1247	13.1192
Majority	13.7331	14.6478	15.3703	13.6214
Females				
Amer. Ind./Alask. Nat.	13.1592	13.0503	12.7183	14.4253
Blacks	12.4960	14.6864	14.4196	14.2274
Mexican Americans	12.0472	12.4977	12.1703	12.6965
Japanese Americans	13.2966	14.0748	16.0561	13.3604
Chinese Americans	12.7543	14.9793	15.5091	14.7119
Pilipino Americans	14.9814	16.8894	14.8489	15.0855
Puerto Ricans	8.1627	10.7176	11.2115	11.6092
Majority	12.1108	13.0608	13.8915	12.1122

Appendix D

The following material is intended to facilitate replication of the methods used in this report. Part I consists of operational definitions for the indicators and Part II contains the primary programs used in the calculations of the indicators for 1976.

Part I: Operational Definitions Of The Social Indicators In This Report

Delayed Education

Persons included in the measure: those who are 15, 16, or 17 years old and enrolled in school.
Raw measure: the percentage of the 15-, 16-, or 17-year-olds who are experiencing delayed education.
Definition of "delayed": being 2 or more years behind the modal grade for one's age. The modal grade is based on the entire population for each age. For this research, persons 15, 16, and 17 years old who are in or below the 8th, 9th, and 10th grades, respectively, are defined as delayed.
Social Indicator: the raw measure (percentage delayed) for a group divided by the raw measure of majority males.

High School Nonattendance

Persons included: those who are 15, 16, or 17 years old.
Raw measure: the percentage who are not enrolled in school.
Social Indicator: the raw measure of a group divided by the raw measure of majority males.

High School Completion

Persons included: those from 20 to 24 years of age.
Raw measure: the percentage who have completed at least 12 years of school.
Social Indicator: the raw measure of a group divided by the raw measure of majority males.

College Completion

Persons included: those from 25 to 29 years of age.
Raw measure: the percentage who have completed at least 4 years of college.
Social Indicator: the raw measure of a group divided by the raw measure for majority males.

High School Overqualification

Persons included: those persons who have completed 12 or more years of school.
Raw measure: the percentage of a group's high school graduates who are employed in occupations that require less than a high school diploma. Thus, the raw measure is A/B where A is the number of persons who have completed at least the 12th grade and who have an occupation that typically requires less than a high school diploma (occupation with a code of 0 or 1 in appendix A) and B is the total number of persons who have completed at least the 12th grade in school.
Social Indicator: the raw measure of a group divided by the raw measure for majority males.

College Overqualification

Persons included: persons with at least 1 year of college.
Raw measure: the percentage of a group's college graduates who are employed in occupations typically requiring less education than they have. Thus, the raw measure is $(A+B)/C$, where A is the group's number of persons with at least 1 year of college who are employed in occupations requiring less than a high school diploma (occupations with a code of 0 or 1 in appendix A); B is the group's number of persons not included in A who have 4 or more years of college and work in occupations requiring less than a college degree (occupations with a code of 0, 1, or 2 in appendix A); and C is the group's total number of persons who have at least 1 year of college.
Social Indicator: the raw measure of a group divided by the raw measure for majority males.

Earnings Differential for College-Educated Persons

Persons included: persons who have completed 4 or more years of college and had some earnings during the previous year.
Raw measure: the median annual earnings of persons with 4 or more years of college who had some earnings during that year.
Social Indicator: the raw measure of a group divided by the raw measure for majority males.

Unemployment

Persons included: persons 15 and older in the labor force. Those in the labor force include:

- those who worked in the previous week;
- those who had a job from which they were temporarily absent; and
- the unemployed—those who were without a job, but were looking for work during the past 4 weeks and were available to accept a job. Other definitions of the labor force are possible, and may be more desirable, but this study was based on survey questions and procedures designed around the above definition, so use of other definitions was precluded.

Raw measure: the percentage of the labor force that is unemployed (i.e., the third category above).
Social Indicator: the raw measure of a group divided by the raw measure for majority males.

Teenage Unemployment

Persons included: persons from 16 to 19 years of age who are in the labor force. The labor force is defined in the same way as for the previous indicator.
Raw measure: the percentage of the labor force age 16 to 19 that is unemployed.
Social Indicator: the raw measure of a teenage group divided by the raw measure for all majority males.

Occupational Prestige

Persons included: persons who have specified an occupation for which a prestige score is available in appendix A. A person need not be currently employed to have an occupation.
Raw measure: the mean prestige score of a group. The prestige scores are contained in appendix A.
Social Indicator: the raw measure of a group divided by the raw measure for majority males.

Occupational Mobility

Persons included: persons whose 1965 occupation was different from their 1970 occupation and for whom prestige scores are available for both occupations.
Raw measure: the average (mean) change in prestige scores for a group. The change is calculated by subtracting the 1965 score from the 1970 score, so those who experienced a decrease in occupational prestige receive negative values.
Social Indicator: the raw measure of a group divided by the raw measure for majority males.

Occupational Segregation

Persons included: persons with a specified occupation. All occupational categories listed in appendix A were included except "unemployed persons, last worked 1959 or earlier," and "occupation not reported."
Social Indicator: the index of dissimilarity statistic, which measures the dissimilarity between the occupational distributions. The dissimilarities between the distributions of majority males and other race-gender groups as well as the dissimilarities between majority females and minority female groups were calculated. To calculate this statistic the two distributions to be compared are first transformed into percentage distributions, so that the sum of the occupational values is 100 for each group. The absolute difference between the percentages is calculated for each occupational category. The index of dissimilarity is one-half of the sum of these differences. A simplified example in table D–1 demonstrates this technique.
In the example, the index of dissimilarity equals 40 (or, one-half the sum of the differences). This statistic reflects the fact that at least 40 percent of Group A (or Group B) would have to change categories to have identical distributions. The occupational categories used in this report, however, are the detailed ones presented in appendix A.

Median Household Per Capita Income

Persons included: all persons.
Raw measure: The income available for an individual is calculated by dividing the total household income equally among the household members. For a person living alone, the income available is simply his or her total personal income. The median of these per capita incomes for a group is the raw measure. Half

TABLE D–1

Index of Dissimilarity

The index of dissimilarity is one-half of the sum of these differences. A simplified example demonstrates this technique:

Occupational Category	Group A	Group B	Absolute Difference
1. Blue Collar Workers	35%	40%	5%
2. White Collar Workers	50	10	40
3. Service Workers	10	30	20
4. Farm Workers	5	20	15
Total	100	100	80

The index of dissimilarity = 40 (or one-half the sum of the differences). This statistic reflects the fact that at least 40 percent of Group A, or Group B) would have to change categories to have identical distributions. The occupational categories used in this report, however, are the detailed ones presented in appendix A.

the persons would have less income than this figure and half would have more.

Social Indicator: the raw measure of a group divided by the raw measure of the majority.

Adjusted Mean Earnings

Persons included: persons with some earnings during the previous year.

Raw measure: the hypothetical mean earnings of a group based on the assumption that the group's characteristics (in terms of occupational prestige, age, educational attainment, weeks worked, hours worked last week, and State of residence) were the same as the majority males. This hypothetical adjustment was accomplished through the use of multiple regression as described in appendix B.

Social Indicator: the raw measure of a group (adjusted mean earnings) divided by the earnings for majority males.

Earnings Mobility

Persons included: full-time workers (40 or more hours per week) from age 20 to 44.

Raw measure: the average increment of change in earnings by single years of age. The median earnings of 5-year age groups was used in this calculation. This calculation can be made by subtracting the median earnings of 20–24-year-olds from the median earnings of 40–44-year-olds, and dividing the difference by 20 (the number of single-year increments between the midpoints of 22.5 and 42.5).

Social Indicator: the raw measure of a group divided by the raw measure of the majority males.

Poverty

Persons included: all families and unrelated individuals.

Raw measure: the percentage of the families and unrelated individuals in a group who receive less income than the poverty cutoff level. This level comes from the official poverty index created and annually updated by the Federal Government. Income cutoff levels defining poverty conditions are provided for families of different sizes, for families with male and female heads, and for farm and nonfarm residences. A measure for female-headed families was also created.

Social Indicator: the raw measure of a group divided by the raw measure of the majority.

Non-central City Metropolitan Households

Units included: all households identified as being located in metropolitan areas. In certain States, and parts of States, the metropolitan and nonmetropolitan designations are not made by the Census Bureau as a result of their confidentiality rules.

Raw measure: a standardized percentage of the metropolitan households that are in the central city. Within each State the percentage of a group's metropolitan households that are located in the central city is calculated. The standardization procedure weights two groups' non-central city percentages equally, one State at a time, according to the total population of the State. One group is the majority-headed households and the other is a specific group's minority or female-headed households. Only States with at least 10 majority and 10 minority or female-headed households were included in this procedure. The resulting two percentages are comparable even though the two groups may have very different geographical distributions.

Social Indicator: the standardized raw measure of a group divided by the standardized raw measure for majority-headed households.

Households That Are Owner Occupied

Units included: all households.

Raw measure: the standardized percentage of households that are owner occupied. See the non-central city metropolitan household indicator, above, for a description of the standardization technique.

Social Indicator: the standarized raw measure of a group divided by the standardized raw measure for majority-headed households.

Overcrowding in Households—Renter Occupied

Units included: all households that are renter occupied.

Raw measure: the standardized percentage of dwellings that are occupied by more than one person per room. See the non-central city metropolitan household indicator, above, for a description of the standardization technique.

Social Indicator: the standardized raw measure of a group divided by the standardized raw measure for majority-headed households.

Overcrowding In Households—Owner Occupied

Units included: all households that are owner occupied. Except for this factor, this indicator is constructed identically to the [illegible] indicator.

Households with Complete Facilities

Units included: all households.

Raw measure: the standardized percentage of households with all of the following items: hot water, plumbing, flush toilet, complete kitchen, heat, bathtub or shower, and direct access to the household. See the [illegible] central city metropolitan household indicator, above, for a description of the standardization technique.

Social Indicator: the standardized raw measure of a group divided by the standardized raw measure for majority headed households.

Percentage Who Pay 25 Percent or More of Their Income for Housing

Units included: all rental households with hot water, plumbing, a flush toilet, a complete kitchen, heat, a bathtub or shower, and direct access to apartment or unit.

Raw measure: the percentage having a gross rent (i.e., including utilities) of 25 percent or more of the family income.

Social Indicator: the raw measure of a group divided by the raw measure for majority-headed households.

Part II: Computer Programs

THE FOLLOWING COMPUTER PROGRAMS ARE EXAMPLES OF THE SIX PRIMARY ONES USED TO PRODUCE THE 1976 INDICATOR VALUES FROM THE SURVEY OF INCOME AND EDUCATION TAPES. THESE PROGRAMS WERE DEVELOPED BY STAFF MEMBERS OF THE COMMISSION'S OFFICE OF PROGRAM AND POLICY REVIEW.

1. PREPSIE-- A FORTRAN PROGRAM TO:
   - A) ESTABLISH THE MINORITY/MAJORITY GROUP STATUS OF PERSONS
   - B) SAMPLE ONE-EIGHTH OF THE MAJORITY PERSONS
   - C) ADD GROUP IDENTIFICATION CODES, OCCUPATIONAL PRESTIGE SCORES, AND EDUCATIONAL REQUIREMENTS TO EACH SELECTED PERSON'S RECORD
   - D) PRODUCE A NEW DATA TAPE WITH RECTANGULAR RECORDS HAVING EACH 'PERSON' RECORD JOINED WITH THE PROPER 'HOUSEHOLD' AND 'FAMILY' RECORD.

```
//HCTPRE1 JOB (WCH2,M036,C,600),'HAVENS.TIPPS'
/*MESSAGE  915582,RS;915583,RS;025239
/*MESSAGE  915590,RS;915591,RS
/*NOTIFY
/*ROUTE PRINT HOLD,NOPURGE
//STEP1 EXEC FORGCOMP
//COMP.SYSIN DD *
C      PREPSIE SOURCE PROGRAM:
       IMPLICIT INTEGER (A-Z)
       DIMENSION HSLD(51),FAMILY(53),PERSON(116),DATA(222)
       EQUIVALENCE (DATA(1),HSLD(1)),(FAMILY(1),DATA(52)),
      X(PERSON(1),DATA(105))
       EQUIVALENCE (DATA(4),NFAM),(DATA(55),FAMSIZ),
      X (DATA(118),OCC),(DATA(130),SEX),(DATA(131),RACE),
      X (DATA(134),ETH)
       EQUIVALENCE (HSLD(51),HID),(FAMILY(51),FID),
      X (PERSON(116),PID)
       DIMENSION TALLY(20),PRES(1000),IDCODE(40)
       DATA TALLY/20*0/, PRES/1000*0/,IDCODE/40*1/
40     READ(3,41,END=42)  I,PRES(I)
       GO TO 40
42     CONTINUE
41     FORMAT(2X,I3,2X,I3)
C      ETH DEFAULT=1, FOR:  1-9,18,27-30,39,40
       IDCODE(10)=4
       IDCODE(11)=4
       IDCODE(12)=4
       IDCODE(13)=4
       IDCODE(14)=9
       IDCODE(15)=10
       IDCODE(16)=10
       IDCODE(17)=10
       IDCODE(19)=2
       IDCODE(20)=3
       IDCODE(21)=3
       IDCODE(22)=7
       IDCODE(23)=6
       IDCODE(24)=5
```

```
      IDCODE(25)=8
      IDCODE(26)=8
      CASES=0
      NREC=0
      NSAMP=3
      GO TO 111
C     **** RECORD MATCH CORRECTION SEGMENT
801   WRITE(6,802) (DATA(KOO),KOO=1,3),HID,FID,PID
      TALLY(12)=TALLY(12) + 1
      BACKSPACE 2
802   FORMAT(' RECORD CORRECTION DATA =',2A4,A2,3I4)
111   READ(2,101,END=999) HSLD
      IF (HID.NE.1) GO TO (801,821,831), HID
101   FORMAT(2A4,A2,I2,40A4,244X,I1)
      TALLY(13)=TALLY(13) + 1
      DO 200 FAMS=1,NFAM
      GO TO 822
C     **** RECORD MATCH CORRECTION SEGMENT
821   CONTINUE
      BACKSPACE 2
      TALLY(14)=TALLY(14) + 1
822    READ (2,102,END=999) FAMILY
      IF (FID.NE.2) GO TO (801,821,831), FID
102   FORMAT(2A4,A2,I2,45A4,A3,245X,I1,2I1)
      DO 100 INDIV=1,FAMSIZ
      NREC=NREC+1
      GO TO 832
C     **** RECORD MATCH CORRECTION SEGMENT
831   WRITE(6,802) (DATA(KOO),KOO=1,3),HID,FID,PID
      BACKSPACE 2
      TALLY(15)=TALLY(15) + 1
832   READ(2,103,END=999) PERSON
      IF (PID.NE.3) GO TO (801,821,831), PID
103   FORMAT (12A4,A1,I3,10A4,A1,I1,I1,A1,A2,I2,85A4,I1)
C     ALL AGES WILL BE INCLUDED ON REC.TAPE
      ID=IDCODE(ETH)
      IF(ID.NE.1) GO TO 18
      TALLY(16)=TALLY(16) + 1
      IF(RACE.EQ.2) GO TO 311
C     SAMPLE ***
      NSAMP=NSAMP+1
      IF (NSAMP.EQ.8) GO TO 301
      ID=11
C     IF CASE IS HERE, WILL BE SKIPPED
      GO TO 18
301   NSAMP=0
C     MAJ IN HERE WILL BE SELECTED
      GO TO 18
C     FOR BLACKS (RACE) WHO DID NOT HAVE MINORITY ETHNICITY
311   ID=3
1     CONTINUE
18    TALLY(ID)=TALLY(ID)+1
      IF(ID.EQ.11) GO TO 100
C     ID=11 FOR SKIPPED MAJORITY
C     THIS RUN INCLUDES ALL AGES
      DATA(221) = ID
      DATA(222)=PRES(OCC)
      CASES=CASES+1
```

```
701    FORMAT(1X,2A4,A2,I4,1X,2I4)
  21   WRITE(4,105) DATA
100    CONTINUE
C      END OF INDIVIDUAL LOOP
200    CONTINUE
C      END OF FAMILY LOOP
       GO TO 111
C      END OF HOUSEHOLD LOOP
999    CONTINUE
C      END OF JOB
105    FORMAT(2A4,A2,I2,46A4,I1,3X,2A4,A2,I2,45A4,A3,I1,2I1,2X,
      X       12A4,A1,I3,10A4,A1,I1,I1,A1,A2,I2,85A4,I1,I2,13)
C      FIRST LINE OF FMT 103 CONTAINS HOME, & HSLD
C      SECOND LINE STARTS IN COL 401 WITH INDIV (441 CHAR)
       WRITE(6,106)  TALLY
106    FORMAT('0RECORDS=', 3I6,7I5,4I6,6I3)
       WRITE(6,106) NREC, CASES
       STOP
       END
/STEP2 EXEC FORGLKGO
//GO.FT02F001 DD DSN=SIE1976.DIV1,UNIT=2420,
// VOL=(PRIVATE,SER=(915582,915583)),DISP=SHR
//GO.FT03F001 DD DSN=WCH2HCT.PRESED.INP,UNIT=FILE,VOL=SER=FILE23,
//  DISP=SHR
//GO.FT04F001 DD DSN=WCH2HCT.SIE1,UNIT=2420,VOL=SER=025239,
// DISP=(NEW,KEEP),DCB=(RECFM=FB,LRECL=848,BLKSIZE=16960),LABEL=2
```

2. WORKSIE-- A FORTRAN PROGRAM TO PRODUCE A WORKING TAPE FROM THE OUTPUT OF PREPSIE. THIS SELECTS THE VARIABLES NEEDED FOR THE PROGRAMS TO FOLLOW.

```
/HCTWORK1 JOB (WCH2,M036,C,250),'HAVENS.TIPPS'
/*MESSAGE  020916,R;025668,W
/*MESSAGE  001107,R;006644,R
/*NOTIFY
/*ROUTE PRINT HOLD,NOPURGE
//STEP1 EXEC FORGCOMP
//COMP.SYSIN DD *
       IMPLICIT INTEGER (A-Z)
       DIMENSION INPUT(38)
       DIMENSION TALLY(11),YOUTH(11)
       EQUIVALENCE (ID,INPUT(37)),(AGE,INPUT(23))
       DATA TALLY/11*0/,YOUTH/11*0/
       GO TO 1
201    YOUTH(ID)=YOUTH(ID) + 1
       YOUTH(11)=YOUTH(11)+1
1      READ (2,100,END=5) INPUT
       IF(AGE.LE.14) GO TO 201
       TALLY(11)=TALLY(11)+1
       TALLY(ID)=TALLY(ID)+1
       WRITE(4,101) INPUT
       GO TO 1
5      WRITE(6,9) TALLY
       WRITE(6,101) INPUT
       WRITE(6,9) YOUTH
```

```
100    FORMAT(T20,A2,T26,A2,T76,A1,T95,A4,T184,3A4,T211,A2,95X,3A3,62X,
      - A1, 3X  ,3A4,6X,2A4,1X,A1,3X,A2,34X,A3,36X,A1,4X,A1,1X,I2,1X,
      - A2,1X,A3,5X,A4,100X,A4,A3,A4,A3,64X,A1,1X,A2,64X,3A4,34X,A2,
      - 34X,I2,A3)
101    FORMAT(A2,A2,A1,A4,3A4,A2,3A3,
      - A1,3A4,2A4,A1,A2,A3,A1,A1,I2,
      - A2,A3,A4,A4,A3,A4,A3,A1,A2,3A4,A2,
      - I2,A3)
9      FORMAT('0RECORDS=',11I8)
       STOP
       END
//STEP2 EXEC FORGLKGO
//GO.FT02F001 DD DSN=WCH2HCT.SIE1,UNIT=2420,VOL=SER=020916,LABEL=1,
//   DISP=SHR
//   DD DSN=WCH2HCT.SIE2,UNIT=2420,DISP=SHR,VOL=SER=020916,LABEL=2
//   DD DSN=WCH2HCT.SIE3,UNIT=2420,DISP=SHR,VOL=SER=020916,LABEL=3
//   DD DSN=WCH2HCT.SIE4,UNIT=2420,DISP=SHR,VOL=SER=001107,LABEL=1
//   DD DSN=WCH2HCT.SIE5,UNIT=2420,DISP=SHR,VOL=SER=001107,LABEL=2
//   DD DSN=WCH2HCT.SIE6,UNIT=2420,DISP=SHR,VOL=SER=001107,LABEL=3
//   DD DSN=WCH2HCT.SIE7,UNIT=2420,DISP=SHR,VOL=SER=001107,LABEL=4
//   DD DSN=WCH2HCT.SIE8,UNIT=2420,DISP=SHR,VOL=SER=006644,LABEL=1
//   DD DSN=WCH2HCT.SIE9,UNIT=2420,DISP=SHR,VOL=SER=006644,LABEL=2
//GO.FT04F001 DD DSN=WCH2HCT.WORKING1,UNIT=2420,VOL=SER=025668,
// DISP=(NEW,KEEP),DCB=(RECFM=FB,LRECL=110,BLKSIZE=4400),LABEL=2
```

3. SISIE-- AN SPSS PROGRAM TO PRODUCE MOST OF THE RAW MEASURES FOR THE SOCIAL INDICATOR REPORT.

```
/HCTSISY JOB (WCH2,M036,B),'TIPPS.ZIMBLER',REGION=300K
/*NOTIFY
/*ROUTE PRINT HOLD,NOPURGE
/*MESSAGE  025668,R;019384,W
//STEP1 EXEC RUNSPSS,PARM=150K
//GO.FT04F001 DD UNIT=2420,DISP=(NEW,KEEP),VOL=(PRIVATE,SER=019384),
// DSN=WCH2HCT.SIE1SPSS,DCB=(RECFM=VBS,LRECL=20008,BLKSIZE=2012)
//GO.FT08F001 DD UNIT=2420,DISP=SHR,LABEL=2,
//   VOL=(PRIVATE,SER=025668),DSN=WCH2HCT.WORKING1
//GO.SYSIN DD *
NUMBERED        YES
RUN NAME        SIE 1976---UPDATE OF SOCIAL INDICATORS
FILE NAME       SIEDIV2
DATA LIST       FIXED /1
                STATE 1-2
                RECITY 3
                METRO 4
                TENURE 5
                RENT 6-8
                UTIL 9
                HWEIGHT 10-21(6)
                NPERSONS 22-23
                INCFAM 24-32
                INCPOVR 33
                FWEIGHT 35-45(6)
                PIDENT 46-53
                EMPLOYMT 54
```

```
                HOURS1 55-56
                OCUPATN 57-59
                FAMREL 60
                SEX 61
                AGE1YR 62-63
                ETHNIC 64-65
                SCHOOL 66-67
                FINGRD 68
                WKWEEKS 69-70
                HOURS52 71-72
                INCPERS 73-79
                EARNINGS 80-86
                ENROLLED 87
                GRADE 88-89
                PWEIGHT 90-101(6)
                INCREC 102-103
                GROUPID 104-105
                EDREQ 106
                PRESTIGE 107-108
INPUT MEDIUM    DISK
N OF CASES      UNKNOWN
ALLOCATE        TRANSPACE=12000
VALUE LABELS    GROUPID(1)MAJ(2)AM INDIAN(3)BLACK(4)MEX AM (5)JAPANESE
                (6)CHINESE(7)FILIPINO(8)KOREAN &VIETNAMESE(9)PUERTO
                RICAN(10)OTHER   HISPANIC(11)ELSE?
VALUE LABELS    SEX(1)MALE(2)FEMALE
COMMENT         ------------------------
                EDUCATION CHAPTER
COMMENT         DELAYED EDUCATION INDICATOR
COMPUTE         DELAY=AGE1YR - (SCHOOL + 5)
RECODE          DELAY (LOWEST THRU 0=0)(ELSE=1)
IF              (ENROLLED NE 1 OR AGE1YR GT 17)  DELAY=2
COMMENT         ENROLLMENT INFORMATION
RECODE          ENROLLED(0=2)(2=0)
IF              ( AGE1YR GT 17)ENROLLED=2
VALUE LABELS    ENROLLED(0)NOT ENROLLED(1)ENROLLED(2)OTHER AGES
COMMENT         HIGH SCHOOL COMPLETION
IF              (FINGRD EQ 2)SCHOOL=SCHOOL - 1
COMMENT         FINGRD EQ 2 MEANS THEY DID NOT COMPLETE GRADE
COMPUTE         HS=SCHOOL
RECODE          HS (01 THRU 12=0)(13 THRU 19=1)(00=2)
VALUE LABELS    HS(0)LT HS(1)HS OR MORE(2)NA
COMMENT         COLLEGE COMPLETION
COMPUTE         COLLEGE=SCHOOL
RECODE          COLLEGE(01 THRU 16=0)(17 THRU 19=1)(00=2)
VALUE LABELS    COLLEGE(0)LT COLLEGE(1)COLLEGE D (2)NA
COMMENT         AGES EXCLUDED FROM COLLEGE AND HS BREAKDOWN ARE BELOW
COMMENT         EDUCATIONAL OVERQUALIFICATION FOR HS AND COLLEGE
                EDUCATED PERSONS
VALUE LABELS    EDREQ(0)NO HSD REQUIRED (1)HS OPTIONAL(2)HS REQUIRED(3)
                COLLEGE REQUIRED (4)NA
COMPUTE         EDOCC=SCHOOL
COMMENT         EDOOCC=EDUCATIONAL ATTAINMENT
RECODE          EDOCC(1 THRU 12=1)(13=2)(14 THRU 16=3)(17 THRU 19=4)
VALUE LABELS    EDOCC(1)LESS THAN HSD(2)HSD(3)SOME COLLEGE(4)COL DEGREE
                (0)NA/
COMPUTE    HSOQ=0
COMPUTE    COLOQ=0
```

```
IF      (EDREQ LE 1 AND EDOCC GE 2) HSOQ=1
IF      (EDOCC LE 1) HSOQ=2
IF      (EDREQ EQ 4) HSOQ=2
COMPUTE    HSOQ2024=HSOQ
IF      (AGE1YR LE 19 OR AGE1YR GE 25) HSOQ2024
IF      (EDREQ LE 2 AND EDOCC EQ 4) COLOQ=1
IF                  (EDOCC LE 2) COLOQ=2
IF                  (EDREQ LE 1 AND EDOCC EQ 3) COLOQ=1
IF                  (EDREQ EQ 4)  COLOQ=2
COMPUTE             COQ2529=COLOQ
IF                  (AGE1YR LE 25 OR AGE1YR GE 30) COQ2529=2
MISSING VALUES COQ2529, HSOQ2024(2)
IF                  (AGE1YR LE 24 OR AGE1YR GE 30) COLLEGE=2
IF                  (AGE1YR LE 19 OR AGE1YR GE 25) HS=2
COMMENT             EARNINGS DIFFERENTIAL FOR COLLEGE EDUCATED PERSONS
                    & SOME RECODING FOR PERCAPITA INCOME
COMPUTE             EARNCAT=EARNINGS
RECODE              EARNCAT(LOWEST THRU 0=0)
                    (01 THRU 2999=1) (2999 THRU 3999=2) (3999 THRU
                    4999=3) (4999 THRU 5499=4) (5499 THRU 5999=5) (5999 THRU
                    6499=6) (6499 THRU 6999=7) (6999 THRU 7499=8) (7499 THRU
                    7999=9) (7999 THRU 8499=10) (8499 THRU 8999=11) (8999 THRU
                    9999=12) (9999 THRU 10999=13) (10999 THRU 11999=14) (11999
                    THRU 12999=15) (12999 THRU 13999=16) (13999 THRU 15999=17)
                    (15999 THRU 17999=18) (17999 THRU 19999=19) (19999 THRU
                    24999=20) (24999 THRU 29999=21) (29999 THRU 49999=22)
                    (49999 THRU HIGHEST=23)
VALUE LABELS        EARNCAT(0) 0 (1) 01-2999 (2) 2999-3999 (3) 3999-4999 (4) 4999
                    -5499 (5) 5499-5999 (6) 5999-6499 (7) 6499-6999 (8) 6999-7499
                    (9) 7499-7999 (10) 7999-8499 (11) 8499-8999 (12) 8999-9999
                    (13) 9999-10999 (14) 10999-11999 (15) 11999-12999 (16) 12999-
                     13999 (17) 13999-15999 (18) 15999-17999 (19) 17999-19999
                    (20) 19999-24999 (21) 24999-29999 (22) 29999-49999 (23) 50000+
COMPUTE             EDUC=SCHOOL
RECODE              SCHOOL(01 THRU 05=1) (06 THRU 08=2) (09=3) (10 THRU 12=4)
                    (13=5) (14 THRU 16=6) (17 THRU 19=7)
VALUE LABELS        SCHOOL(0) NA (1) NURS-4 (2) 5-7 (3) 8 (4) 9-11 (5) 12 (6) COL1-COL3
                    (7) COL4+
COMMENT             ------------------------
                    OCCUPATIONS CHAPTER
COMMENT             UNEMPLOYMENT INDICATOR
COMPUTE             UNEMP=EMPLOYMT
RECODE              UNEMP(0,4 THRU 8=2) (3=1) (ELSE=0)
COMPUTE             TEENEMP=UNEMP
IF                  (AGE1YR LE 15 OR AGE1YR GE 20) TEENEMP=2
VALUE LABEL         UNEMP,TEENEMP(0) EMPLOYED (1) UNEMPLOYED (2) NILF,ARMY
COMMENT             ----------------------
                    INCOME & POVERTY CHAPTER
                    THE FOLLOWING IS FOR PERCAPITA INC. GAPS,RATIOS&OVERLAP
COMPUTE             INCHEAD = FAMREL
RECODE              INCHEAD(1=1) (2,7=3) (3 THRU 6=5)
COMPUTE             INCHEAD=INCHEAD + SEX
VALUE LABELS        INCHEAD(2) MALE HEAD FAM (3) FEMALE HEAD FAM (4) MALE IND. (5)
                    FEMALE IND. (6) MALE REL (7) FEMALE REL
IF                  (AGE1YR GE 75) INCHEAD=7
MISSING VALUES      INCHEAD(6,7)
COMPUTE             PERCAP = INCFAM / NPERSONS
IF                  (NPERSONS EQ 1)  PERCAP = INCPERS
```

```
COMMENT          (FOR NON-HEAD TO INSURE RIGHT AMOUNT. NOT NEC IF
                  PERSONAL INC IS ALWAYS IN FAM INC FOR NON-HEADS)
IF               (PERCAP LT 0)  PERCAP = 0.0
COMPUTE          INCPCAT = PERCAP
RECODE           INCPCAT (0 THRU 499=1) (499 THRU 999=2) (999 THRU 1499=3)
                 (1499 THRU 1999=4) (1999 THRU 2499=5) (2499 THRU 2999=6)
                 (2999 THRU 3499=7) (3499 THRU 3999=8) (3999 THRU 4499=9)
                 (4499 THRU 4999=10) (4999 THRU 5999=11) (5999 THRU
                 6999=12) (6999 THRU 7999=13) (7999 THRU 9999=14)
                 (9999 THRU 11999=15) (11999 THRU 14999=16) (14999 THRU
                  HIGHEST=17) (ELSE=18)
VALUE LABELS     INCPCAT(1)0-499(2)500-(3)1000-(4)1500-(5)2000-
                 (6)2500-(7)3000-(8)3500-(9)4000-(10)4500-4999
                 (11)5000-5999(12)6000-6999(13)7000-7999
                 (14)8000-9999(15)10000-11999(16)12000-14999
                 (17)15000+(18)ELSE??/
COMMENT          INCOME EQUITY DATA
VALUE LABELS     STATE(11)MAINE(12)NH(13)VERMONT(14)MASS(15)RI(16)CONN
                 (21)NY(22)NJ(23)PENN(31)OHIO(32)INDIANA(33)ILL(34)MICH
                 (35)WISC(41)MINN(42)IOWA(43)MISSOURI(44)ND(45)SD(46)NEB
                 (47)KANSAS(51)DEL(52)MD(53)DC(54)VA(55)WVA(56)NC(57)SC
                 (58)GA(59)FLORIDA(61)KEN(62)TENN(63)AL(64)MISS(71)ARK
                 (72)LOU(73)OK(74)TEX(81)MONT(82)ID(83)WY(84)COL(85)NM
                 (86)AZ(87)UTAH(88)NEV(91)WASH(92)OREGON(93)CAL
                 (94)ALASKA(95)HAWAII
COMPUTE           STATEINC=STATE
RECODE           STATEINC(91=4041)(55=2494)(35=3555)(83=3640)
RECODE           STATEINC(21=4786)(93=4736)(33=4313)(74=3512)(22=4504)
                 (23=3563)(86=3802)(85=3371)(84=3700)(59=3751)(58=3260)
                 (56=2790)(63=2710)(64=2293)(72=2953)(31=3843)(14=4040)
                  (94=5326)(71=2383)(16=4726)(51=3863)(53=5589)
                  (95=4292)(82=3099)(32=3557)(42=3156)(47=3149)
                  (61=2838)(11=2959)(52=4532)(34=4146)
                  (41=3684)(43=3415)(81=3244)(46=3221)(88=5050)
                  (12=3273)(44=2904)(73=3015)(92=3642)(15=3477)(57=2764)
                  (45=2666)(62=2836)(87=3009)(13=2972)(54=3763)
COMMENT          STATEINC IS MEAN INCOME FOR STATE
COMMENT          AGE CATEGORIES FOR INCOME MOBILITY
COMPUTE          AGE5YR=AGE1YR
RECODE           AGE5YR(LOWEST THRU 14=0)(15 THRU 19=1)(20 THRU 24=2)
                 (25 THRU 29=3)(30 THRU 34=4)(35 THRU 39=5)
                 (40 THRU 44=6)(45 THRU 49=7)(50 THRU 54=8)
                 (55 THRU 59=9)(60 THRU 64=10)(65 THRU 69=11)
                 (70 THRU 74=12)(75 THRU HIGHEST=13)
IF               (WKWEEKS LE 39)AGE5YR=13
COMPUTE          FEMHEAD=0
IF               (SEX EQ 2 AND FAMREL EQ 1 OR 2 OR 7)FEMHEAD=1
VALUE LABELS     FEMHEAD(0)NA(1)FMALE-HEADED
COMPUTE          HOUSES=0
IF               (FAMREL EQ 1 OR 2 OR 7)HOUSES=1
VALUE LABELS     HOUSES(0)NA (1)HOUSEHOLDS
RECODE           RECITY(1=1)(2=0)(3=2)
VALUE LABELS     RECITY(0)SMSA-NOT CC(1)SMSA-CC(2)NA
RECODE           TENURE(2,3=0)
VALUE LABELS     TENURE(0)RENTAL(1)OWNED
MISSING VALUES   AGE5YR(13)
VALUE LABELS     AGE5YR(1)15(2)20(3)25(4)  )35(6)40(7)45(8)50
                  (9)55(10)60(11)65(12)70    /5+/
```

```
MISSING VALUES DELAY,ENROLLED,HS,COLLEGE,HSOQ,COLOQ,UNEMP,TEENEMP(2)
MISSING VALUES EDREQ(4)/EDOCC,EARNINGS,SCHOOL,EARNCAT,PRESTIGE(0)
MISSING VALUES WKWEEKS,HOURS52,FEMHEAD,HOUSES(0)/
RECODE          INCPOVR(0=2) (1=1)(2 THRU 4=0)
COMPUTE         WINK=NPERSONS * FWEIGHT
MISSING VALUES INCPOVR(2)/RECITY(2)/
COMMENT         ----------------------
                STATISTICAL PROCEDURES:
READ INPUT DATA
*WEIGHT         PWEIGHT
BREAKDOWN       VARIABLES=DELAY(0,2)SEX(1,2)ENROLLED(0,2)HS(0,2)
                COLLEGE(0,2)UNEMP(0,2)TEENEMP(0,2)PRESTIGE(0,88)
                GROUPID(1,11)
                COLOQ(0,2)HSOQ(0,2)HSOQ2024(0,2)COQ2529(0,2)
                TABLES=DELAY,ENROLLED,HS,COLLEGE,HSOQ,COLOQ,HSOQ2024,
                COQ2529,PRESTIGE,TEENEMP,UNEMP BY GROUPID BY SEX/
*WEIGHT         FWEIGHT
BREAKDOWN       VARIABLES=INCPOVR(0,1)GROUPID(1,11)INCHEAD(2,7)
                TABLES=INCPOVR BY GROUPID BY INCHEAD/
*WEIGHT         HWEIGHT
BREAKDOWN       VARIABLES=TENURE(0,2)FEMHEAD(0,1,
                STATE(11,95)GROUPID(1,11)
                TABLES=TENURE BY FEMHEAD BY GROUPID
                BY STATE/
*WEIGHT         HWEIGHT
BREAKDOWN       VARIABLES=TENURE(0,2)HOUSES(0,1)
                STATE(11,95)GROUPID(1,11)
                TABLES=TENURE BY HOUSES BY GROUPID BY STATE/
*WEIGHT         PWEIGHT
CROSSTABS       VARIABLES=GROUPID(1,11)EARNCAT(0,23)SCHOOL(0,7)SEX(1,2)
                TABLES=EARNCAT BY SCHOOL BY GROUPID BY SEX/
OPTIONS         5,7
*WEIGHT         PWEIGHT
CROSSTABS       VARIABLES=EARNCAT(0,23)AGE5YR(1,13)GROUPID(1,11)SEX(1,2)
                TABLES=EARNCAT BY AGE5YR BY GROUPID BY SEX/
OPTIONS         5,7,9
COMMENT         3-ROW% DEL, 5-TOT % DEL, 7-MISS PRINT,9-INDEX
*WEIGHT         WINK
CROSSTABS       VARIABLES=INCHEAD(2,7),INCPCAT(0,19)GROUPID(1,11)
                TABLES=INCPCAT BY INCHEAD BY GROUPID /
OPTIONS         5,7
SAVE FILE
FNISH
*
```

4. TALSIE-- A FORTRAN PROGRAM TO CREATE AN OCCUPATIONAL MATRIX TO BE USED IN THE CALCULATION OF THE OCCUPATIONAL SEGREGATION INDICATOR.

```
/HCTTALY JOB (WCH2,M036,C,300),'HAVENS.TIPPS'
/*MESSAGE  025668,R
/*NOTIFY
*ROUTE PRINT HOLD,NOPURGE
//STEP1 EXEC FORGCOMP
//COMP.SYSIN DD *
```

```
      INTEGER OCC,SEX,AGE,ID
      DIMENSION X(1000,21)
      DATA X/21000*0.0/
      X(999,21)=1.0
      X(1000,21)=1.0
1     READ(8,14,END=46) OCC,SEX,AGE,WEIGHT,ID
      IF(OCC.EQ.0) OCC=998
      IF(SEX.EQ.2) ID=ID+10
      X(OCC,ID)=X(OCC,ID)+WEIGHT
      X(OCC,21)=X(OCC,21) +WEIGHT
      X(999,ID)=X(999,ID)+WEIGHT
      X(1000,ID)=X(1000,ID)+1
      GO TO 1
46    CONTINUE
14    FORMAT (T57,I3,1X,I1,I2,F90,F12.6,T104,I2)
      DO 37 I=1,1000
      IF(X(I,21).EQ.0.0) GO TO 37
      WRITE(6,82) I,(X(I,J),J=1,21)
82    FORMAT(I4,10F10.1/4X,11F10.1)
93    FORMAT(I4,21F10.1)
      WRITE(10,93) I,(X(I,J),J=1,21)
37    CONTINUE
      STOP
     END
/STEPGO EXEC FORGLKGO
//GO.FT08F001 DD DSN=WCH2HCT.WORKING1,UNIT=2420,VOL=SER=025668,DISP=SHR,
// LABEL=2
//GO.FT10F001 DD DSN=WCH2HCT.OCCSIE1,UNIT=FILE,VOL=SER=TMP002,
// DISP=(NEW,KEEP),SPACE=(TRK,(5,5),RLSE),DCB=(RECFM=FB,LRECL=220,
//   BLKSIZE=4400)
```

5. XOD-- A FORTRAN PROGRAM TO READ THE MATRIX PRODUCED BY TALSIE AND CALCULATE THE INDICIES OF DISSIMILARITY.

```
HCTXOD JOB (WCH2,M036,A),'HAVENS.TIPPS'
/*NOTIFY
/*ROUTE PRINT HOLD,NOPURGE
//STEP1 EXEC FORGCOMP
//COMP.SYSIN DD *
      DIMENSION X(500,21),XODM(21),XODF(21)
      DIMENSION NAMES (20)
      DATA X/10500*0.0/,XODM/21*0.0/,XODF/21*0.0/
      READ(1,24) NAMES
      WRITE(6,32) NAMES
24    FORMAT(20A4)
      K=1
2     READ(8,30,END=27) JOB,(X(K,J),J=1,21)
      K=K+1
      GO TO 25
27    CONTINUE
      K=K-1
      WRITE(6,31) K,(X(K,J),J=1,21)
30    FORMAT(I4,21F10.1)
31    FORMAT(I5,10F10.1/11F10.1)
32    FORMAT(5X,21(1X,A4))
```

```
      K=K-3
      KTOT=K + 2
      WRITE(6,31) K,(X(KTOT,J),J=1,21)
      TOTMJM=X(KTOT,1)
      TOTMJF=X(KTOT,11)
      WRITE(6,31) K
      DO 40 I=1,K
      PERM=100.0 * X(I,1)/TOTMJM
      PERF=100.0 * X(I,11)/TOTMJF
      DO 40 J=1,21
      PER=100.0 * X(I,J)/X(KTOT,J)
      XODM(J)=ABS(PERM-PER)+XODM(J)
      XODF(J)=ABS(PERF-PER)+XODF(J)
40    CONTINUE
      DO 41 I=1,21
      XODF(I)=XODF(I)/2
      XODM(I)=XODM(I)/2.0
41    CONTINUE
      WRITE(6,50) XODM
      WRITE(6,51) XODF
50    FORMAT(' MALE',21F5.1)
51    FORMAT(' FEM ',21F5.1)
      END
     STOP
/STEP2 EXEC FORGLKGO
//GO.FT08F001 DD DSN=WCH2HCT.OCCSIE1,UNIT=FILE,VOL=SER=TMP002,DISP=SHR
 MJM NAM BLM MAM JAM CAM FAM KVM PRM OH  MJF NAF BLF MAF JAF CAF FAF
KVF PRF OHF
```

6. REGSIE-- AN SPSS PROGRAM TO CREATE MATRICIES FOR THE FIRST STEP OF THE MEASUREMENT OF INCOME INEQUITY.

```
/HCTREG2 JOB (WCH2,M036,C,500,30),'HAVENS.TIPPS',REGION=300K
/*NOTIFY
*ROUTE PRINT HOLD,NOPURGE
/*MESSAGE  032268,R;019395,W
//STEP1 EXEC RUNSPSS,PARM=150K
//GO.FT03F001 DD UNIT=2420,DISP=SHR,VOL=(PRIVATE,SER=032268),
// DSN=WCH2HCT.SIE1SPSS,LABEL=1
//GO.FT04F001 DD UNIT=2420,DISP=(NEW,KEEP),VOL=(PRIVATE,SER=019395),
// DSN=WCH2HCT.SPSWREG1,DCB=(RECFM=VBS,LRECL=20008,BLKSIZE=2012)
//GO.FT09F001 DD UNIT=FILE,VOL=SER=TMP002,DISP=(NEW,KEEP),
//  DSN=WCH2HCT.REG2MAT,DCB=(RECFM=FB,LRECL=80,BLKSIZE=1600),
// SPACE=(TRK,(10,10),RLSE)
//GO.SYSIN DD *
NUMBERED        YES
RUN NAME        SIE 1976---REGRESSION FOR PERSONS WITH EARNINGS
GET FILE        SIE1
SELECT IF       (EARNINGS GT 0.0)
WEIGHT          PWEIGHT
COMPUTE         SET=GROUPID
IF              (SEX EQ 2) SET = SET + 10
IF              (SET EQ 1) G1 = 1.0
IF              (SET EQ 2) G2 = 1.0
IF              (SET EQ 3) G3 = 1.0
```

```
IF              (SET EQ 4) G4 = 1.0
IF              (SET EQ 5) G5 = 1.0
IF              (SET EQ 6) G6 = 1.0
IF              (SET EQ 7) G7 = 1.0
IF              (SET EQ 8) G8 = 1.0
IF              (SET EQ 9) G9 = 1.0
IF              (SET EQ 10) G10 = 1.0
IF              (SET EQ 11) G11 = 1.0
IF              (SET EQ 12) G12 = 1.0
IF              (SET EQ 13) G13 = 1.0
IF              (SET EQ 14) G14 = 1.0
IF              (SET EQ 15) G15 = 1.0
IF              (SET EQ 16) G16 = 1.0
IF              (SET EQ 17) G17 = 1.0
IF              (SET EQ 18) G18 = 1.0
IF              (SET EQ 19) G19 = 1.0
IF              (SET EQ 20) G20 = 1.0
IF              (STATE EQ 93 OR 74 OR 86 OR 85 OR 84) SW=1
COMMENT         (CA,TX,AZ,NM,CO -- 5 SOUTHWESTERN STATES)
IF              (SET EQ 4 AND SW EQ 1) G21 = 1.0
IF              (SET EQ 14 AND SW EQ 1) G22 = 1.0
MISSING VALUES G1,G2,G3,G4,G5,G6,G7,G8,G9,G10,G11,G12,
                G13,G14,G15,G16,G17,G18,G19,G20,G21,G22,SW (0)
TASK NAME       FEMALES
REGRESSION      VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G11 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G12 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G13 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G14 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G15 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G16 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G17 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G18 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G19 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G20 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52  (2)/
OPTIONS         7,8,15
STATISTICS      1,2
COMMENT         OPTIONS(7-NO SUM TAB;8-MATRIX,15-MEAN,SD OUT)
*SELECT IF      (SW EQ 1 AND GROUPID EQ 4)
```

```
TASK NAME       ANALYSIS FOR MEXICAN AMERICANS IN 5 SW STATES ONLY
REGRESSION      VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G21 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52 (2)/
                VARIABLES=EARNINGS AGE1YR SCHOOL PRESTIGE STATEINC
                WKWEEKS HOURS52 HOURS1 EDUC G22 /
                REGRESSION=EARNINGS WITH AGE1YR TO HOURS52 (2)/
OPTIONS         7,8,15
STATISTICS      1,2
SAVE FILE       SIE1REGW
FINISH
*
```

7. STAND-- A FORTRAN PROGRAM TO READ AN EDITED VERSION OF THE SPSS BREAKDOWN OUTPUT (FROM SISIE), AND PRODUCE STANDARDIZED SOCIAL INDICATOR VALUES. THE BREAKDOWN OF THE CRITERION VARIABLE IS "BY GROUP BY STATE."

```
//HCTSTD JOB (WCH2,M036,A),'HAVENS.TIPPS'
/*NOTIFY
*ROUTE PRINT HOLD,NOPURGE
//STEP1 EXEC FORGCOMP
//COMP.SYSIN DD *
      DIMENSION STATE(99),INFO(7),NAME(3)
      DIMENSION CUTOFF(4),MAJXB(99),MAJN(99),MINN(99),MINXB(99)
      REAL MAJXB,MAJN
      REAL MINXB,MINN
C     PER THOUSAND POP IN EACH STATE, CALCULATED FROM STATISTICAL
C     ABSTRACTS 1973, NO. 13 P. 13, (YEAR=1970, ARM. FORCES INCL)
      DATA STATE/99*0.0/,MAJXB/99*0.0/,MINN/99*0.0/
      STATE(63)=16.94
      STATE(94)=1.49
      STATE(86)=8.79
      STATE(71)=9.46
      STATE(93)=98.21
      STATE(84)=10.90
      STATE(16)=14.91
      STATE(51)=2.70
      STATE(53)=3.70
      STATE(59)=33.57
      STATE(58)=22.58
      STATE(95)=3.79
      STATE(82)=3.52
      STATE(33)=54.59
      STATE(32)=25.53
      STATE(42)=13.90
      STATE(47)=11.03
      STATE(61)=15.85
      STATE(72)=17.92
      STATE(11)=4.89
      STATE(52)=19.33
      STATE(14)=27.99
      STATE(34)=43.66
      STATE(41)=18.72
      STATE(64)=10.91
```

```
      STATE(43)=22.99
      STATE(81)=3.42
      STATE(46)=7.31
      STATE(88)=2.42
      STATE(12)=3.64
      STATE(22)=35.31
      STATE(85)=5.01
      STATE(21)=89.59
      STATE(56)=25.00
      STATE(44)=3.04
      STATE(31)=52.34
      STATE(73)=12.60
      STATE(92)=10.31
      STATE(23)=57.98
      STATE(15)=4.67
      STATE(57)=12.74
      STATE(45)=3.28
      STATE(62)=19.32
      STATE(74)=55.15
      STATE(87)=5.23
      STATE(13)=2.19
      STATE(54)=22.86
      STATE(91)=16.75
      STATE(55)=8.58
      STATE(35)=21.73
      STATE(83)=1.64
      READ(9,10)  KODE
      CUTOFF(1)=0.0
      CUTOFF(2)=4.0
      CUTOFF(3)=9.0
      CUTOFF(4)=24.0
299   CONTINUE
      READ(9,10,END=79)INFO
      WRITE(6,151)
151   FORMAT('1DATA FOR STANDARDIZED COMPARISONS')
149   WRITE(6,11)INFO
150   READ(9,10)  INFO,IDLOC,NAME,XB,N
      IF(INFO(1).EQ.KODE)  GO TO 99
      IF(INFO(2).NE.KODE)  GO TO 149
      MAJXB(IDLOC)=XB
      MAJN(IDLOC)=N
      WRITE(6,152)  MAJXB(IDLOC), MAJN(IDLOC),N,NAME
      GO TO 150
152   FORMAT(2F11.4,I5,1X,3A4)
99    CONTINUE
      DO 25 K=1,95
      MINN(K)=0.0
      MINXB(K)=0.0
25    CONTINUE
      KEY=0
      SUM=0.0
      SN=0.0
1     READ(9,10,END=79)INFO,IDLOC,NAME,XB,N
      IF(INFO(1).EQ.KOKE)  GO TO 299
      IF(INFO(2).EQ.KODE)  GO TO 20
      IF (KEY.EQ.1)  GO TO 23
C     (IF KEY WAS 1,COMPUTE CYCLE STARTED, NOW IT IS COMPLETE)
C     FOR LABELING INFORMATION:
```

```
      WRITE(6,11)  INFO,IDLOC,NAME,XB
      GO TO 1
C     FOR DATA:
20    CONT=XB*STATE(IDLOC)
      KEY=1
      SUM=SUM+CONT
      SN=SN+STATE(IDLOC)
      MINXB(IDLOC)=XB
      MINN(IDLOC)=N
      WRITE(6,9)  NAME,IDLOC,XB,STATE(IDLOC),CONT,N
      GO TO 1
C     FOR COMPUTATIONS AT END OF CYCLE:
23    CONTINUE
      ADJ=SUM/SN
      WRITE(6,105) ADJ,SUM,SN
      DO 200 K=1,4
      NCASES=0
      NSTAT=0
      ESTMAJ=0.0
      ESTMIN=0.0
      ESTN=0.0
      DO 180 I=1,95
      IF(MINN(I).LE.CUTOFF(K)) GO TO 180
      NCASES=NCASES+MINN(I)
      NSTAT=NSTAT+1
      ESTMAJ=ESTMAJ+(MAJXB(I)*STATE(I))
      ESTMIN=ESTMIN+(MINXB(I)*STATE(I))
      ESTN=ESTN+STATE(I)
180   CONTINUE
      IF(ESTN.EQ.0) GO TO 200
      IF((ESTMAJ.EQ.0.0).OR.(ESTMIN.EQ.0.0)) GO TO 200
      PERMAJ=ESTMAJ/ESTN
      PERMIN=ESTMIN/ESTN
      RATIO=PERMIN/PERMAJ
      WRITE(6,181)CUTOFF(K),NSTAT,RATIO,PERMIN,PERMAJ,NCASES
181   FORMAT('0FOR CUTOFF GE ',F4.0,' N STATES=',I3,' RATIO='
     XF7.4,'  MIN=',F5.2,'  MAJ=',F5.2,'N CASES=',I6)
200   CONTINUE
      WRITE(6,82)  INFO,IDLOC,NAME,XB
82    FORMAT('1',7A4,I2,3X,3A4,T52,F6.4)
      GO TO 99
79    CONTINUE
15    FORMAT(1X,F10.4)
105   FORMAT('0STD MEAN=',F7.4,'  TOT STD=',F10.2,'  TOT ADJ N=',F10
10    FORMAT(7A4,I2,3X,3A4,T45,F7.4,T56,I5)
11    FORMAT(' ',7A4,I2,3X,3A4,T54,F6.4)
9     FORMAT(1X,3A4,1X,I2,' RAW=',F6.4,' WEIGHT=',F8.4,F10.4,I5,'N')
      STOP
      END
/STEP EXEC FORGLKGO
//GO.FT09F001 DD *
EXAMPLE OF PART OF EDITED SPSS-GENERATED INPUT:
STATE
FEM.TENURE76
 GROUPID                    1    MAJ          0.6613 (  78971)
    STATE                  11    MAINE        0.6627 (    455)
    STATE                  12    NH           0.6603 (    349)
    STATE                  13    VERMONT      0.6802 (    209)
    STATE                  14    MASS         0.5843 (   2308)
    STATE                  15    RI           0.5815 (    385)
136
```