

ETHNIC AND RACIAL PATTERNS OF  
EDUCATIONAL ATTAINMENT AND SCHOOL ENROLLMENT\*

Robert D. Mare  
and  
Christopher Winship

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Robert D. Mare

University of  
Wisconsin

Christopher Winship

Northwestern  
University

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Robert D. Mare and Christopher Winship

INTRODUCTION

This chapter describes patterns of school enrollment and educational attainment among minority groups in the United States. In addition, it examines the degree to which differences among groups in educational attainment can be attributed to differences in family background.

The processes governing the causes and consequences of schooling for Blacks have received considerable research attention (e.g., Featherman and Hauser, 1978; Farley, 1984), and recent work has focussed on Hispanic groups (e.g., Borjas and Tienda, 1985). This chapter broadens this focus to (1) include disadvantaged groups that have received limited attention, such as Native Americans; (2) compare disadvantaged minorities and relatively successful groups, such as Asians; (3) analyze educational stratification for Blacks and Hispanics in more detail than has been done in previous work; and (4) use uniform methods of analysis which permit precise comparisons of the educational experiences of a number of minority groups. We first provide a conceptual background through which the impact of schooling on racial and ethnic inequality can be viewed. Then we discuss our data sources, analytic methods, findings, and conclusions.

Educational Attainment and Social Stratification

The classic sociological approach to educational attainment is to view schooling as a basic agent of social stratification. Each cohort of children enters school and experiences systematic attrition over a period of years. The timing of attrition for individuals establishes their levels of "education," credentials that they permanently retain. Rates and timing of

dropout from school vary systematically with the socioeconomic characteristics of the families in which individuals grow up. By the time a cohort reaches adulthood, it is "stratified" by the differential amounts of schooling its members have achieved.

To some degree this stratification mirrors differences already established among a cohort's parents; but to an important degree it also represents differentiation that is independent of the cohort's social origins. Once this stratification is established, it differentiates experiences throughout adult life. Differences among individuals in amounts of formal schooling obtained engender differences in their labor market rewards, consumption patterns, access to political power, and attitudes and values. In sum, schooling is an "intervening variable" between the life circumstances of parents and the socioeconomic achievements of their offspring (e.g., Featherman and Hauser, 1978; Hauser and Featherman, 1976; Mare, 1981b).

#### Schooling and Racial-Ethnic Stratification

Viewing schooling as a dimension of social stratification illuminates the role of formal education in determining the socioeconomic advantages and disadvantages of racial and ethnic minorities. Minority groups differ in the average number of years that they spend in school and in the rates with which they achieve academic degrees. These differences result in part from differences in the typical family socioeconomic backgrounds of minority groups and from differences among groups in the effects of social background factors. Similarly, racial and ethnic minorities may differ in their rates of poverty and other indicators of economic success because they have varying amounts of schooling, or because they differ in the way that their schooling

is rewarded.

One of the goals of this chapter is to describe differences in rates of school continuation and educational attainment among racial and ethnic groups in the United States, and examine the effects of family background on school continuation for these groups. A potentially important source of ethnic differences in economic hardship is differences in levels of formal educational attainment. Although a sizable literature questions the efficacy of schooling in reducing economic inequalities (e.g. Jencks *et al.*, 1972; Thurow, 1975), schooling remains a necessary--if not sufficient--means of raising socioeconomic achievement. There remains, therefore, considerable importance in understanding the processes that determine levels of schooling completed and rates of dropout from high school and college.

Racial and ethnic groups differ in the potential significance of reductions in educational inequality for socioeconomic progress. In the Black population, both levels of schooling and rates of return to schooling have converged toward those of Whites in recent years. This convergence, however, has failed to eliminate race differences in the labor market. Among Hispanic groups, however, a strikingly different picture has emerged. Hispanics lag White non-Hispanics in educational attainment by substantial amounts. These educational differentials, moreover, are the major source of labor market and other socioeconomic differences between Hispanics and non-Hispanics. Thus, Hispanics and Blacks differ both in their educational standing and in the potential importance of schooling in reducing their respective economic hardships (Abowd and Killingsworth, 1985; Reimers, 1985). For other racial and ethnic groups, such as North American Indians, little is known about the

processes affecting school continuation or the potential importance of raising educational levels for increasing overall socioeconomic levels. Moreover, only recently have researchers examined the determinants and consequences of educational success among relatively *advantaged* racial and ethnic minorities, such as Asians (e.g., Chiswick, 1983).

Factors affecting educational attainment and school continuation may be partitioned into family and labor market influences. Family factors include the socioeconomic characteristics of the families in which young persons live while attending schools, such as the educational attainments and income levels of parents. Additionally, they include aspects of family structure, including the size and composition of the family (e.g. one adult vs. two adults present). Racial and ethnic groups may differ in both their levels on these factors and also in the strength of their impact on educational attainment. For some aspects of family background, such as individuals' number of siblings, the effects are weaker for Blacks than for Whites. For some Hispanic groups, in contrast, the effects are at least as strong as for white non-Hispanics.

School continuation decisions are also affected by the incentives faced by young persons to stay in school or to drop out. Persons differ in the economic opportunities available to them when they leave school. In addition, they differ in the quality of education available to them. Both of these factors influence the labor market return that they will receive from additional education. Persons may terminate schooling because discrimination in the labor market means that additional schooling will not provide access to a better job. Similarly, they may terminate schooling because the quality of

education available to them is of such low quality as to make the expenditure of additional time in school not worthwhile.

The degree to which different factors are responsible for observed ethnic and racial differences in educational attainment is unknown. In this chapter we examine the importance of ethnic-racial differences in family background for explaining ethnic and racial differences in educational attainment. For all groups except Asians we find that family background explains a large proportion of the difference in educational attainment between Whites and nonwhite ethnic-racial groups. In many cases, family background explains one half to two thirds of the difference.

A potentially important hypothesis is that groups with higher rates of return to education are also groups that with higher educational attainments. In particular, groups that have been discriminated against in the labor market may receive lower returns to education, and as a result, be less willing to bear the expense of staying in school. [See Hirschman (1986) for a discussion of why the Chinese received high rates of return to educational despite the severe discrimination they faced in this country in the earlier part of this century.] This chapter, however, does not present analyses of the importance of differences in labor market experiences of ethnic-racial groups.<sup>1</sup>

Another argument that is not explored in this chapter is that groups differ in the number of years that they take to reach a specific level of knowledge, academic achievement, or training. Groups may differ because they have access to educational institutions of varying quality. Access to post-secondary education may be a function of the family funds which are available to support further education. In the case of secondary education, access may

more be a matter of the quality of the educational program at the individual's high school. [See Lieberman (1980) for a discussion of the effects of lack of access to high school on Black educational attainment earlier in this century.] Groups may also differ in the time it takes to proceed through formal levels of schooling. For instance, it is well known that Blacks are more likely to be grade retarded than Whites (e.g., Bianchi, 1984).

In this chapter we examine differences between ethnic-racial groups in educational attainment, including their average levels of attainment as well as rates of completion of selected levels of schooling. To provide some indication of future trends in educational attainment, we also examine group differences in rates of school enrollment. In considering causes of educational differences, we limit our analysis to examining the degree to which group variation in family background can account for patterns of educational attainment.

#### DATA ON MINORITY SCHOOLING

Although several potentially useful data sources for the study of minority schooling are available, data remain limited for detailed comparisons among minority groups on patterns of school enrollment and educational attainment. General purpose surveys, such as the Decennial Censuses, the Current Population Survey, and other large sets of data are potentially a basis for rigorous comparisons among racial and ethnic groups. They contain limited information, however, on individuals' histories and family backgrounds. Other data sets, such as the Occupational Changes in a Generation Surveys, contain only small samples of individuals from the



minority groups that have experienced the greatest degree of socioeconomic hardship--subgroups of the Hispanic population, Indians, and some recent Asian foreign-born groups--, as well as other groups that have enjoyed unusual socioeconomic success--notably other Asian groups.

Despite these limitations, extant data sources are useful for the analysis of educational attainment and school enrollment. In this chapter, we use two sources of data on schooling of minorities in the United States, the 1980 Census of Population, and the 1973 Occupational Changes in a Generation Survey (OCG), which was a supplement to the March, 1973 Current Population Survey (Featherman and Hauser, 1975). These data are a good basis for a sociodemographic overview of schooling patterns of minority groups. To some degree, moreover, they have features suitable for analysis of minority schooling that have thus far not been exploited. The key features of these data for our purposes are summarized in Table 1.

#### 1980 Census of Population

We use the Public Use Microdata Sample (PUMS) from the 1980 Census, which is a five percent random sample of the population. Our analyses are restricted to persons aged 14 and over in 1980. The Census lacks information on family socioeconomic background, but provides good data on school enrollment, educational attainment, and other characteristics of the population. From the Census we examine 12 ethnic-racial groups from closed-ended questions on origin or descent, race, and Hispanic ancestry. The groups are: Cubans, Mexicans, Puerto Ricans, North American Indians, Asian Indians, Japanese, Chinese, Filipinos, Koreans, Blacks, Vietnamese, and non-Hispanic Whites. Four of these groups are predominantly native born, including

American Indians (97.8 percent), non-Hispanic Whites (95.4 percent), non-Hispanic Blacks (96.6 percent), and Puerto Ricans (95.9 percent).<sup>2</sup> Two of the groups are predominantly foreign-born--Koreans (7.0 percent native) and Vietnamese (2.1 percent native). The other six groups are more heterogeneous in nativity status: Asian Indians (17.4 percent native), Chinese (26.3 percent native), Cubans (10.6 percent native), Filipino (18.6 percent native), Japanese (68.5 percent native), and Mexican (65.4 percent native). For these latter groups we subdivide the data by nativity status. As the numbers in parentheses in Table 1 show, we further subsampled from the five percent sample for the largest ethnic-racial groups in order to save computation time.

#### Occupational Changes in a Generation Survey

The OCG data cover the male, civilian noninstitutional population of the U.S. in March, 1973, ages 20 to 65. As such, they contain individuals who finished school between approximately 1920 and 1978 and exclude women, teenagers, the armed forces, and persons in institutions. They provide high quality information on educational attainment and family socioeconomic backgrounds of respondents, such as their fathers' schooling and occupational status, mothers' schooling, and the size and structure of respondents' families when they were teenagers. More specifically, in this chapter, we use the OCG data to estimate the effects of the following variables on several measures of respondents' educational attainment: father's and mother's educational attainment, father's occupational status when the respondent was aged 16 measured via the Duncan Socioeconomic Index (SEI), respondent's number of siblings, a dichotomous variable that denotes whether the respondent lived with both parents or in a broken family at age 16, respondent's year of birth,

and a dichotomous variable denoting whether the respondent was born in the United States. Substantial prior research has established the independent positive effects of parents' schooling and father's occupational status and the negative effects of sibship size and being raised in a broken family on the educational attainment of offspring (e.g., Featherman and Hauser, 1978; Hauser and Featherman, 1976).

A largely unexploited feature of the OCG data is its information on the schooling of respondents' brothers. Respondents were asked to, "Please indicate the highest grade of school completed by the OLDEST of your brothers who lived to age 25," and, where applicable, to provide the same information for their youngest brother (Featherman and Hauser, 1978: 501). As discussed further below, the information on brothers' schooling facilitates our analysis of ethnic-racial patterns of schooling in two ways. The associations between brothers' characteristics are global measures of the importance of family background in determining those characteristics (e.g., Griliches, 1979). Additionally, the reports of brothers' educational attainment provide additional observations on schooling for ethnic-racial groups that appear in the OCG survey in numbers too small for reliable statistical analysis. Although the inclusion of respondents' brothers results in analyses that overrepresent men from large sibships and introduces a lack of statistical independence among observations, it permits richer analyses of educational patterns of rare groups than would otherwise be possible. Table 1 shows that samples are typically doubled by the inclusion of brothers as separate observations.

Although the OCG data identify numerous racial and ethnic groups, we

focus on seven which occur in the data in sufficient numbers to permit analysis and are of social policy significance: Cubans, Puerto Ricans, Mexicans, North American Indians, Asians, Blacks, and non-Hispanic Whites. The three Hispanic groups were identified from responses to a closed-ended origin question, "What is ...'s origin or descent," for which "Cuban" and "Puerto Rican" are included on the list presented to the respondent. Mexicans are respondents who identified with the supplied categories "Mexican American," "Chicano," and "Mexican (Mexicano)." North American Indians are persons who identified themselves as "Other" on the closed-ended question and subsequently supplied the name of an Indian tribe or a more general reference to Native American origin or descent. Asians are persons who identified themselves as "Other" on the closed-ended question and subsequently named a nation or ethnicity of origin from mainland Asia (including the Indian subcontinent), Japan, or Taiwan. Most of such persons identified with Chinese, Japanese, or Korean origins. Blacks and Whites are non-Hispanics who are so identified by interviewers as Black and White in the March 1973 Current Population Survey.<sup>3</sup>

#### METHODS

The 1980 Census documents basic differentials in attainment among ethnic and racial groups. Because most persons complete their schooling by their mid-twenties, by comparing age groups within the census, we can ascertain trends in educational attainment within ethnic and racial groups. Analysis of enrollment data also provides insight into probable future differences in educational attainment for cohorts that have not yet finished school.

To explore some of the sources of differences in ethnic and racial educational attainment, we assess the effects of social background factors on several measures of educational attainment using the OCG data. For Asians, Indians, Cubans, and Puerto Ricans, the OCG samples are small (see Table 1), but the availability of brothers' educational attainments as distinct observations substantially enlarges our samples. Following Hauser and Featherman (1976), we estimate linear regression models of highest grade of school completed for each group and attempt to account for group differences in attainment by their differences in socioeconomic backgrounds. Additionally, we describe the effects of social background *within* ethnic-racial groups to see whether there are significant differences in the relative importance of the several dimensions of background across groups. Because many of the ethnic subsamples are small, we report standard errors of estimated regression coefficients to indicate the precision of our estimates. Because brothers have been included in the sample and because errors within families are likely to be positively correlated, the standard errors reported underestimate the true sampling variability. Group differences in the effects of social background, therefore, should be interpreted with caution.

The effects of social background and ethnic differences in their effects may also vary *within* the schooling process (e.g., Mare, 1980; 1981a). In addition to analyses of highest year of schooling completed, we report the effects of social background on selected school transitions, including whether an individual: (1) completes 9th grade (attends high school); (2) completes 12th grade *given* that he completes 9th grade (graduates from high school *given* that he attends high school); and (3) completes 13th grade *given* that he

completes 12th grade (attends college given that he graduates from high school). These three transitions represent movement between the major divisions of the education system in the United States and are the places where attrition is most likely to occur (Duncan, 1968; Mare 1980). We analyze the continuation probabilities associated with these transitions using logistic regression models estimated by maximum likelihood.

We obtain further information about the effects of social background on educational attainment from inspecting the correlations between the schooling of brothers, which provide global estimates of the importance of family background. We compare ethnic and racial groups on the importance of within and between family variance in schooling, as well as on the importance of the family background factors that we have *measured* relative to overall (measured and *unmeasured*) family effects.

#### EMPIRICAL RESULTS

##### Ethnic and Racial Differences in Educational Attainment

Table 2 reports selected measures of educational attainment for 26-35 year olds by ethnic-racial group and sex in 1980. This age group is old enough to have completed almost almost all of its schooling and is, with few exceptions, sufficiently homogeneous not to be affected by intercohort changes. The first two columns in Table 2 report mean levels of educational attainment for the 18 ethnic-racial and nativity status groups. The groups vary dramatically in their levels of educational attainment. Asian groups typically have very high mean years of schooling, often exceeding 14 or 15 years. The exceptions to this are native Filipinos who average somewhat more

than 13 years and Vietnamese who average near 12. Groups with intermediate levels of attainment include Cubans and Whites who average approximately 13 years of schooling and North American Indians and Blacks and native Mexicans who average approximately 12 years. Groups with the lowest levels of schooling include Puerto Ricans and foreign born Mexicans who average approximately 11 and 8 years respectively.

The third and fourth columns in Table 2 show that high school attendance is the norm for most groups. The major exception is the Mexican foreign born population among whom nearly 60 percent have not attended high school. Although the majority of Puerto Ricans attend high school, they have relatively large proportion who have completed no high school (22.1 percent for men and 23.7 percent for women). The corresponding percentage is also relatively high for Vietnamese women (22.5 percent). The fifth and sixth columns show that among most groups a majority graduates from high school. Foreign born Mexicans are again a dramatic exception: only 28.9 percent of men and 27.4 percent of women have graduated. Mexican natives also have relatively low rates of graduation (67.7 percent for men and 63.5 percent for women). Puerto Rican rates, however, are even lower: 54.3 percent for men and 52.7 percent women. Rates for American Indians (74.1 percent for men and 71.7 percent for women) and Blacks (73.2 percent for men and 74.7 percent for women) are somewhat higher than those for Mexican natives.

The seventh and eighth columns show the proportion of each group attending college. Rates of college attendance for Asian groups are extremely high. Except for Vietnamese, rates are close to or above 50 percent, and in many cases are as high as 70 or 80 percent. Some of the highest rates are for

foreign born Asian, suggesting that many of these individuals may have come to the United States for college and graduate study and may eventually return to their countries of origin.

Table 3 shows the average levels of educational attainment by age, ethnic-racial group, and nativity status. If few individuals receive more schooling after their mid-twenties and the composition of ethnic-racial cohorts is constant with age, then differences in educational attainment across age groups provide a measure of changes in educational attainment over time. For natives, these assumptions are reasonable, particularly if we restrict our attention to differences among persons less than 65 years of age, for whom differential mortality is not an important factor. For foreign born persons, on the other hand, differences across age groups in educational attainment may represent changes in educational attainment in the native country, as well as in the United States, or changes in the selectivity of immigration. In addition, to the degree that migration occurs at different ages, the composition of a birth cohort of foreign born persons can change substantially with age. For foreign born persons, therefore, differences across age groups in educational attainment may be caused by a number of factors.

Table 3 indicates the difference for each ethnic-racial sex between the educational attainment of 26 to 35 year olds and 56 to 65 year olds. This difference represents changes in educational attainment over approximately 30 years. It contrasts persons who finished their schooling shortly after World War II and persons who have completed almost all of their schooling by 1980. Among the native-born, for whom changes can be most meaningfully interpreted,



all groups show substantial increases in educational attainment. The largest increase is for Mexicans: 4.55 years for men and 4.82 years for women. Average educational attainments for Native Asian Indians; Black men; and Filipino, Japanese, and Puerto Rican women all increase by more than 3.5 years. The smallest increase is for White women. Native Filipinos, White men, and Asian Indian women all experience changes of less than 2.5 years. That changes for Whites are among the smallest of all groups indicates a general pattern of convergence in educational attainment of other groups to the White mean. The exceptions to this pattern are several of the Asian groups for whom the (positive) gap with Whites has grown.

The intercohort differences in educational attainment among foreign born age groups are, in many cases, extremely large. Foreign born Chinese men and Asian Indian, Chinese, Filipino, Korean, and Vietnamese women all have differences between the two age groups of more than 4.5 years. The smallest changes are for the foreign born Japanese (1.92 for men and 2.09 for women) and foreign born Mexicans (2.17 for men and 2.18 for women). As noted above, however, these changes may result from education trends in both the origin nation and in the United States, as well as from the changing selectivity of immigration.

#### Ethnic-Racial Differences in School Enrollment

We next describe ethnic-racial patterns of school enrollment rates in 1980 for persons aged 14 to 30. These patterns suggest the future direction of group differences in educational attainment. Additionally, they show how ethnic-racial groups differ in the *timing* of school departure and the entrance to work and other adult roles (Mare, Winship, and Kubitschek, 1984). Figures

1A through 1D show the relationship between school enrollment rates and age for selected combinations of ethnic-racial groups. Because sex differences in enrollment are generally small, we report combined rates for men and women.

Figure 1A shows enrollment patterns for Whites, Blacks, American Indians, native Mexicans, and native Chinese. Black and White enrollment rates are similar, although they continue to differ at ages 20 and 21 when persons typically complete their college degrees. These patterns suggest that Black-White differences in educational attainment will continue to shrink but will not completely disappear in cohorts completing their schooling in the early 1980's. Enrollment rates for American Indians and native Mexicans are similar to each other and fall below those for Whites and Blacks at most ages. The 50th percentiles for the four groups, however, are less than a year apart. If we ignore the effects of grade retardation or the return to school of persons not enrolled in 1980, these rates imply that the groups will have median completed educational attainments that differ from one another by less than one year. Enrollment rates for native Chinese are considerably higher than those for the other four groups at all ages and indicate that the large gap in educational attainment between the native Chinese and non-Asian populations shown in Tables 2 and 3 is likely to persist, or perhaps even grow in the future. As we show below, this high level of enrollment is typical of many of the Asian groups.

Figure 1B shows the enrollment rates for Hispanic groups. Both native and foreign born Cubans have high rates of enrollment, which are more similar to Asian groups than to other Hispanics. Puerto Ricans and Mexican natives have very similar rates. Foreign born Mexican have very low rates at all

ages, which is consistent with patterns of educational attainment described above. Foreign born Mexicans have much lower rates of school enrollment and levels of educational attainment than their native counterparts.

Figure 1C shows the enrollment rates for the Asian groups which have both the highest and lowest rates. Natives and foreign born Filipinos experience the lowest rates of enrollment, though their rates exceed those for Whites. Native and foreign born Chinese have the highest rates of all groups. The Vietnamese are an intermediate group of some interest in that although levels of educational attainment for older Vietnamese are generally lower than for other Asian groups (see Tables 2 and 3), their enrollment rates are similar, suggesting future convergence among Asians. Figure 1D shows enrollment rates for the other Asian groups. These rates are generally between those of Filipinos and Chinese and, as such, they exceed those for other non-Asian groups.

#### Family Background and Ethnic-Racial Differences in Educational Attainment

In this section we examine the contribution of family socioeconomic background differences to ethnic-racial differences in levels of schooling. Table 4 reports means for selected variables for OCG men (age 20-65 in 1973), and Table 5 indicates the effects of ethnic-racial groups and social background on several measures of schooling for the OCG sample. As already noted, these men finished school between approximately 1924 and 1975. Thus their experience may not be the same as for men completing their schooling in the 1980s. In the multivariate models summarized in Table 5, the ethnic-racial coefficients denote contrasts in grades completed or log odds of making a school transition between each group and non-Hispanic Whites. All

comparisons adjust for ethnic-racial differences in age distribution (year of birth).

The first model (column) for each schooling measure describes age-adjusted group differences in schooling and reveals approximately the same rank ordering of the groups as was shown in Table 2. Hispanics generally have lower attainment than all other groups, although Cubans have much more schooling than Mexicans or Puerto Ricans. Mexicans lag Asians by about 4.2 years of schooling and lag Whites by 3.7 years ( $-.530 - (-4.266) = 3.7$ ). Although the coefficients for the logit models for school continuation tend to decline as schooling levels increase, indicating that most ethnic differentiation in ultimate attainment occurs early in the schooling process, they roughly preserve the relative position of the ethnic groups.

The second column for each measure adjusts ethnic-racial differences for family background composition. The increase in explained variance ( $R^2$ ) between the first and second regression models indicates the considerable explanatory importance of socioeconomic background. Approximately two thirds of the difference between Mexicans and Whites is attributable to differences in average family background levels of the groups (compare  $-3.736$  to  $-1.294$ ). More generally, contrasts between ethnic groups in highest grade completed are typically reduced by 33 to 75 percent when socioeconomic backgrounds are controlled. An exception to this pattern, however, is for the difference between Whites and Asians, which increases when family background is controlled. The family backgrounds of Asians are disadvantageous relative to those of Whites, but, as a result of other, unmeasured factors, their educational attainment more than compensates for this disadvantage. Although

socioeconomic background effects on school continuation weaken as level of schooling increases, controls for background reduce ethnic differences substantially at all levels. Indeed, at the transition from high school to college, the only nontrivial ethnic difference that remains once background is controlled is between Asians and all other groups. That is, differences among Hispanics, Blacks, Indians and Whites are extremely small for this transition among men with equivalent social backgrounds. Of course, this is only a hypothetical comparison. Relatively few members of the disadvantaged minority groups both graduate from high school *and* have equivalent family background conditions to those of average high school graduate Whites.

The final model for each measure of schooling controls for differences among ethnic groups in nativity. As a result of this control, the relative positions of Indians, Blacks, and Whites, groups that are exclusively or predominantly native tend to weaken relative to the groups with larger foreign born populations. Nativity further accounts for the relatively low schooling levels of Hispanics, but by itself it is not as important a source of schooling differentials as family socioeconomic conditions.

In analyses not shown here we examined the relative importance of measures of family background in determining differences in educational attainment. Nativity and differences in parent's educational attainment and father's occupation were the most important factors in explaining intergroup differences in educational attainment. Sibship size and coming from a broken family were of secondary importance.<sup>4</sup>

## Ethnic-Racial Differences in Educational Stratification

Table 6 reports differences among ethnic-racial groups in educational inequality and in the effects of family background on highest grade of school completed. Several summary measures indicate that schooling is somewhat more unequally distributed within the Hispanic groups than the others and most equally distributed among Whites and Indians. The standard deviations of schooling (SD) range from 4.7 for Mexicans down to 3.5 for Whites. This pattern of dispersion is preserved when we take account of age heterogeneity in the population (SD | Age), and when both age and family background differences are taken into account (SEE). Even *within* groups that have equivalent levels on the five family background measures listed in Table 6, the standard deviation for Mexicans exceeds that for Whites and Indians by almost one year.

The  $R^2$  statistics denote the proportion of variance explained by age and measured family background characteristics. Measured background characteristics explain approximately 25-30 percent of variance in educational attainment for each ethnic-racial group. This quantity can be compared to the total (both measured and unmeasured) proportion of variability in schooling that is attributable to family background. The correlation between brothers' educational attainments ("Brothers'  $\rho$ ") estimates this quantity insofar as social background is defined as that which brothers share in common. As the second to last row of Table 6 indicates, this quantity is 50 to 60 percent for each group. The final row of the table indicates that the relative importance of measured and unmeasured sources of family background is approximately equal in every group. Approximately 50 percent of the variation in schooling is

attributable to factors that brothers do not share. Such factors include specific abilities, differences in treatment by parents, differences in life cycle stage of parents when the brothers were born, and different economic incentives to continue in school. Of the 50 to 60 percent of variation that is attributable to common family circumstances, roughly half is due to factors excluded from our models. Most important in all of this, however, is that despite differences in the overall dispersion of schooling across groups, the relative importance of non-family, measured family, and unmeasured family factors is similar in every ethnic-racial group.

Table 6 also shows, however, that groups differ in the relative importance of measured family characteristics. The patterns are complex and defy brief summary. One pattern, however, deserves comment. In only two groups, Mexicans and Whites, is being raised in a broken family a significant handicap in educational attainment. Mexicans and Whites raised in broken families average approximately 1 and .75 of a year respectively less than their counterparts from intact families. Why this pattern of effects occurs has no obvious explanation, but, from the results presented here, Mexicans and Whites are also the only groups for which there are strong, independent effects of every family background factor included in the model. Evidently, maternal, paternal, and sibling influences are important components of family effects for these two groups, whereas for all other groups only one or two of these factors affect educational attainment. Table 6 illustrates the diverse effects of individual family background factors across ethnic-racial groups.

## SUMMARY AND CONCLUSION

We have described current educational differences among ethnic-racial and nativity groups. Several Hispanic groups, including Puerto Ricans and Mexican, have substantial educational disadvantages relative to other groups. Asians, particularly Asian Indians, Chinese, and Japanese, have substantial educational advantages. Comparisons among the cohorts represented in the 1973 OCG Survey and the 1980 Census suggest that the educational attainment has increased for almost all groups more than it has for Whites. In particular, all native groups have gained on Whites.

Analyses of school enrollment also suggest future increases in educational attainment for all groups relative to Whites. In particular, White and Black enrollment rates have nearly converged, and rates for American Indians and native Mexicans fall only slightly behind those of Whites. Enrollment rates for Asian groups are high relative to those of Whites and other groups, suggesting the continued advantage of these groups in educational attainment. Of particular interest among the Asian groups are the Vietnamese, who now have enrollment rates similar to other Asian groups, suggesting that although Vietnamese educational attainment now lags that of other Asian groups, this difference will soon disappear.

Foreign born Mexicans experience a severe disadvantage in levels of both attained education and school enrollment. In 1980, for persons aged 26-35, this group's attainment is nearly 3.5 years below that of native Mexicans and more than 5 years below that of Whites. Intercohort comparisons also suggest that the educational attainment of recent foreign born cohorts is only modestly higher than that of older foreign born persons. Furthermore, the



pattern of school enrollment rates suggests that the completed educational attainment of the younger foreign born Mexican population will also substantially lag that of other groups.

These differences indicate that foreign born Mexicans should be a group of considerable policy concern. In addition, it suggests that policy and scholarly analyses of Mexican educational attainment should distinguish between natives and foreign born persons, a practice that is often not followed [e.g., Orum (1986)]. Although native Mexicans are clearly educationally disadvantaged relative to the majority population, the educational disadvantage of Mexican foreign born persons is much greater.

Our analysis of the effects of family background suggests that from half to two-thirds of the educational difference between Whites and other ethnic and racial groups can be explained by differences in family background and nativity. In particular, differences in parents' educational attainments and fathers' occupations are important sources of group differences in attainment in the offspring generation. These findings suggest that discussions of social policy should focus on the types of institutions and programs that can help compensate persons from disadvantaged backgrounds. They also imply that programs that reduce economic inequality among persons already out of school will potentially reduce educational inequalities in succeeding generations.

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## FOOTNOTES

1. In analyses not reported here we examined the relationship between levels of educational attainment and rates of economic return to schooling across ethnic-racial groups in 1980. We found no consistent pattern of relationship. (However, see Chiswick 1983, for different results using the 1970 Census). It is beyond the scope of this chapter to analyze the sources of group differences in rates of return to schooling.
2. For the purpose of this study Puerto Rico is considered part of the U.S.
3. Other sources of data are more useful for detailed investigation of the processes that determine schooling levels and differentials for large minority groups. The NCES-sponsored 1980 High School and Beyond Survey and the U.S. Department of Labor-sponsored National Longitudinal Survey of Youth include large samples of Blacks and Hispanics during their late high school and early college years. To some degree, these data have already been used to investigate some aspects of educational stratification of minorities (e.g., Fligstein and Fernandez, 1985). The limitations of these data, however, include poor representation of small minority groups, and, to date, a focus on a restricted range of ages and grades of schooling. The High School and Beyond Survey, for example, excludes dropouts before 10th grade, a small proportion of the total youth population, but a more significant fraction of disadvantaged minorities, such as Blacks, Hispanics and Indians. The panel, moreover, is still too young to yield information about college graduation.
4. Nativity may interact with ethnic-racial group. In particular, nativity may affect Hispanics and Asians differently. Because of our limited sample size we did not attempt to estimate this effect with the OCG data.

TABLE 1. SAMPLE OBSERVATIONS FOR ETHNIC AND RACIAL GROUPS REPRESENTED IN 1973 OCG AND 1980 CENSUS DATA

Ethnic- Racial Group	1973 OCG		1980 Census	
	Respondents	Respondents Plus Brothers		
North American Indians	282	666	47807	(.05) <sup>†</sup>
Hispanics				
Cubans	166	359	33551	(.05)
Mexicans	1161	2794	68510	(.0125)
Puerto Ricans	225	535	64029	(.05)
Asians	294	661		
Asian Indians			13837	(.05)
Chinese			30972	(.05)
Filipino			24170	(.05)
Japanese			29213	(.05)
Koreans			12782	(.05)
Vietnamese			7655	(.05)
Nonhispanic Blacks	748	1785	68730	(.0038)
Nonhispanic Whites	1079	2290	69546	(.0005)

<sup>†</sup> Numbers in parentheses denote sampling fraction from 1980 Census.

TABLE 2. SELECTED MEASURES OF EDUCATIONAL ATTAINMENT BY ETHNIC-RACIAL GROUP AND SEX, PERSONS AGED 26-35, 1980

Group	Measure							
	Mean Grades Completed		Percent < 9 Grades		Percent H.S. Grad.		Percent Some College	
	M	F	M	F	M	F	M	F
North American Indians	12.1	11.8	9.0	8.5	74.1	71.7	36.4	29.7
Asian Indians								
Native	15.1	13.2	3.8	6.4	90.1	79.0	70.1	51.0
Foreign Born	16.8	14.7	2.7	5.3	94.0	87.0	87.1	72.6
Chinese								
Native	15.8	15.0	21.1	2.1	97.0	96.0	86.6	81.8
Foreign Born	15.0	13.6	7.3	11.5	86.8	82.6	72.5	61.6
Filipinos								
Native	13.2	13.2	3.0	2.7	89.0	88.4	53.2	48.5
Foreign Born	14.2	14.4	3.9	7.4	88.2	85.9	70.0	73.4
Japanese								
Native	14.9	14.8	0.7	0.7	97.6	98.0	76.8	79.6
Foreign Born	15.1	13.6	1.6	1.7	95.9	91.7	77.1	57.4
Korean	14.7	12.4	2.3	12.4	94.6	78.1	67.9	43.1
Vietnamese	12.5	10.9	10.5	22.5	78.4	62.9	47.9	29.2
Cuban								
Native	13.7	13.1	5.5	6.2	6.1	82.6	60.9	49.8
Foreign Born	13.3	12.3	8.8	11.7	80.9	76.6	56.6	39.2
Mexican								
Native	11.6	11.2	14.7	17.0	67.9	63.5	34.0	22.3
Foreign Born	7.8	7.7	57.0	59.7	28.9	27.4	13.5	11.1
Puerto Rican	10.9	10.6	22.1	23.7	54.3	52.7	24.8	19.7
Nonhispanic Black	12.1	12.2	8.3	6.4	73.2	74.7	34.0	33.1
Nonhispanic White	13.6	13.1	4.1	3.5	87.5	87.6	53.5	43.6

TABLE 3 EDUCATIONAL ATTAINMENT BY AGE AND SEX FOR SELECTED ETHNIC-RACIAL AND NATIVITY STATUS GROUPS, 1980

	American Indian	Asian Native	Indian For. Born	Black	Chinese Native	For. Born	Cuban Native	For. Born	Filipino Native	For. Born
Men										
26-35	12.13	15.05	16.77	12.12	15.78	14.95	13.74	13.30	13.22	14.21
36-45	11.30	14.43	17.09	11.25	15.08	14.38	12.55	11.64	12.68	14.84
46-55	9.75	11.81	15.99	9.96	13.79	11.31	11.48	10.59	10.66	13.76
56-65	8.93	11.40	13.37	8.26	12.45	10.05	10.87	10.49	10.87	10.34
65+	6.95	10.41	10.67	6.40	10.20	7.92	8.63	9.58	7.19	7.19
(26-35)-(56-65)*	3.20	3.65	3.40	3.86	3.33	4.90	2.87	2.81	2.36	3.87
Women										
26-35	11.84	13.24	14.77	12.21	15.00	13.56	13.13	12.30	13.16	14.38
36-45	10.74	12.39	14.00	11.48	13.96	10.05	12.35	10.87	12.48	14.50
46-55	9.49	11.65	11.54	10.39	12.32	8.34	11.13	10.39	10.96	12.44
56-65	9.12	11.09	8.13	8.95	11.74	7.59	10.26	9.64	9.49	9.65
65+	7.29	10.40	8.50	7.31	9.59	3.63	7.77	8.12	7.62	7.12
(26-35)-(56-65)*	2.72	2.16	6.64	3.26	3.27	5.97	2.87	2.66	3.67	4.73

	Japanese Native	For. Born	Korean	Mexican Native	For. Born	Puerto Rican	Vietnamese	White
Men								
26-35	14.92	15.09	14.73	11.64	7.79	10.86	12.45	13.55
36-45	14.45	15.42	15.38	10.44	6.49	9.52	12.48	12.98
46-55	13.29	14.80	14.77	8.49	5.75	8.55	11.05	12.14
56-65	11.93	13.17	12.67	7.09	5.62	7.44	9.68	11.49
65+	9.95	8.38	10.43	4.76	3.66	6.33	7.83	9.91
(26-35)-(56-65)*	2.99	1.92	2.06	4.55	2.17	3.41	2.77	2.06
Women								
26-35	14.82	13.55	12.35	11.12	7.65	10.59	10.89	13.05
36-45	13.97	12.37	12.17	10.83	7.56	9.10	9.90	12.46
46-55	12.68	11.77	11.42	8.11	5.34	7.83	7.86	11.84
56-65	11.05	11.46	7.95	6.30	5.47	6.50	5.37	11.88
65+	8.71	7.19	5.89	5.14	3.35	5.08	3.81	10.00
(26-35)-(56-65)*	3.77	2.09	4.40	4.82	2.18	4.08	5.51	1.17

\* Denotes intercohort change between persons born 1915-1924 and 1945-1954.

TABLE 4: MEANS OF SCHOOLING AND SOCIAL BACKGROUND VARIABLES BY ETHNIC-RACIAL GROUP, CIVILIAN NONINSTITUTIONAL MALES, 1973

	Ethnic-Racial Group						
	Asian	Black	Cuban	American Indian	Mexican	Puerto Rican	White
Mean Grades	13.04	10.34	11.39	10.82	8.81	8.79	12.16
Prop. >8 Grades	0.91	0.68	0.72	0.71	0.52	0.55	0.85
Prop. H.S. Graduate	0.80	0.43	0.61	0.48	0.33	0.24	0.68
Prop. Some College	0.58	0.16	0.37	0.19	0.14	0.07	0.37
Age	38.87	40.44	43.52	38.65	38.26	37.50	41.05
Father's Schooling	8.66	6.32	8.81	6.67	3.90	4.29	8.44
Mother's Schooling	7.42	7.42	7.66	8.07	3.82	4.36	9.06
Father's Occupation	37.03	23.23	41.07	29.11	23.66	28.81	34.45
Number of Siblings	4.95	6.19	4.80	5.86	6.44	6.43	4.38
Broken Family	0.19	0.34	0.21	0.25	0.21	0.28	0.15
Native Born	0.48	0.97	0.05	0.99	0.70	0.10	0.94



TABLE 5. ANALYSIS OF ETHNIC-RACIAL DIFFERENCES IN GRADES OF SCHOOL COMPLETED AND SCHOOL CONTINUATION RATES: CIVILIAN NONINSTITUTIONAL MALES, 1973.\*

Independent Variable	Dependent Variable					
	Highest Grade Completed			High School Attendance (Completes 9th Grade)		
Constant	14.360	11.310	10.880	3.195	1.901	1.537
Asians	.530	.991	1.374	0.127	.716	1.106
Indians	-1.687	-.313	-.853	-0.934	-0.592	-0.655
Cubans	-0.672	-0.546	0.220	-0.849	-0.826	-0.049
Mexicans	-3.736	-1.294	-1.098	-1.910	-0.663	-0.477
Puerto Ricans	-3.794	-1.512	-0.785	-1.939	-0.832	-0.091
Blacks	-1.926	-0.730	-0.739	-1.013	-0.495	-0.525
(Whites)						
Father's Schooling		0.173	0.178		0.103	0.107
Mother's Schooling		0.218	0.208		0.151	0.144
Father's Occupation*		0.086	0.095		0.036	0.424
Number of Siblings		-0.138	-0.139		-0.069	-0.074
Broken Family		-0.549	-0.583		-0.209	-0.243
Native Born			0.891			0.901
R <sup>2</sup>	0.21	0.35	0.35			
SEE	3.85	3.50	3.49			
-2LogL				9081	8325	8198
$\chi^2$ (d.f.)					756 (5)	127 (1)

TABLE 5 (continued). ANALYSIS OF ETHNIC-RACIAL DIFFERENCES IN GRADES OF SCHOOL COMPLETED AND SCHOOL CONTINUATION RATES: CIVILIAN NONINSTITUTIONAL MALES, 1973.\*

Independent Variable	Dependent Variable					
	High School Graduation Given High School Attendance			College Attendance Given High School Graduation		
Constant	2.616	2.082	2.180	0.823	0.107	0.614
Asians	0.602	0.844	0.779	0.486	0.730	0.430
Indians	-0.752	-0.532	-0.521	-0.506	-0.243	-0.207
Cubans	0.648	0.634	-0.481	0.272	0.222	-0.461
Mexicans	-0.830	0.133	-0.172	-0.616	0.073	-0.057
Puerto Ricans	-1.495	-0.905	-1.042	-0.788	0.205	-0.789
Blacks	-0.768	-0.379	-0.375	-0.548	-0.061	-0.060
(Whites)						
Father's Schooling		0.061	0.060		0.053	0.047
Mother's Schooling		0.060	0.062		0.054	0.063
Father's Occupation**		0.037	0.035		0.010	0.009
Number of Siblings		-0.085	-0.085		-0.090	-0.093
Broken Family		-0.238	-0.233		-0.337	-0.315
Native Born			-0.181			-0.829
-2LogL	6533	6191	6188	6329	5911	5845
$\chi^2$ (d.f.)		342 (5)	3 (1)		418 (5)	66 (1)

\* Numbers for "Highest Grade Completed" are least squares regression coefficients. Numbers for other dependent variables are logit coefficients estimated by maximum likelihood. All models include a constant, and dummy variables that denote ages 20-25, 26-35, 36-45, 46-55, and 56-65, and whether an observation is a respondent, an "oldest brother," or a "youngest brother."

" For definitions of variables and further explanation see text.

\*\* Duncan Occupational Socioeconomic Index  $\times$  0.1.

TABLE 6. REGRESSION ANALYSIS OF SOCIOECONOMIC BACKGROUND EFFECTS ON HIGHEST GRADE OF SCHOOL COMPLETED FOR SELECTED ETHNIC-RACIAL GROUPS: CIVILIAN NONINSTITUTIONAL MEN IN 1973.\*

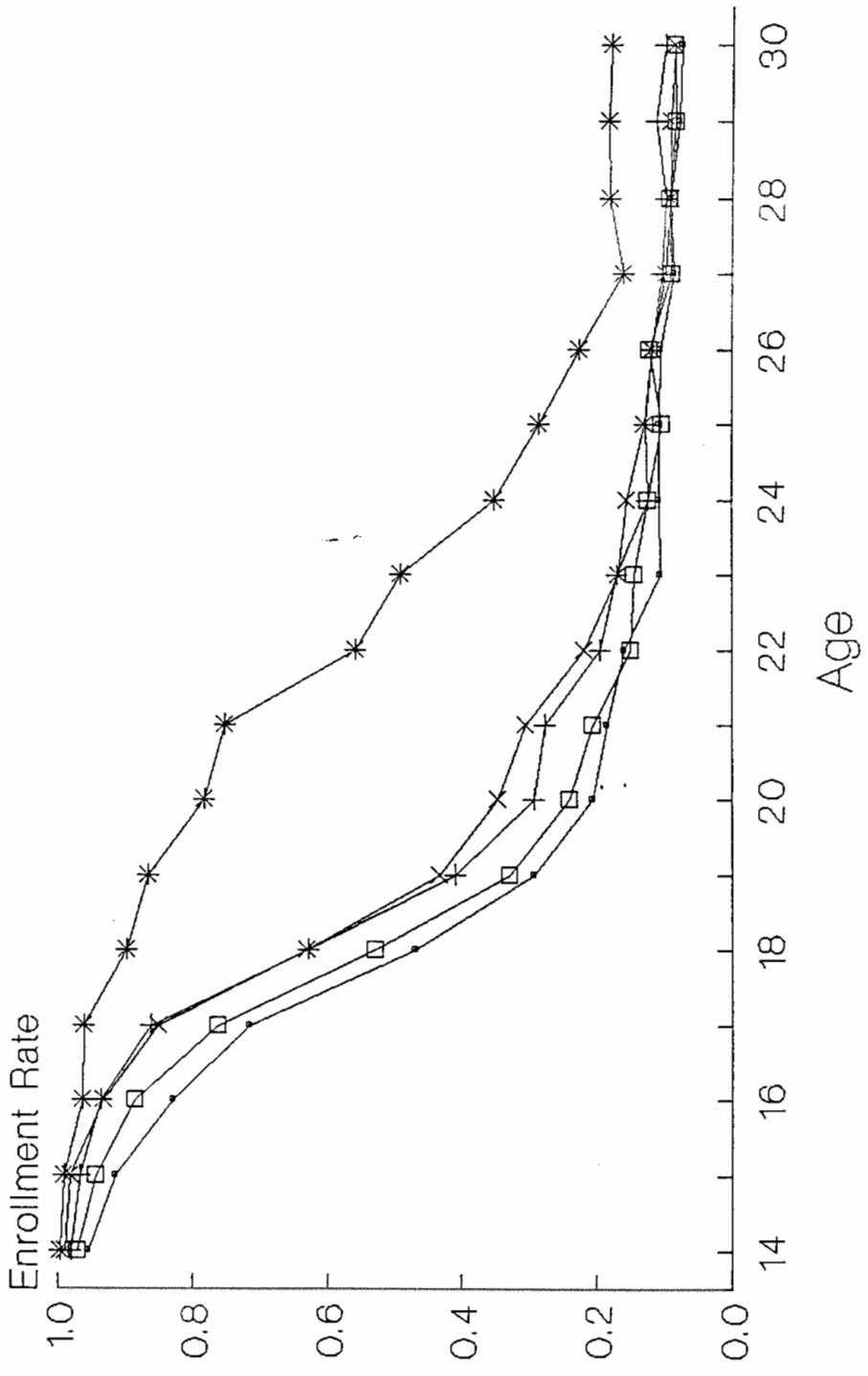
Social Background Variable	Ethnic-Racial Group						
	N.A. Indian	Cuban	Mexican	Puerto Rican	Asian	Black	White
Father's Schooling	0.032 (.04)	-0.003 (.05)	0.219 (.02)	0.322 (.06)	0.152 (.04)	0.146 (.03)	0.189 (.02)
Mother's Schooling	0.330 (.04)	0.338 (.07)	0.263 (.03)	0.222 (.06)	0.042 (.04)	0.227 (.03)	0.121 (.03)
Father's Occupation**	0.033 (.04)	0.277 (.07)	0.108 (.03)	0.063 (.06)	0.201 (.06)	0.002 (.04)	0.114 (.03)
Number of Siblings	-0.216 (.04)	-0.269 (.06)	-0.115 (.02)	-0.083 (.05)	0.002 (.05)	-0.129 (.02)	-0.223 (.02)
Broken Family	-0.114 (.32)	-0.686 (.57)	-1.055 (.21)	-0.162 (.38)	-0.506 (.36)	0.143 (.19)	-0.754 (.19)
SEE	3.04	3.72	3.89	3.45	3.43	3.37	2.96
SD   Age†	3.52	4.26	4.45	3.97	3.67	3.76	3.36
SD	3.68	4.38	4.68	4.06	4.08	4.04	3.47
R <sup>2</sup>	0.25	0.28	0.31	0.28	0.29	0.30	0.27
Brothers' $\rho$	0.53	0.53	0.63	0.59	0.52	0.51	0.49
Proportion of within-family variance explained	0.47	0.53	0.49	0.48	0.52	0.51	0.49

\* Numbers are least squares regression coefficients with standard errors in parentheses. All models include a constant, dummy variables that denote ages 20-25, 26-35, 36-45, 46-55, and 56-65, and dummy variables that denote whether an observation is for a respondent, an "oldest brother," or a "youngest brother." Numbers of observations are presented in Table 1. For definitions of variables and further explanation, see text.

\*\* Duncan Occupational Socioeconomic Index  $\times$  0.1.

† Standard error of estimate of regression of grades of schooling on dummy variables for age groups (see note above).

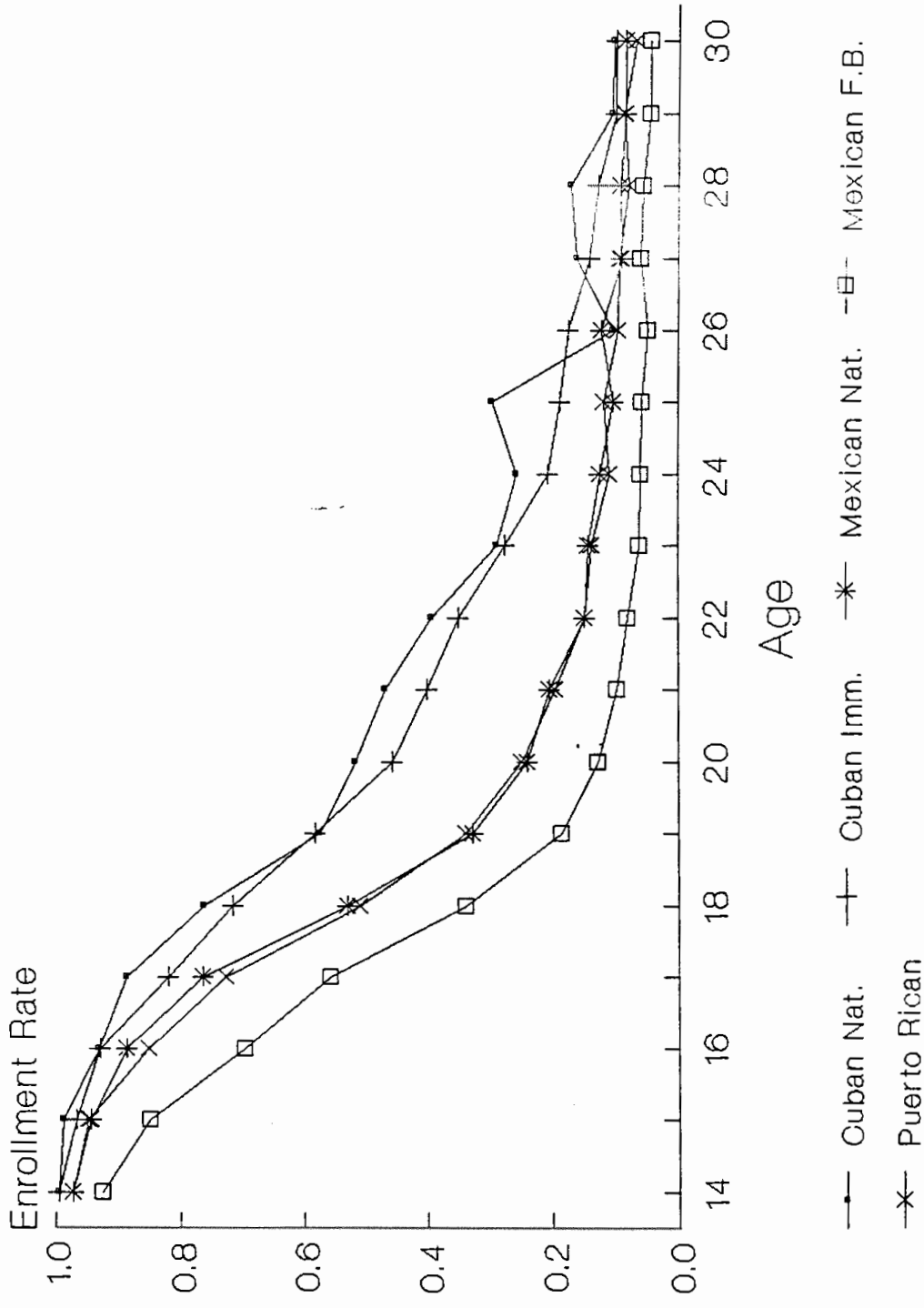
Fig 1A. Enrollment By Age: Selected Ethnic-Racial and Nativity Groups, 1980



—●— Amer. Indian    —+— Black    —\*— Chinese Nat.    —□— Mexican Nat.  
 —x— White

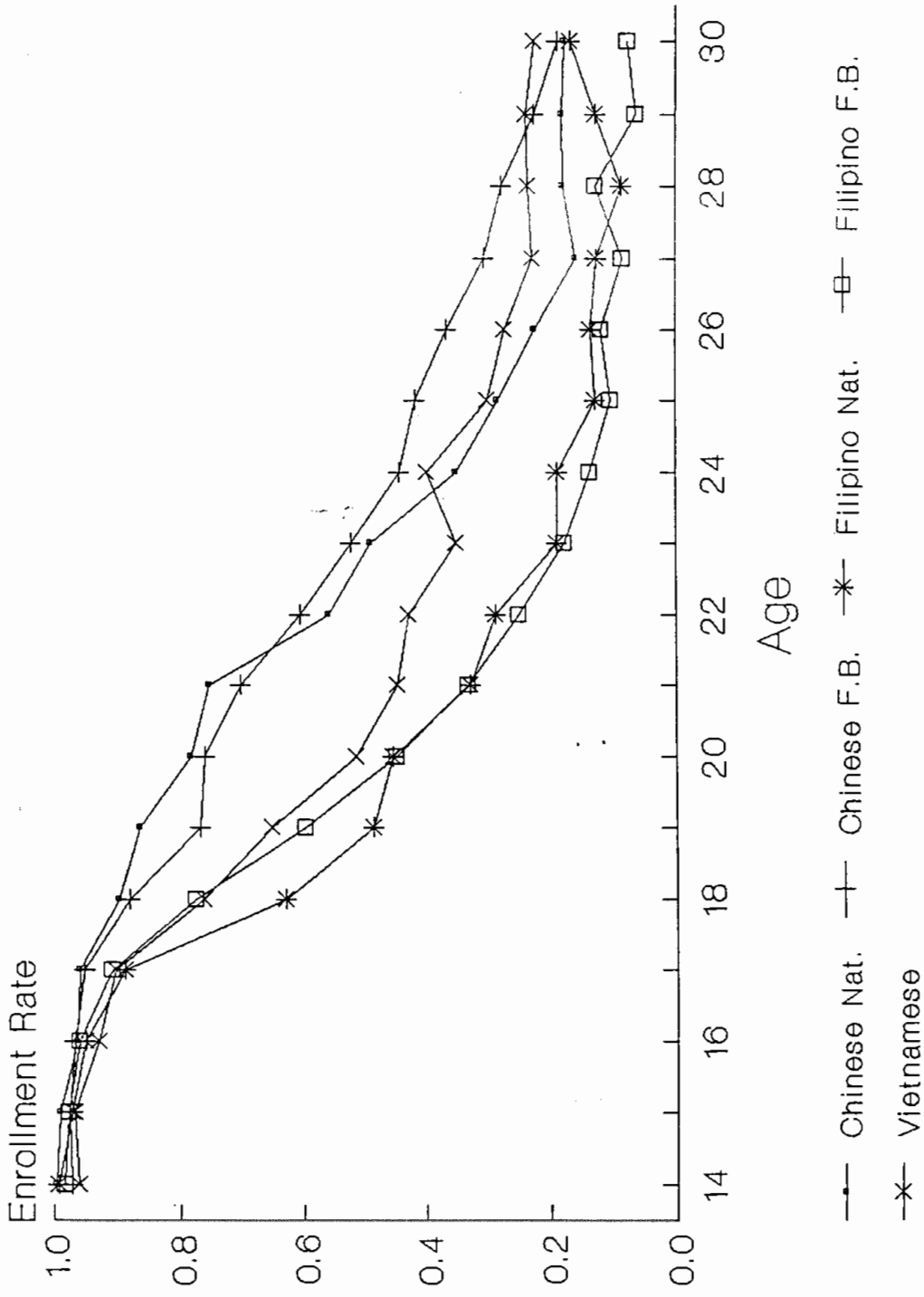
Source: 1980 Census of Population

Fig 1B. Enrollment By Age:  
Selected Hispanic Groups, 1980



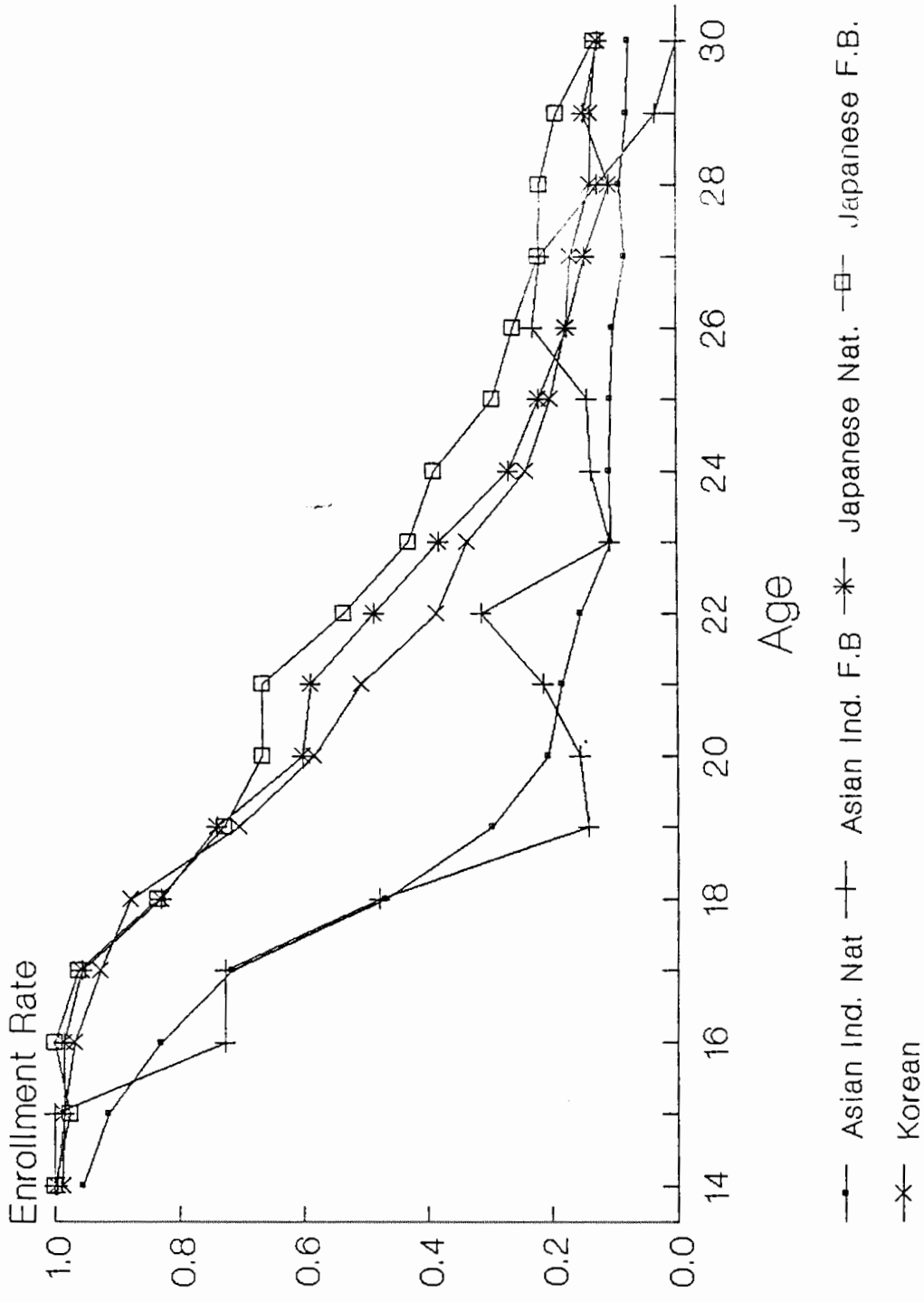
\*F.B.\* denotes foreign born population  
Source: 1980 Census of Population

Fig 1C. Enrollment By Age:  
Selected Asian Groups, 1980



\*F.B.\* denotes foreign born population  
Source: 1980 Census of Population

Fig 1D. Enrollment By Age:  
Selected Asian Groups, 1980



\*F.B.\* denotes foreign born population  
Source: 1980 Census of Population

Mailing Address:

Center for Demography and Ecology  
University of Wisconsin  
1180 Observatory Drive  
Madison, Wisconsin 53706-1393  
U.S.A.