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Phenotype and Schooling among Mexican Americans

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The study presented here examined the effect of phenotype (both skin color and physical features) on schooling attainment among Mexican Americans with data from the 1979 National Chicano Survey. It found that the lightest skin-toned and most European-looking quarter of the Mexican American population had about 1.5 more years of schooling than the darker and more Indian-looking majority. Differences in schooling by phenotype persisted with and without controls for other factors that have also been found to affect schooling. Phenotype was especially important among cohorts educated before World War II, although it continued to be important among later cohorts. Also, it had strong effects on schooling in Texas but virtually no effects in California and strong effects for those raised in Spanish-speaking neighborhoods but insignificant effects for those raised in English-speaking neighborhoods.

The average level of educational attainment of Mexican Americans is significantly lower than that of other racial-ethnic groups in the United States. In 1988, for example, the median number of years of school completed by individuals aged 25 years and over was 12.7 for Whites, 12.4 for Blacks, 12.4 for Cubans, and 12.0 for Puerto Ricans, but only 10.8 for Mexican Americans (U.S. Bureau of the Census, 1989, 1990). Research has also shown that there are significant differences in life chances by phenotype for Mexican Americans, with those with dark complexions and Indian features faring less well than those with light complexions and European features (Arce, Murguia, and Frisbie 1987; Grebler, Moore, and Guzman 1970; Relethford, Stern, Caskill, and Hazuda 1983; Telles and Murguia 1990, 1992). In this article, we present the results of our study, in which we examined the extent to which phenotype affects schooling among Mexican Americans and the contexts in which phenotype is likely to be especially salient. We discuss how colo-

rialism and labeling theory explain how Mexican ethnicity and phenotype affect educational attainment and examine how other factors, such as generational status, religion, and the predominant language of the neighborhood, are correlated with years of schooling completed.

PREVIOUS RESEARCH

Before the 1960s, there was virtually no research on the educational levels of Mexican Americans (San Miguel 1987). In the 1970s, Vaca (1970, 1971) identified three major theoretical frameworks for interpreting Mexican American school attainment: biological determinism, cultural determinism, and structural-environmental determinism, with cultural determinism the major perspective. According to cultural determinism, the social ills of Mexican Americans stem from their culturally induced deficiencies, such as fatalism and the inability to defer gratification. More recently, however, Walker (1987) argued that since the 1970s, research has departed from a

simple view of educational underachievement caused by a child-culture-focused analysis to more complex research in which multiple contributors to achievement or the lack of achievement are considered.

Chapa (1988) studied the educational attainment of third-generation Mexican Americans (whose parents were born in the United States) and found that in 1979, Mexican Americans had lower average years of education than did Blacks, Anglos, or Asians. Although third-generation Mexican Americans averaged 11.0 years of education, Blacks averaged 12.0 years, Anglos averaged 13.4 years, and Asians averaged 13.5 years. Similarly, studies have found that Mexican Americans have higher school dropout rates and lower college-attendance rates than do Blacks, Anglos, or Asians (Buriel and Cardozo 1988; Chapa 1988; Rumberger 1987; Vélez 1989). However, Smith (1990) found that the difference in mean years of schooling between third-generation Mexican Americans and non-Hispanic Whites has decreased over time, so that for the most recent cohort, there is about a one-year difference, compared to a three- to five-year difference among earlier cohorts.

Phenotypic Differences

The early literature on Mexican Americans tended to treat them as a homogeneous population and to indicate that social hierarchies were established primarily between Mexicans and Anglos. The more recent literature, however, has addressed hierarchies among Mexican Americans, such as gender and, to a lesser extent, phenotype.

Grebler et al. (1970) showed that in San Antonio, Texas, Mexican Americans with light skin had higher incomes and were less likely to live in segregated areas than were their darker counterparts, but there was a weak correlation between skin color and both residence and income in Los Angeles. Similarly, Relethford et al. (1983) surveyed San Antonio residents and concluded that Mexican Americans who lived in the low-income sections of the city were

generally darker than those who lived in the middle- and upper-class sections.

Arce et al. (1987) found that phenotype was correlated with both objective and subjective socioeconomic indicators of Mexican Americans' life chances, such as education, occupation, perceived discrimination, cultural preference, and ethno-political orientation. Furthermore, phenotype significantly influenced all these variables in the expected direction; that is, a more Caucasian phenotype was related to greater life chances and a darker and more Indian phenotype was related to greater perceived discrimination, greater attachment to the minority culture, and greater adherence to minority ethno-political orientations. Telles and Murguia (1990, 1992) examined the effect of phenotype on the income of Mexican American men with a multivariate human capital model and found sizable income differences between dark and light men that could not be explained by a constellation of human and social capital variables.

Effects of Colonialism

During the 1970s, social scientists generally investigated the history of Mexican Americans from a colonial perspective (Almaguer 1971; Barrera 1979; Blauner 1972; Moore 1972, Murguia 1975/1989). They confirmed that, indeed, race relations in the past 500 years of Western world history have been characterized by colonization and subsequent decolonization. The first wave of modern colonialism began at the end of the 15th century with the voyages of Christopher Columbus and Vasco da Gama. During this so-called Age of Discovery, the nation-states of Europe, particularly England, France, Holland, Portugal, and Spain, expanded by conquest into the Americas, Africa, and Asia, which were populated largely by non-Whites, and founded colonial empires. These countries established societies based on dominant-subordinate relationships, with skin color as the predominant marker of status. Because of the prestige and power of conquest, whiteness was given a higher status than

nonwhiteness by both the colonizers and the colonized.

During the wave of decolonization that occurred in the 19th and early 20th centuries, Mexico and other colonies in Latin America won their freedom from Spain. Since the former Mexican territory was incorporated into the American Southwest in 1848, persons of Mexican origin have suffered discrimination by European Americans. They have been stigmatized as biologically, culturally, or socially inferior, and negative stereotypes about them continue to impede their and their descendants' prospects for mobility. One result has been persistent differences in the educational attainment of Mexican Americans and Anglos.

Colonialism also led to stratified race relations in Mexico and other former Spanish territories. In the case of Mexico, the militarily superior Spanish conquered numerous Indian nations and constructed a society of a Spanish elite and Indian slaves. With the miscegenation of these two groups and the creation of a large population of mestizos (persons of mixed race), a racial hierarchy, based largely on skin color, evolved. Light-skinned and European-looking persons tended to be at the top of the social hierarchy, and the darkest and most Indian-looking persons tended to be at the bottom (Knight 1990). Even after the Mexican Revolution, when the mestizo and Indian elements of the Mexican population and their culture were glorified (Vasconcelos 1925), the racial hierarchy continued (Knight 1990).

Given this situation, we expected to find that Mexican Americans suffer the effects of racism when the population is defined as a racial category (Mexican origin) and as a point in a color continuum (light to dark). We hypothesized that the American colonizers and their descendants have discriminated against Mexicans in general but may have given preferential treatment to those with particular attributes, including light skin color. In addition, lighter-skinned persons may be preferred (as friends and marital partners) in the Mexican American population because of the strong Mexican ideology about the role of race, which Mexican Americans may con-

sciously or unconsciously internalize. Admittedly, these are only hypotheses, since evidence to support them is unavailable, perhaps because little attention has been paid to this variable by historians in this area of study. In any case, such phenotypic data would be difficult to find in historical records.

Labeling Theory

Moving from the macro- to the microlevel, one sees the effects of the historical subjugation of non-Whites in classrooms. In education, labeling theory, known more specifically as the educational self-fulfilling prophecy or the teacher expectations effect, states that poor and minority children often fail in the educational system because educational administrators and teachers have lower expectations about their abilities and hence challenge them less (Crano and Mellon 1978; Dusek 1985; Merton 1968; Rosenthal and Jacobson 1968). Researchers have found, for example, that White teachers rate White students more positively than Black or Hispanic students, which results in the lower academic achievement of minority students than of White students (Blanchard, Weigel, and Cook 1975; Jensen and Rosenfeld 1974; Rubovits and Maehr, 1973). In a classic experiment of labeling theory (Rosenthal and Jacobson 1968), teachers in south San Francisco were informed that some of their students, on the basis of a test given to the entire student body by the researchers, were about to "spurt ahead," whereas students had actually been randomly assigned to experimental ("spurt ahead") or control (not "spurt ahead") groups. A subsequent IQ test of these students showed that some teachers' beliefs about the students' latent talent acted to increase significantly the IQ scores of those in the spurt-ahead group.

Incidentally, Rosenthal and Jacobsen were attentive to the phenotypic differences among the Mexican American children in their sample. Although they did not explore this variable, they noted that Mexican American boys who "looked the most Mexican" and were randomly

placed in the spurt-ahead group benefited more from the teacher-expectation effect than did others. The authors speculated that since the visibly Mexican group may have been the most misjudged originally, they consequently gained the most from teachers' positive expectations of them.

HYPOTHESES

Because of centuries of miscegenation, Mexicans vary widely in the extent to which they appear racially distinct from Anglos, from those who are virtually indistinguishable from the Anglo majority to those with dark brown skin and Indian features. Thus, the extent to which Whites perceive of Mexican Americans as a racial "other" may vary. We hypothesized that the concept of Mexican American may have, in addition to a categorical component of "being Mexican," a continuous component of phenotype, in which the stigma accruing to dark and Indian-looking Mexican Americans is particularly intense and those who appear more European may be viewed more positively. Teachers of Mexican American children, who have historically been primarily Anglo, may have lower expectations of darker children because they view these children as "more Mexican" and thus perceive that these children are less likely to succeed than their lighter counterparts. Conversely, teachers, believing consciously or unconsciously, that lighter Mexicans have more potential, may be more supportive of them than of darker Mexicans, as they are of Anglos more than of Mexican Americans in general, regardless of their color.

Thus, we hypothesized that either (1) Mexican Americans, as a group, are stigmatized and all have lower levels of education than have non-Hispanic Whites, (2) dark Mexican Americans are especially stigmatized and have lower levels of education than their lighter counterparts, or (3) both 1 and 2. Also, lighter Mexican Americans may be aided by the fact that they are more likely to live in ethnically integrated neighborhoods, where the quality of schools

tends to be better (Grebler et al. 1970; Relethford 1985). Finally, phenotypic differences may be reproduced intergenerationally because darker parents, who tend to be of the lower social classes, have fewer resources to pass on to their generally darker children. This intergenerational reproduction of phenotypes may be true as well for parents who were reared in Mexico, where there is also a correlation between race and lower social class (Knight 1990). Thus, we examined whether phenotype has an effect on educational attainment that is independent of factors like neighborhood and parents' education. We also analyzed the effect of the other variables described later, which we believe are most likely to affect levels of schooling.

METHOD

Data

The data for this study came from the 1979 National Chicano Survey¹ conducted by the Institute for Social Research, University of Michigan, the first probabilistic national survey of the Mexican-origin population in the United States. Of the 11,000 households that were screened, 1,300 were identified as being of Mexican descent, from which 991 interviews were completed. Persons of Mexican ancestry were defined as those having at least two Mexican-origin grandparents. The data from the sample interviewed closely matches data from the 1980 census along various socioeconomic and demographic dimensions (Arce et al. 1987).

We limited our sample to respondents in the five states in the Southwest (Arizona, California, Colorado, New Mexico, and Texas), in which about 90 percent of the Mexican American population resides. We further limited the sample to include only respondents who were born in or who migrated to the United States prior to age 12, so that the final data set included only those who completed their schooling in this country. Our final sample size was 539.

Variables

Phenotype. Phenotype consists of three categories (light, medium, and dark) and

was constructed from two items in the survey. One item asked the interviewer to code the respondents' skin color from very light to very dark on a five-point scale. The second item asked the interviewer to code the respondents' physical features from very European to very Indian features, also on a five-point scale. Individuals were coded in the light category if they were given a score of 1 or 2 on the skin-color variable and 1 or 2 on the physical-features variable. They were coded dark if they were given a score of 4 or 5 on both variables, and medium in all other cases. Arce et al. (1987), who discussed this issue in depth, demonstrated that the phenotype variable has validity and at least partial reliability. For example, there is a strong and symmetrical correlation between the two components of the composite variable, skin color and physical features, as would be expected.

Schooling. Schooling, the dependent variable, was measured by the number of years of schooling completed reported by the respondents. Values range from 0 to 22 years, with an average of about 9 years.

Variables and Hypotheses

Because differences in schooling, particularly educational differences by phenotype, may be affected by other variables as well, we added sex, birth cohort, generational status, parents' education, religion, region, rural-urban background, and dominant language in the neighborhood as a child as controls in the multivariate analysis. Although variables like parents' education and birth cohort, are likely to affect schooling strongly, findings about the effects of such variables as religion, generational status, and dominant language of neighborhood may be of particular interest.

For example, being Protestant as opposed to Catholic may have increased educational opportunities for the relatively few Mexican American Protestants for reasons that we can only hypothesize in this article. Compared with the Catholic majority, the Protestants may have had (1) greater contact with the middle-class majority, who could provide financial and other re-

sources; (2) greater exposure to middle-class role models; and (3) greater attention paid by Protestant church officials toward their relatively few Mexican-origin members. In addition, there may have been a selectivity effect, whereby more motivated persons were more likely to decide to convert to Protestantism.

For generational status, "straight-line" assimilation theory (see, for example, Gordon 1964) claims that succeeding generations since the immigrant generation will be increasingly more successful than their parents. However, some researchers have found that the children of immigrants (the second generation) tend to be more successful than third-generation children. Fernandez and Nielsen (1986) posited several reasons for the greater success of second-generation children as opposed to third- (and higher) generation children. First, immigration could be selective in that families who migrate may have characteristics associated with upward mobility and academic achievement. Second, by the third generation, Mexican-origin children have become like native minorities, who may have lost their ambition in long-established barrios with troubled schools or, as Fernandez and Nielsen put it, may have become "ghettoized." Kao and Tienda's (1995) "immigrant optimism" model attributes the greater success of the second generation relative to the first and third generations to attributes of immigrant parents, such as optimism toward the possibility of upward mobility by their children through education and the high value placed on education. Thus, straight-line assimilation theory would predict the greatest success for the third generation, but the immigrant-optimism model would predict the greatest success for the second generation.

Regarding dominant language in the neighborhood as a child, Fernandez and Nielsen (1986) found that the frequent use of Spanish at home is correlated both with lower academic achievement and expected academic attainment, perhaps because those who speak Spanish at home may be more culturally distinct than others and teachers may be penalizing them for their cultural distinctiveness. These authors added that the use of Spanish at home may also signal the

presence of other cultural markers that may stigmatize students as well. Furthermore, schools in neighborhoods where Spanish is spoken at home may be of a lower quality than schools in neighborhoods where English is spoken because they tend to be located in school districts with limited resources. The lower quality of these schools could particularly hamper high school students in these less affluent districts from attending college.

In addition, we tested whether variables in our models interact with phenotype to produce educational outcomes beyond those expected by the main effects. For example, does phenotype make a greater difference among females than among males or in Texas than in California? We expected that phenotype would make a difference among females because greater importance may be placed on the physical attractiveness of females, often based on Western aesthetics, in both teacher-student and student-student interactions. We also expected phenotype to be more important in Texas than in California, given both the Jim Crow tradition, which was aimed at Mexicans as well as Blacks, and the historical importance of "purity of blood" among the prequest elite in Texas (Grebler et al. 1970). We expected as well that in classrooms where all or most children are Mexican, phenotypic differentiation may be especially important because the selection of a spurt-ahead group of students may be influenced especially by phenotype, since ethnic-racial distinctions are precluded.

RESULTS

Main Effects

As Table 1 shows, only 7.0 percent of light Mexican Americans were in the

lowest educational category (no more than four years of schooling), compared to 19.2 percent of medium and 18.0 percent of dark Mexican Americans. At the other end of the schooling scale, the percentages were reversed: Fully 10.2 percent of light Mexican Americans completed college, whereas only 4.2 percent of medium and 5.3 percent of dark Mexican Americans did so.

Figure 1 illustrates the schooling attainment of Mexican Americans across a larger continuum of phenotypes. In this case, phenotype is operationalized as the sum of the skin-color score (1–5) plus the physical-features score (1–5) minus 1, with 1 referring to the lightest and most European-looking Mexican Americans and 9 referring to the darkest and most Indian looking. Clearly, the lightest and most European-looking individuals had the highest level of schooling and schooling attainment decreased as the population "darkened" up to reaching an average phenotype. Except for the darkest and most Indian-looking Mexican Americans, there seems to have been no relationship between schooling and phenotype for average and dark Mexican Americans. The 26 darkest and most Indian-looking individuals (about 5 percent of the population) clearly had lower levels of schooling than did the rest of the population. It is also interesting that those with the second-darkest and most Indian-looking phenotype (another 5 percent) seem to have had higher levels of education than expected, although the difference is probably not significant. Despite these nuances, Figure 1 is especially important because it shows that the large differences in phenotype are between "light" and "non-light" persons, which we refer to in the rest of this article.

Table 1. Percentage Distribution of Years of Schooling, by Phenotype

Years of Schooling	Light	Medium	Dark	Total
0–4	7.0	19.2	18.0	16.0
5–7	14.1	13.0	12.0	13.0
8–11	23.4	29.1	31.3	28.4
12	21.9	21.1	16.0	19.9
13–15	23.4	13.4	17.3	16.9
16 or more	10.2	4.2	5.3	5.9
Total	100.0	100.0	99.9	100.1

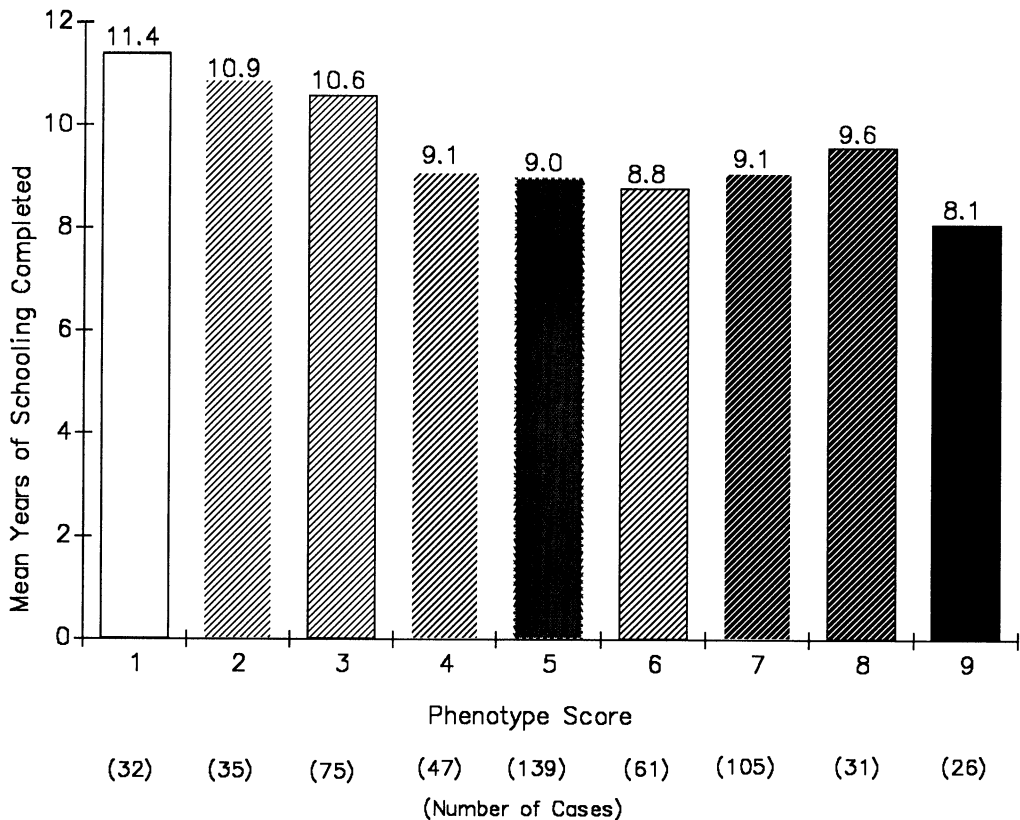


Figure 1. Mean Years of Schooling Completed, by Phenotype Score, for Mexican Americans over Age 25: 1979

To analyze how phenotype affects schooling attainment independent of the other variables, we used regression analysis. In Table 2, we present two models: the first, which controlled for phenotype, gender, birth cohort, and generational status, and the second, which controlled for several additional variables. Regression coefficients and standard errors for the two models are presented in the first four columns, and means are presented in the final column. The R^2 s are fairly high in both models and demonstrate that we explained most of the variance in Model 2. This finding suggests that we tapped key variables that explain the educational attainment of Mexican Americans.

The coefficients for phenotype are highly significant and show that dark and medium phenotypes were associated with lower educational attainment in both models. The introduction of all controls in Model 2 reduced the effect of

phenotype from Model 1 somewhat, although the phenotype coefficients continued to be highly significant. Variables, such as parental education, may have reduced the effect of phenotype in Model 2 because the phenotype of parents, which is likely to be correlated with their children's, may also have affected the parents' educational attainment. The difference in the size of the coefficients for the dark and medium phenotypes is small and not statistically significant. Thus, phenotype made a difference in education between light Mexican Americans and the other two groups but not between medium and dark Mexican Americans.²

Given the scarcity of research on the determinants of schooling among Mexican Americans, we should also note the effect of other variables. Male-female differences in educational attainment were significant in Model 2 but not in Model 1. Birth cohorts increased mono-

Table 2. OLS Regression Results and Means: 1979 National Chicano Survey

Variable	Model 1		Model 2		Means
	Coefficient	SE	Coefficient	SE	
<i>Phenotype</i>					
Dark	-2.037***	.424	-1.277***	.379	.28
Medium (Light)	-2.218***	.382	-1.687***	.341	.48 .24
<i>Sex</i>					
Female (Male)	-.607	.318	-.642*	.282	.65 .35
<i>Birth Cohort</i>					
1945-54	5.854***	.429	4.153***	.412	.36
1935-44	4.940***	.465	3.911***	.429	.24
1925-34 (Before 1925)	2.046***	.490	1.435***	.436	.19 .21
<i>Generational Status</i>					
U.S. born of U.S.-born parents	1.764**	.565	1.013	.520	.45
U.S. born of Mexico-born parents (Mexico born) ^a	1.571**	.561	1.450**	.507	.46 .09
<i>Parents' Years of Schooling^b</i>					
Information on parents' education Missing (Not missing)			.320***	.042	4.72 .12 .88
<i>Religion in Which Raised</i>					
Protestant (Catholic)			1.330*	.630	.05 .95
<i>Region^c</i>					
Arizona, Colorado, New Mexico California (Texas)			1.318*** .850*	.352 .347	.24 .27 .49
<i>Location in Which Raised</i>					
Rural (Urban)			-.897*	.363	.19 .81
<i>Dominant Language of Neighborhood</i>					
English (Spanish)			.869**	.312	.32 .68
Intercept	6.237		5.188		
N	539		539		
R ²	.366		.515		

* $p < .05$, ** $p < .001$, *** $p < .0001$.

^a Born in Mexico includes only those who arrived before age 12.

^b When information was reported for both parents, an average was calculated; when information was reported for one parent, that information was used; and when no information (missing) was reported, average years of schooling for the sample was used.

^c For persons who were born in the United States, information on place of birth was used. For those who were born in Mexico, current residence at the time of the survey was used.

tonically by year of birth so that younger Mexican Americans had greater amounts of schooling, which reflects the general trend toward increased schooling in the United States, especially among Mexican Americans (Smith 1990).

Although the number of years of schooling increased from the immigrant to the native-born generation, there were no significant differences between the second and older generations. Second-

generation children clearly had more years of schooling than did those who were born in Mexico but schooled in the United States. Schooling attainment was greatest in Model 1 for the third generations, but the differences were not significantly different from those of the second generation. However, the second-generation effects were greater than those of both the first and the third generations in Model 2 perhaps because the educa-

tional levels of the second generation's Mexican-born parents may have been substantially lower than those of the third generation's U.S.-born parents. Although assimilation theory predicts that the third generation should do better than the second generation because native-born parents are better equipped to orient their children in the host society, this advantage may be offset by the possibility that migrant parents are particularly motivated individuals who may seek greater opportunities for their children.

Model 2 in Table 2 also shows that parents' education was closely correlated with children's schooling and that Mexican Americans raised in urban areas and in predominantly English-speaking neighborhoods had an advantage in schooling over those raised in rural and Spanish-speaking neighborhoods. Furthermore, those raised in Arizona, Colorado, and New Mexico had the greatest advantage in schooling, followed by Californians and, at the lowest level, Texans. Finally, our hypothesis that Mexican American Protestants do better in school than their Catholic counterparts was strongly supported.

Interactions

Table 3, presents our calculations of 20 regression models in which light individuals were compared to (omitted) nonlight individuals among 20 subgroups from the sample, controlling for variables in the full model (as in Model 2 of Table 2). For example, the first row shows the coefficient of being light (versus nonlight) among males based on a regression model that included only the males in the sample. The table includes the coefficients, which represent additional years of schooling accruing to the subgroup by virtue of being light; standard errors; and statistical tests. In the final column, we note the cases in which differences in the effects of phenotype were statistically significant across subgroups. Since we found no difference in the effects of a dark versus a medium phenotype, we combined the medium and dark categories into the single nonlight category.

To examine whether phenotype effects were different between subgroups in the same category, we calculated a *t*-test designed to compare coefficients in separate models (Kleinbaum and Kupper 1978). This *t*-test allowed us to examine hypotheses, such as whether phenotype had a greater effect on girls than on boys or on Catholics compared to Protestants. Column 3 of Table 3 shows that we found only two comparison samples in which phenotype had significantly different effects: California versus Texas and predominately English-speaking versus Spanish-speaking neighborhood.

The formula for the *t*-test we used is

$$t = (b_1 - b_2) / \text{se}(b_1 - b_2),$$

where

$$\text{se}(b_1 - b_2) = \frac{(df_1 \text{mse}_1 + df_2 \text{mse}_2) / (df_1 + df_2) (1 / ((df_1)(\text{var}_{x1}) + 1 / ((df_2)(\text{var}_{x2})))$$

The first two rows show that the nonlight children suffered a handicap from their phenotype. Phenotype made a significant difference for both the boys and the girls, although the coefficients were slightly greater for the girls. However, the differences were not significantly different from each other. Thus, our expectation that appearance is more important for females was not supported by the data.

Among the two oldest cohorts, light Mexican Americans completed about two more years of schooling than did their nonlight counterparts (1.9 and 2.1 years). This difference is especially dramatic, given the especially low mean years of schooling completed in the period in which they were educated. In our sample, the before-1925 cohort had an average of only 5.5 years of schooling and the 1925–34 cohort had an average of 8.0 years. However, for the 1935–44 cohort, differences between light and nonlight phenotypes virtually disappeared. The coefficient suggests 0.6 years of additional education for light individuals, but these differences are not statistically significant. For the youngest cohort, educated primarily in the 1960s, phenotypic differences reappeared. However, differences in the effect of pheno-

Table 3. Coefficients Predicting Schooling for Light versus Nonlight Individuals among Various Mexican American Subgroups, with All Other Variables Held Constant: 1979 National Chicano Survey^a

Subgroup	Light Compared to Nonlight	
	Coefficient	SE
<i>Sex</i>		
Male	1.272*	.588
Female	1.563***	.382
<i>Birth Cohort</i>		
1945–54	1.561**	.497
1935–44	0.557	.673
1925–34	1.868*	.798
Before 1925	1.202	.750
<i>Generational Status</i>		
U.S. born of U.S.-born parents	1.314**	.426
U.S. born of Mexico-born parents	1.906***	.499
Mexico born	1.642	1.301
<i>Parents' Education</i>		
Parents with 8 or more years of schooling	1.016*	.609
Parents with fewer than 8 years of schooling	1.970***	.384
<i>Religion</i>		
Protestant	-0.177	1.302
Catholic	1.644***	.333
<i>Region</i>		
California	0.464	.547 ^{*b}
Arizona, Colorado, New Mexico	1.782*	.691
Texas	2.106***	.470*
<i>Location in Which Raised</i>		
Urban	1.505***	.344
Rural	.816	.959
<i>Language of Neighborhood</i>		
English	0.369	.484 ^{*b}
Spanish	1.973***	.411 ^{*b}

* $p < .05$, ** $p < .01$, *** $p < .001$.

^a Separate equations were run for each subgroup. Coefficients and SEs are presented only for the light (versus nonlight) predictor variable, although equations for each subgroup also control for sex, birth cohort, general status, parent's education, region, location, and language of neighborhood except when one of these variables is the basis of the subgroup selection.

^b Pairs of *s refer to statistically significant differences between subgroups in the same category and are based on

$$t = (b_1 - b_2) / se(b_1 - b_2),$$

where

$$se(b_1 - b_2) = (df_1 mse_1 + df_2 mse_2) / (df_1 + df_2) (1 / ((df_1)(var_{x_1})) + 1 / ((df_2)(var_{x_2}))).$$

type were not statistically significant at the .05 level across cohorts.

Our analysis also showed that phenotype was important irrespective of class origins and specifically, parents' education, although the relation between phenotype and schooling was stronger for those with less educated parents. For religion, phenotype made a difference for Catholics but not for Protestants; however, it was not significantly different by class or religion.

Phenotype was very important in Texas; important in Arizona, Colorado,

and New Mexico; and unimportant in California, according to our analysis. A t -test comparing the coefficients of the subsamples showed that the effect of phenotype was significantly greater in Texas than in California. The strong correlation between phenotype and schooling in Texas and the weak or nonexistent correlation in California supported the findings of Grebler et al. (1970). We attribute the difference to the absence of widespread legal segregation in California compared to Texas and the generally stronger economy in Califor-

nia, both of which would tend to make race and phenotype less salient. Grebler et al. argued that a purity-of-blood ideology among the Mexican-origin population, which has been more important in Texas than in California, would explain this difference. However, the effect of phenotype in Arizona, Colorado, and New Mexico, where the perceived superiority of Spanish to Mexican or mestizo origins is the most salient, was intermediate to Texas and California, which makes it difficult to attribute regional differences to this ideology (Nieto-Philips 1994).

The effect of phenotype was almost twice as great in urban areas than in rural areas and made a highly statistically significant difference for urban areas but no difference for rural areas. However, the difference in the effect of phenotype for the two areas was not significant.

Finally, phenotype made nearly a two-year (statistically significant) difference for persons who grew up in Spanish-dominant neighborhoods but no difference for those who grew up in English-dominant neighborhoods. Because Spanish-dominant neighborhoods are more likely to be segregated (Massey 1981), teachers and peers in these neighborhoods may be more likely to differentiate the ethnically homogeneous Mexican American student body on the basis of phenotypes, whereas in more racially heterogeneous neighborhoods, Mexican versus Anglo and other categorical racial-ethnic distinctions may be more important.

Changes across Cohorts

Smith (1990) demonstrated that by 1990, previously wide disparities in

schooling (three to five years) between Mexican Americans and non-Hispanic Whites had fallen off to the point that the deficit between recent cohorts of U.S.-born Mexican Americans and their White counterparts was less than one year. Thus, the difference between light-phenotype Mexican Americans and non-Hispanic Whites may have become negligible. Table 4 shows the predicted mean years of schooling for four birth cohorts of light third-generation Mexican American males and females, based on a regression model that controls for generation, sex, and phenotype-cohort interactions, and for White males and females, based on data from the 1980 census (U.S. Bureau of the Census, 1980, p. 42).³ The final two columns show the differences by sex and cohort between the two groups.

Although the entire Mexican American population historically has had educational deficits vis-à-vis the non-Hispanic White population, our data indicate that there had been some convergence as of 1979. Levels of schooling for the lightest and most European-looking segment of the population have also been lower than those for non-Hispanic Whites but consistently greater than those for their darker and more Indian-looking counterparts. In addition, for the most recent cohort, years of schooling for light Mexican Americans were almost at the level of non-Hispanic Whites, but for the oldest cohorts, light Mexican American-Anglo differences were large. While differences in years of schooling (itself an important dimension of inequality) may have diminished, racial differences in the quality of schooling may to be great, partly because of differences in the resources allotted to

Table 4. Predicted Years of Education for Third-generation Mexican Americans Compared to U.S. Whites, by Sex and Birth Cohort: 1980

Birth Cohort	Light Mexican Americans		U.S. Whites		Difference	
	Male	Female	Male	Female	Male	Female
1945–54	13.3	12.7	13.5	13.0	0.2	0.3
1935–44	11.4	10.8	13.1	12.5	1.7	1.7
1925–34	10.1	9.5	12.3	11.8	2.2	2.3
Before 1925	7.8	7.2	10.7	10.5	2.9	3.3

Source: For light Mexican Americans, predicted values are based on coefficients of regression model with phenotype, sex, cohort, generational status, and phenotype-cohort interaction. For U.S. Whites, data are based on the U.S. Bureau of the Census (1980, Vol. 1, Chap. D, Table 262, p. 42).

public school districts (Kozol 1992), and differences in the resources of public and private schools.

DISCUSSION AND CONCLUSIONS

On the basis of a broad historical perspective that European expansion into the Americas led to racism and racial hierarchies in both the United States and Mexico that were still evident as of 1979, we found a system of both categorical racial discrimination (exemplified by the U.S. system) and continuum racial discrimination (characterized by the Mexican system). We believe that this racial system exists even today. Specifically, people have paid a penalty for being Mexican, and some have paid an even greater penalty for being both Mexican and dark and Indian looking. We also posited that this difference is reproduced in education through differential treatment by teachers, particularly in lower expectations of Mexican, especially darker Mexican, students. We demonstrated that even after other variables that are known to affect educational attainment were controlled, possession of a darker and more Indian-looking phenotype generally had a significant negative effect on educational attainment for those of Mexican origin, although, in our detailed analysis, not at all times or under all circumstances.

Thus, we found that racial inequalities and racist practices are often complex and differentially directed, not only to categorically defined groups, the standard unit of analysis in discussions of American race relations, but to phenotypically different members of the same categorical group. Light-skinned Mexican Americans, like their counterparts among other somatically varied groups, including African Americans, suffer the stigma of belonging to the larger group but sometimes suffer less discrimination and find it easier to negotiate their low status than do darker members of their ethnic group.

For example, affirmative action and special programs in education that originated in civil rights legislation may have particularly benefited light-skinned Mexican Americans because these per-

sons had a higher position in the social structure than their darker counterparts and so were in a better position to take advantage of the increased opportunities. This supposition was supported by our data, which indicated that the light-nonlight educational gap virtually closed for the generation born during the 1935–44 period but reappeared for those born between 1945 and 1954, the first generation to reap the benefits of affirmative action and attend college in substantial numbers.

In addition to discrimination, phenotypic differences may be related to individual strategies for mobility. Although it is unlikely that many light Mexican American students can pass as Anglos in classrooms, they may find it easier to defuse the negative stereotypes that have historically been associated with being Mexican in the United States. Since Mexican American children seem to understand that certain social avenues are more open to Anglos, light-skinned Mexican Americans, in particular, may be better able to make more favorable impressions on White educators and thus overcome some of the barriers that hinder the mobility of their ethnic group.

Also, the extent of additional discrimination based on phenotype varies with the social context. As we expected, phenotype was especially important in Texas compared to California and in Spanish-dominant neighborhoods compared to English-dominant ones. In California and in English-dominant neighborhoods, phenotype did not have a significant effect on schooling attainment. And contrary to our expectations, there was no difference in the effect of phenotype for males and females.

Our greater success in explaining a high proportion of the variance in schooling (more than 50 percent in our full model), relative to previous studies of Mexican Americans and similar groups based on individual data, stems from our having used the necessary set of variables. These variables included (1) those that the minority has in common with the majority (for example, parental educational attainment and gender), (2) those that are unique to the minority

(such as language of the neighborhood and generational status), and (3) those that tap sources of prejudice and discrimination (like phenotype). We would welcome additional studies, particularly qualitative studies of the classroom experience, to examine the mechanisms that create distinct schooling outcomes by categorical race and within-group phenotype or color differences.

NOTES

1. The data used in this study were made available by the Inter-university Consortium for Political and Social Research. The data for Mexican Origin People in the United States: The 1979 Chicano Survey were originally collected by Carlos H. Arce of the University of Michigan Survey Research Center. Neither the collector of the original data nor the consortium bear any responsibility for the analyses or interpretations presented here.

2. We were concerned that the effect of the light phenotype might be significant only because it could be strongly correlated with having an Anglo parent. For example, some Mexican American students may have inherited a non-Spanish surname and an Anglo phenotype, which may have resulted in teachers misclassifying them as Anglo. However, we ran the same regression models with only individuals who had four (rather than just at least two) Mexican grandparents and the results were nearly identical (data available from the authors). In addition, a control for having a non-Mexican parent had no effect on years of schooling or on the phenotype variable.

3. The highest open-ended category was estimated at 21.3 years of schooling using a Pareto curve, as in Shryock, Siegel, and associates (1980:366).

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