
Toward Explaining Differences in Educational Achievement among Mexican American Language-Minority Students

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One major question confronting educational researchers and practitioners is why some minority students are successful in school and others are not. This study documented the extent of differences in educational achievement among a cohort of Mexican American language-minority students in a large, urban middle school and assessed them using two theoretical perspectives—socioeconomic and sociocultural—and a conceptual framework of the roles of social and academic behavior on educational achievement. Bilingual students who were fluent English proficient (FEP) had better grades and a higher rate of educational stability and were more likely to complete a quarter of their high school credits by the end of ninth grade than were students who were limited English proficient or from English-only backgrounds. These differences appear to be attributable to the social behavior of FEP students and other, unmeasured characteristics, which supports a sociocultural perspective of educational achievement.

There is a widespread belief among educators, policymakers, and the public at large that English-language proficiency is the key to improving the educational achievement of immigrant and language-minority students. For example, McDonnell and Hill (1993:26) noted that “with few exceptions, the problem of immigrant education is viewed by state policymakers as the need for newcomers to learn English.” Similarly, Macias (1993:236) stated that the growing use of language identifiers in federal data-collection activities “leads many policymakers and analysts to focus on language as the ‘cause’ of low academic achievement, rather than considering or exploring more complex alternatives including the role of race/ethnicity, class, or discriminatory institutional practices.”

Interest in English-language

acquisition and its effect on school achievement has a long history in the United States because, except for the indigenous populations of Native Americans and Mexicans, the majority of American citizens are descendants of immigrants. Although immigrants to the United States have come from different countries of origin and at different periods, they have all faced the need to become proficient in the official language of the United States, English. And unlike many other countries in which multiple languages are used, valued, and taught in schools, the primary pattern in the United States is for immigrants to learn English as rapidly as possible and not continue to use their native languages (Portes and Rumbaut 1990). Indeed, educational policies and practices for immigrant and non-English speaking students, particularly concerning the

provision of bilingual education, reflect this emphasis (Crawford 1992; McDonnell and Hill 1993).

The issues of English-language proficiency and immigration are particularly relevant to Latinos because Latinos are more likely to be both immigrants and non-English speakers. Whereas less than 9 percent of all Americans in 1990 were foreign born, more than one-third of Latinos were, with the majority coming from Mexico (Macias 1993:Table 3). Latino schoolchildren are also much more likely to come from non-English-speaking households. For example, among children aged 8–15 in 1989, 96 percent of the foreign-born Latinos reported speaking a language other than English at home, compared to 64 percent of the other foreign-born children (McArthur 1993:Table 11). Even among native-born schoolchildren, 64 percent of the Latinos versus 4 percent of others reported speaking a language other than English at home.

Research has provided conflicting evidence of the educational payoff of English-language proficiency for Latinos and other immigrant groups. Some studies have found that English-language proficiency improves the school performance of Latino immigrant and language-minority students (Fernandez and Nielsen 1986; Rumbaut 1995; Vernez and Abrahamse 1996). But others have suggested that English-language proficiency and years of school completed are correlated because both tend to increase from generation to generation among all ethnic and immigrant groups, albeit at different rates (Buriel and Cardoza 1988; Goodis 1986; Neidert and Farley 1985). And in a major review of research on dropping out of school among language-minority youths, Steinberg, Blinde, and Chan (1984:122) concluded that “there is

clear and consistent evidence that academic achievement is lower among students who are less proficient in English.”

On the other hand, a number of scholars have suggested that the relationship between English-language proficiency and school performance for Latinos and other ethnic groups is much more complicated than many people believe (Buriel 1994; Gibson 1995; Ogbu 1992; Portes & Rumbaut 1990; Portes and Zhou 1993). Although English-language proficiency and years in school tend to improve across generations of immigrants, test scores, grades, and other forms of educational achievement often do not, especially among Latinos (Kao and Tienda 1995; Matute-Bianchi 1986; Murguia and Telles 1996; Portes and Rumbaut 1990; Valverde 1987).

Researchers have raised a number of interesting questions about the educational benefits of English-language proficiency. Why does English-language proficiency not always improve school performance? What is the relationship among immigration, language proficiency, and school performance? What other factors are important for understanding this relationship? Scholars who have studied these questions have acknowledged the complexity of this issue and the difficulty in understanding it. In a review of research on this issue, Rumbaut (1995:64) noted:

Although nearly all immigrant children confront substantial social adjustment and academic learning problems initially, these problems seem to diminish over time for some but seem to persist and to become aggravated over time for others. Why this is so remains an unanswered question.

The purpose of the study pre-

sented here was to add to the understanding of this issue as it pertains to Mexican American language-minority students. Although much of the previous research on this issue has analyzed differences in educational achievement among ethnic and immigrant groups, in this study we analyzed differences within a single, relatively homogeneous, ethnic group—poor, primarily first- and second-generation Mexican American students. And by focusing on a single school in a single community, we eliminated differences in schools and locations that some scholars have argued also help explain differences in educational achievement.

THEORETICAL PERSPECTIVES

A number of theories can be used to understand and explain the educational achievement of language-minority students. Some address the issue of the educational achievement of language-minority students directly; others address it more generally, and one must infer how the theories can explain the achievement of language-minority students. Theories also differ in whether they focus primarily on students, their families, or their schools as the arena in which to understand educational achievement. Since our study took place within a single school, we concentrated our review on theories that focus on students and families.

In general, relevant theories attempt to explain two related issues—the acquisition and use of English among immigrant and language-minority students and the contribution of English-language proficiency to students' achievement. Although not all theories address both issues, relevant theories can be classified into two general perspectives: (1) a socioeconomic perspective, in which differences in English-

language acquisition and school success can be understood largely in terms of socioeconomic factors, and (2) a sociocultural perspective, in which differences in these two factors can be understood primarily in terms of cultural factors. These two perspectives also differ in how the acquisition and use of English are viewed and what they represent. In a socioeconomic perspective, English-language acquisition and use are viewed instrumentally—primarily as a skill or competence required to function better in a country in which English is the predominant language. In a sociocultural perspective, they are viewed culturally—as a symbol of ethnic identity and assimilation into the mainstream, European American culture.

This classification scheme and review are not meant to be exhaustive.¹ And as we discuss later, these two perspectives are not mutually exclusive—both offer useful insights into understanding the educational achievement of language-minority students. But we also believe that distinguishing between the two perspectives offers a useful means of identifying important and contrasting factors to explain the educational performance of language-minority students.

A Socioeconomic Perspective

Socioeconomic factors have been used to explain differences in the acquisition and use of English among immigrants. Many scholars explain English-language acquisition as part of a larger process of acculturation and assimilation by immigrants (Cafferty 1992; Gordon 1964; Portes and Rumbaut 1990). In traditional theories of assimilation, best characterized by the work of Gordon, immigrants are assimilated into the American mainstream in stages and

the use of English increases from generation to generation. Immigrants realize that learning English is the key to being able to function in American society, both in schools and in the economy. And as they learn English, they become more acculturated to the norms and customs of the American majority and eventually assimilate into the mainstream American culture. At the same time, they stop using their native language and abandon many of their native traditions and customs, a process some scholars have characterized as "subtractive assimilation" (Gibson 1995).

Although this traditional, linear view of assimilation may help explain the incorporation of the largely European immigrants of the first half of the 20th century, Portes and Rumbaut (1990) argued that it does not apply to more recent immigrants who have come mainly from Latin American and Asian countries and who have had more varied experiences. Instead, they contended, there is a process of "segmented assimilation" that varies among and within immigrant groups and that depends on both the social class (and occupational skills) of immigrant families and on the communities in which they settle. Lower-social class immigrants, who tend to be manual workers, are more likely to settle in homogeneous ethnic neighborhoods where the need and opportunities to learn English are minimal, so their children are more likely to be limited bilinguals (Portes and Rumbaut 1990:Figure 8). In contrast, entrepreneurial and professional immigrants are more likely to live in heterogeneous neighborhoods where the need and opportunities to learn English are strong, so their children are more likely to be English monolinguals or fluent bilinguals. Nonetheless, the general tendency in

all immigrant groups is for English to become the dominant language by the second generation, with fluent bilingualism the exception, rather than the rule (Portes and Rumbaut 1990:219).

Socioeconomic factors have also been used to explain differences in educational achievement among both immigrant and nonimmigrant populations. In perhaps the most well-known perspective, human capital theory, parents make choices about how much time and other resources to invest in their children on the basis of their objectives, resources, and constraints (Haveman and Wolfe 1994). These investment decisions affect their children's tastes for education (preferences) and cognitive skills (human capital), which, in turn, affect their educational success. Although a number of family characteristics (including family size and structure) influence parents' investment decisions, family socioeconomic status (SES) (as reflected in parental education and income) is generally the most important.² According to human capital theory, English-language proficiency can be viewed as one form of human capital that contributes to success in school. Consequently, from this perspective, the lower levels of both English-language proficiency and educational achievement of Latino schoolchildren can be attributed, in large part, to the lower SES of the children's parents.

Empirical evidence suggests that socioeconomic factors can help explain the generally low educational achievement of Latino language-minority students. Not only do Latino students overall have lower SES than other ethnic groups, but Latino language-minority students have lower SES than do other language-minority students. In a national survey of language-minority

students, more than 50 percent of the parents of Spanish-language school-age children had completed fewer than 12 years of schooling, compared to 31 percent of the parents of European-language schoolchildren and 20 percent of the parents of schoolchildren who spoke Asian and Pacific Islander languages (McArthur 1993:Table 12). Furthermore, Mexican American immigrants have lower socioeconomic levels than do other Latino immigrants from Central and South American countries (Rumbaut 1994:Table 2).

Studies have also found that family SES and English-language proficiency can explain differences in the educational achievement of Latino language-minority and immigrant students. Using national data, Kao and Tienda (1995) found that SES explained all the differences in grades and test scores between Latino immigrant and native students. Two other studies found that family SES and, in some cases, English proficiency, predicted higher test scores among Hispanic high school seniors (Fernandez and Nielsen 1986; Nielsen and Lerner 1986). Finally, in a study of seventh- and eighth-grade students in Dallas schools, Farkus (1996) found that poor Mexican American students had significantly lower scores on national tests than did other Mexican American students.

But other evidence questions whether differences in either SES or English-language proficiency are sufficient to explain differences in educational achievement among Mexican American students. Although Farkus (1996) found that poverty explained differences in test scores among Mexican American students, neither poverty nor English-language proficiency explained differences in the mastery of course work and grades in social studies. And in his study of

immigrant students in San Diego schools, Rumbaut (1995) found that first- and second-generation Mexican American students had significantly lower grades and test scores than did other immigrant students even after differences in English ability and family SES were controlled.

A Sociocultural Perspective

In a sociocultural perspective, English-language acquisition and school performance can be explained more fully in terms of sociocultural factors. Ogbu (1992) and Ogbu and Matute-Bianchi (1986) adopted a sociocultural view to explain why some ethnic and language minorities are successful in American schools and others are not. According to them, minorities can be classified into two groups: "voluntary minorities," immigrants (such as European- and Asian Americans) who came to the United States voluntarily, and "involuntary minorities," minorities (like African Americans and early Mexican Americans) who were brought to the United States against their will, either through immigration or domination. Ogbu (1992:9) then argued that the relationship between minority languages and cultures and the majority language and culture is different for these two groups:

Voluntary minorities seem to bring to the United States a sense of who they are from their homeland and seem to retain this different but non-oppositional social identity, at least during the first generation. Involuntary minorities, in contrast, develop a new sense of social or collective identity that is in opposition to the social identity of the dominant group after they have become subordinated. They do so in response to their treatment by White Americans in economic, political, social, psychological, cultural, and language domains.

Voluntary and involuntary minorities also view English-language acquisition and school success differently. "Voluntary minorities do not perceive learning the attitudes and behaviors required for school success as threatening their own culture, language, and identities" (Ogbu 1992:9). Thus, according to Ogbu, voluntary minorities are more willing to learn English because they view it as an instrumental means to get ahead while continuing to learn and maintain their native languages and cultures, a process some scholars have characterized as "accommodation without assimilation" or "additive acculturation" (Gibson 1995; Rumbaut 1995).

In contrast, "involuntary minorities do not seem to be able or willing to separate attitudes and behaviors that result in academic success from those that may result in linear acculturation or replacement of their cultural identity with White American cultural identity" (Ogbu 1992:10). For involuntary minorities, learning English is not viewed simply as a mechanism or skill for getting ahead; it is also considered a symbol of assimilation into mainstream culture and with it, a loss of ethnic identity:

To see language as a mere instrumental tool for communicating is to miss its deep affective roots. To give up Spanish to acquire English represents a symbolic act of ethnic renunciation: it is giving up the mother tongue for the instrumental tongue of the dominant group. It is in such contexts, when learning the language of a dominant group is symbolically equated with giving up one's own ethnic identity, that language acquisition becomes a problem (Suarez-Orozco and Suarez-Orozco 1995:170).

Although Ogbu's (1992) dichotomy between voluntary and involuntary minorities appears to fit some

minority groups, such as Asians as voluntary immigrants and African Americans as involuntary immigrants, it is more problematic for Latinos, particularly Mexican Americans, because they may fit into both groups. Ogbu and Matute-Bianchi (1986) argued that Mexican Americans, even recent immigrants, tend to behave like involuntary minorities because they are generally treated like native-born Mexican Americans. But they also contended that Mexican Americans (or other immigrant groups) do not always exhibit the characteristics of only one group. In fact, they acknowledged that some Mexican immigrants could exhibit the attitudes and behaviors of other voluntary immigrant groups in that they share the same high aspirations for economic success in their new country and the view that educational success is the key to achieving it.

The first implication of this proposition is that bilingual Latino students, like other ethnic, bilingual students, may be more successful in school than monolingual Latino students because they have the English-language skills to function effectively in school without abandoning their Spanish language and culture that enable them to maintain an identity and to function effectively in their families and communities. Indeed, several studies (Buriel 1994; Fernandez and Nielsen 1986; Matute-Bianchi 1986; Nielsen and Lerner 1986; Rumbaut 1995; Stanton-Salazar and Dornbusch 1995; Warren 1996) found that Latino students who were bilingual or bicultural (with languages, knowledge, and friends from two cultural groups) had higher grades, test scores, and years of schooling than did students who were English dominant or monocultural in either European or Mexican culture. However, other studies

showed that Spanish-language proficiency does not always lead to higher educational achievement of Latinos (Buriel and Cardoza, 1988; Fernandez, Paulsen, and Hirano-Nakanishi 1989).

The second implication of Ogbu's proposition is that, over time, Mexican American immigrants should behave more like native-born Mexican Americans. Indeed, a variety of evidence, based on both qualitative case studies and quantitative national studies, indicates that parents' aspirations for their children, students' own aspirations and motivation to achieve, and some forms of educational achievement tend to decline across generations of immigrants, both for Latinos and other immigrant groups (Buriel and Cardoza 1988; Hayes 1992; Kao and Tienda 1995; Matute-Bianchi 1986; Romo 1984).

Reconciling the Two Perspectives

A socioeconomic perspective explains the acquisition of English and school performance in terms of socioeconomic factors, particularly family SES. Empirical evidence lends support to the general proposition that higher levels of family SES are associated with higher levels of English-language proficiency and school performance. Other empirical evidence, however, suggests that socioeconomic factors are insufficient to explain the educational achievement particularly of Mexican American immigrant and language-minority students. A sociocultural perspective explains the acquisition of English and school performance in terms of sociocultural factors, such as appropriate social and academic behaviors. A variety of empirical evidence also lends support to this perspective.

That neither perspective alone

appears sufficient to explain the educational achievement of language-minority students, particularly Mexican Americans, led us to conclude that both perspectives may offer some useful insights into understanding the educational achievement of Latino and Mexican American language-minority students.³ For example, a combined perspective may offer the most compelling explanation of why educational achievement is generally higher among second-generation students than among either first- or third-generation students. One explanation for this pattern is that although English proficiency tends to improve across generations of immigrants owing to rising socioeconomic levels, educational aspirations and motivation tend to diminish. As Kao and Tienda (1995:5) noted: "But native-born youth of immigrant parents (second generation) should outperform both their foreign- and native-born peers because they enjoy both the optimism of parents and the advantage of English skills." This explanation suggests that a socioeconomic perspective and a sociocultural perspective may jointly operate to influence school performance.

These two perspectives differ not only in their explanations of educational achievement, but in the educational mechanisms that bring it about. In a socioeconomic perspective, educational achievement is influenced largely by *values* for education, such as educational aspirations, and by *cognitive skills* and abilities, including English-language proficiency. These factors are commonly found in studies of educational achievement. In a sociocultural perspective, educational achievement is influenced primarily by *attitudes and behaviors* that contribute to school success, including both social and academic behaviors. For exam-

ple, Matute-Bianchi (1986) observed different patterns of academic behavior (like doing homework and taking advanced classes), as well as social behavior (such as loitering in the hall and participating in school activities), that contributed to differences in school success among subgroups of Mexican American students at a California high school. Measures of academic and social behaviors are less commonly found in quantitative studies of educational achievement. One notable exception was a study of seventh- and eighth-grade students in Dallas that found that academic work habits (as measured by teachers' assessments of homework, class participation, effort, and organization) had a powerful effect on the mastery of social studies course work and grades even after differences in SES and basic skills were controlled (Farkas, Grobe, Sheehan, and Shuan, 1990).

Most studies have also been limited because they have focused on measures of academic achievement, such as grades and test scores, not other, broader measures of educational achievement, such as dropout rates or school-completion rates. These latter measures may result from different causal factors and behavioral mechanisms than the ones associated with academic achievement and, therefore, may offer a more complete picture of differences in educational achievement among immigrant and language-minority students.

In this article, we explore several dimensions of educational achievement among students at one, predominantly Mexican American, urban middle school. Because many poor, urban schools are characterized by high rates of turnover or mobility among students, we specifically examine the predictors and consequences of students' mobility

and the impact of mobility on other aspects of educational achievement.⁴ We do so by analyzing two related cohorts of students in the school: those who entered the school as seventh graders and those who left the school as ninth graders three years later. And we use a conceptual framework of educational achievement that specifically examines aspects of both social and academic behavior to see if they have a differential impact on these various dimensions of academic achievement.

METHODS

Our study was based on the analysis of institutional data from a middle school in a large, urban school system in Los Angeles County, California. The community in which this particular school is located is 83 percent Latino, with a per capita income that is half that of Los Angeles County and the state and with 75 percent of the population not speaking English at home. We selected this community because it is representative of the low-income and highly segregated urban communities in which many Latino families live. Most of the Latinos in this community are Mexican American, who represent two-thirds of the U.S. Latino population and are generally more disadvantaged than are other Latinos (Valencia 1991).

At the time of this study, about 2,000 students were enrolled in the school, 94 percent of whom were Latino, with nearly all the Latinos being of Mexican descent. One advantage of focusing on a single school is that differences in the educational experiences of students can be attributed to differences in their families and their school experiences, rather than differences in the types of schools they attend and the

communities in which they live (Portes and MacLeod 1996).

The study focused on two related cohorts of students in the school: those who entered as seventh graders during fall 1990 and those who graduated or left the school as ninth graders in spring 1993. If there was no transiency or turnover of students at the school, these two cohorts of students would have been the same. That is, all the students who entered the school as seventh graders in fall 1990 would have graduated from the school as ninth graders in spring 1993. But because of transiency, the two cohorts were not the same.

The two cohorts are shown in Figure 1. Of the 746 students who entered the school in fall 1990, 445 (59 percent) remained in the school through the ninth grade, 39 (5 percent) left the school during the three years but returned and finished, and 262 (36 percent) left the school and never returned. The high transiency or attrition rate for this school is consistent with those in many large, urban school systems (Hammack 1986; Los Angeles Unified School

District 1991). Of the 663 students who completed the ninth grade, 179 (27 percent) entered the school after the fall semester of the seventh grade. We refer to this group of students as *transient students* because they transferred into the school after the fall of seventh grade and refer to the students who remained at the school for three full years as *stable students*.

In the study, we examined the educational achievement of both cohorts of students, including the transient students. We were unable to track the transient students who left the school to determine whether they dropped out or simply transferred to another school.⁵ But according to census data, less than 10 percent of all Latino dropouts nationally drop out before completing at least the ninth grade (Bruno and Curry 1996:Table 8), which suggests that most of the students who left the school before the ninth grade probably transferred to another school.⁶ Moreover, national data further reveal that students who transfer during secondary school are less likely to finish high school (Rumberger and

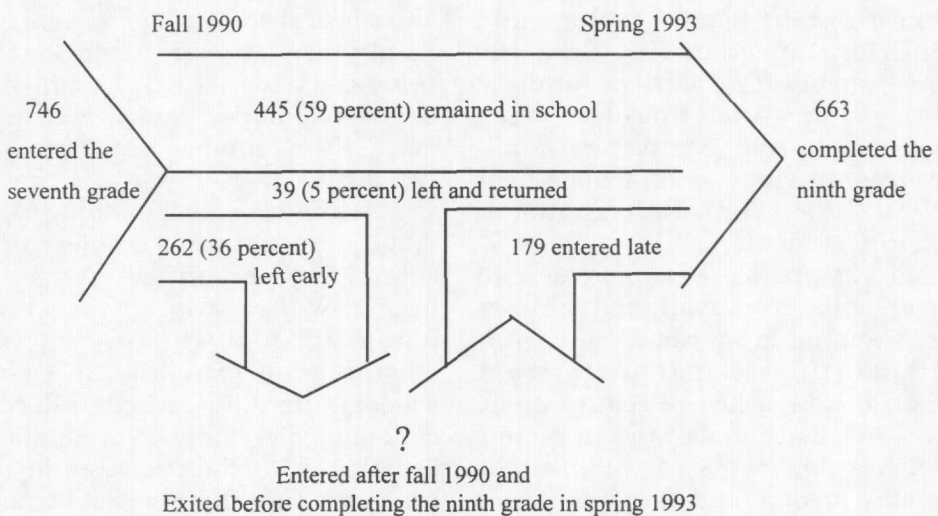


Figure 1. Analysis of Entering and Exiting Cohorts

Larson 1996; U.S. Department of Education 1995: Indicator 46), which suggests that students' transiency is an important educational outcome in its own right. We also examined the consequences of prior mobility among the cohort of ninth-grade graduates by analyzing differences in the educational performance of stable and transient students. We eliminated from the study (1) the small number of non-Hispanic students, (2) approximately 70 students in the entering cohort who participated in a dropout-prevention program we conducted at the school, and (3) students with missing grades. The final samples consisted of 574 entering students and 577 exiting students.

Conceptual Framework

To guide our analysis, we developed a conceptual framework based on theoretical and empirical research that would specifically account for different behavioral components of the schooling process and how they might affect several dimensions of educational achievement. The framework, shown in Figure 2, posits three

dimensions of educational achievement: (1) academic achievement, as reflected in grades and test scores; (2) educational stability, which reflects whether students remain in the same school (school stability) or remain enrolled in school at all (enrollment stability); and (3) educational attainment, which is reflected by years of schooling completed and the completion of requirements for degrees or diplomas. This framework suggests that educational attainment is dependent on both educational stability and academic achievement. That is, students who either interrupt their schooling, by dropping out or changing schools, or who have poor academic achievement in school are less likely to graduate or complete that segment of schooling.

The framework further posits that both educational stability and academic achievement are influenced by students' engagement in school. On the basis of research by Tinto (1987); Newmann, Wehlage, and Lamborn (1992); and Wehlage, Rutter, Smith, Lesko, and Fernandez (1989), the framework distinguishes between two types of engagement: academic

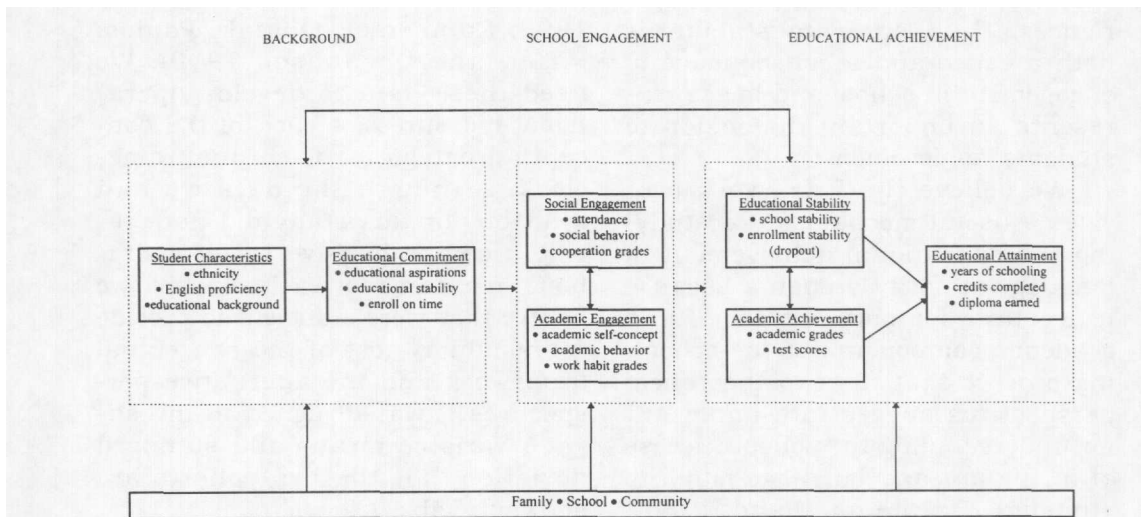


Figure 2. Conceptual Model of Educational Achievement

engagement, or engagement in learning, and social engagement, or engagement in the social aspects of school, both formal (like sports) and informal (such as peer and adult relationships). Tinto and Wehlage et al. suggested that both social and academic engagement are important for keeping students enrolled in school. And on the basis of the work of Finn (1989), the framework posits that engagement will be reflected in students' attitudes and behavior. The framework further suggests that academic and social engagement jointly influence both academic achievement and educational stability.

In addition, the framework posits that students' engagement and educational achievement are influenced by students' educational commitment, educational background, attitudes, and other characteristics, as well as the characteristics of their families, schools, and communities. Finally, the framework suggests that there are reciprocal relationships among these factors that reflect changes over time; that is, over time, engagement, stability, and achievement affect students' later attitudes, social relationships, and school experiences. Thus, students' stability is both a cause and a consequence of engagement in school and hence represents an important dimension of students' achievement.

We believe the framework provides a useful mechanism for studying the educational achievement of language-minority students because it accounts for both the social and academic components of the schooling process that the two theoretical perspectives suggest are important for understanding the school success of immigrant and language-minority students. On the one hand, if language largely is an instrumental skill to enhance learning, students who are more proficient in the English

language or are English dominant should demonstrate higher academic achievement, but not necessarily better social behavior in school. On the other hand, if language plays a more cultural role in schooling and reflects accommodation with the mainstream culture, students who are more proficient in both English and Spanish (bilingual and bicultural) should demonstrate better social behavior, but not necessarily higher academic achievement.

Data and Variables

Data for the study came from the school's student information system, which has information on students' enrollment and departure; attendance; grades; and background characteristics, including language background. Although schools routinely collect extensive information about the characteristics and experiences of their students, such data are infrequently used in research (Burstein 1984). Yet some studies have used institutional data to supplement original survey and other data to examine students' performance in schools (Duran and Weffer 1992; Farkas et al. 1990; Rumberger, Ghatak, Poulos, Ritter, and Dornbusch 1990). We used these data to develop operational measures for each of the conceptual categories from our framework. Although the data we had available for this study did not provide a comprehensive set of operational measures for each concept, we believe they were sufficient to provide a preliminary test of the conceptual framework and the alternative perspectives it was designed to investigate. Variable means and standard deviations for the two cohorts are shown in Table 1.

Educational achievement. To provide robust measures of educational achievement, we developed two

Table 1. Means and Standard Deviations of Variables for Two Latino Cohorts (percentage)

| Variables | Entering Seventh-Grade Cohort (N = 574) | | Exiting Ninth-Grade Cohort (N = 577) | |
|---------------------------------------|--|-----|---|------|
| | Mean | SD | Mean | SD |
| <i>Background Characteristics</i> | | | | |
| Limited English proficient | .43 | .49 | .42 | .49 |
| Fluent English proficient | .31 | .46 | .31 | .46 |
| Female | .49 | .50 | .45 | .50 |
| In school lunch program | .15 | .36 | — | — |
| Foreign born | .71 | .45 | .70 | .46 |
| Overage | .27 | .44 | .27 | .44 |
| <i>Educational Commitment</i> | | | | |
| Entered late | .19 | .39 | .48 | .50 |
| Transient student | — | — | .29 | .45 |
| Reentry student | — | — | .05 | .22 |
| Transient x entered late | — | — | .20 | .40 |
| Reentry x entered late | — | — | .02 | .14 |
| <i>School Engagement</i> | | | | |
| Absent 15–25 percent | .11 | .31 | .20 | .40 |
| Absent more than 25 percent | .08 | .27 | .24 | .43 |
| Grades—cooperation fails 1 | .18 | .38 | .14 | .35 |
| Grades—cooperation fails 2+ | .20 | .40 | .19 | .39 |
| Grades—work-habit fails 1-2 | .33 | .47 | .32 | .47 |
| Grades—work-habit fails 3+ | .25 | .43 | .22 | .41 |
| <i>Educational Achievement</i> | | | | |
| GPA | 2.30 | .89 | 2.35 | 1.02 |
| Left before graduating | .34 | .47 | — | — |
| On track to graduate from high school | — | — | .70 | .46 |

Note: Both cohorts exclude non-Latino students and students who participated in the dropout prevention program.

dependent variables for each cohort of students. For the entering cohort, we examined (1) grade-point averages (GPAs) for the fall semester of the seventh grade and (2) transiency, whether or not the student left the school before finishing the ninth grade. For the exiting cohort, we examined (1) the GPAs for the spring semester of the ninth grade and (2) whether the student completed one-quarter (55 credits) of his or her high school credits, which meant that the student was on track to graduate from high school in four years. The mean GPAs of the students were 2.30 in the fall of the seventh grade and 2.35 in the spring of the ninth grade. Thirty-four percent of the students from the entering seventh-

grade cohort left before completing the ninth grade, while 70 percent of the graduating ninth graders completed one-quarter of their high school credits and thus were on track to graduate from high school in four years.

Educational engagement. We developed several measures of educational engagement. To measure academic engagement, we used work-habit grades, which the teachers give to all the students on the basis of their classroom work habits (such as completing assignments and coming to class prepared). To measure social engagement, we used cooperation grades, which the teachers give to all the students on the basis of their classroom social

behavior (for example, getting along with the teacher and other students). Both these grades are given on a three-point scale, ranging from fail to good. Because we were interested in misbehavior, rather than good behavior, we counted the number of fails that the students received and created two dummy variables for each type of behavior: one fail in cooperation grades, two or more fails in cooperation grades, one or two fails in work-habit grades, and three or more fails in work habit grades.⁷ As the data reveal, more than a third of the students in each cohort received one or more fails in cooperation, and more than half received one or more fails in work habits.

Finally, we created two dummy variables to indicate whether the students were absent 15–25 percent of the time (moderate absenteeism) or more than 25 percent of the time (severe absenteeism) during the semester in which they received their grades. The data show that absenteeism was much higher in the ninth grade than in the seventh grade.

Educational commitment. For the entering seventh-grade cohort, educational commitment was measured by a single variable—whether or not the students started school on the first day. Only 19 percent of the students started after the first day. For the exiting ninth-grade cohort, educational commitment was measured by several variables: whether or not the students started on the first day (48 percent started after the first day), whether or not the students entered the school after the fall semester of the seventh grade (transient students), and whether or not the students had entered in the fall semester of the seventh grade but had left school and returned (reentry students). We also created two interaction terms to distinguish between transient and reentry students who

did and did not start the ninth grade late, so we could examine whether transient and reentry students who entered the school at the beginning of the school year would perform better than those who entered the school during the school year, which could reflect differences in educational commitment.

Background variables. Finally, we calculated a series of student and family background variables. One important variable was the students' language classification. Schools in California are required by state and federal law to identify the language backgrounds of all entering students. Students are identified as language minorities if their native language is not English or if their parents speak a language other than English. Otherwise they are identified as English only. Language-minority students are then assessed on their English-language proficiency. Although California issues guidelines on how to determine English-language proficiency, districts can use their own criteria.

Districts in California currently use a number of different standardized tests to determine oral-language proficiency in English (Berman et al. 1992). If a district determines that language-minority students are proficient in English when they first enter the district, the students are classified as initial fluent English proficient (IFEP). If the students are not proficient in English, they are classified as limited English proficient (LEP) and are given some sort of English-language instruction. When they become English-language proficient, they are reclassified as fluent English proficient (RFEP). Although schools can reclassify students anytime, few of the students in this study were reclassified while they were in the target school. Therefore, we created a single language-classifi-

cation variable for each student in the study. We also combined students who were identified as IFEP or RFEP into a single variable: fluent English proficient (FEP).⁸

The data show that in both the seventh- and ninth-grade cohorts, about 40 percent of the students were identified as LEP, 30 percent as FEP, and 30 percent as English only (EO). These figures are consistent with published figures for all seventh and ninth graders in California during those years.⁹

In addition to language classification, we measured several other characteristics of students: gender, whether the student was born outside the United States (for the seventh-grade cohort only), whether the student was enrolled in the school lunch program (as a measure of poverty), and whether the student was overage (over age 13, as of December 1, 1990, for the seventh graders and over age 15, as of December 1 1993, for the ninth graders), which Lee and Burkam (1992) found predicts dropping out of school.

Statistical Methods

We tested a series of recursive, statistical models for the four dependent variables—seventh-grade GPA, seventh-to-ninth-grade transiency, ninth-grade GPA, and ninth-grade on-track—based on the conceptual framework. In the first step, we estimated the effects of the background variables; in the second step, we added the educational commitment variables; and in the last step, we added the school engagement variables. For GPA, we estimated the models using ordinary least-squares regression. Because the other dependent variables were dichotomous, we estimated those models using logistic regression.

RESULTS

We present the results in three parts. First, we examine the background and educational achievement of students in the two cohorts to document differences among language groups. Second, we discuss the results of the predictive models explaining educational achievement for the entering seventh graders to see whether we can explain differences in the educational achievement among language groups in this cohort. Third, we discuss the results of the predictive models explaining educational achievement for the exiting ninth graders to see whether we can explain differences in the educational achievement among language groups in this cohort.

Differences among the Language-Minority Students

There were widespread differences in the characteristics of the Mexican American language-minority students (see Table 2). Although all the overall differences among groups are statistically significant, some are particularly noteworthy.

First, the three groups varied in educational achievement. The FEP students had higher grades and lower transiency rates and were more likely to be on track with their high school credits than were either the EO or LEP students. These findings are generally consistent with those of two other studies that specifically examined differences in educational achievement among Latino language-minority groups (Rumbaut 1995; Stanton-Salazar and Dornbusch 1995).

Second, the three groups also differed in their background characteristics and levels of educational commitment. Poverty rates were the highest among the LEP students and

the Table 2. Means of Selected Characteristics, by Language Classification, for two Latino Cohorts (percentage)

| Characteristics | English Only | Fluent English Proficient | Limited English Proficient | Total |
|---|--------------|---------------------------|----------------------------|-------|
| Entering Seventh-Grade Cohort (<i>N</i> = 574) | | | | |
| In school lunch program | .61 | .71 | .78 | .71 |
| Overage | .21 | .17 | .21 | .27 |
| Enrolled late | .16 | .07 | .29 | .19 |
| GPA | 2.33 | 2.49 | 2.13 | 2.30 |
| Left before finishing ninth grade | .42 | .22 | .38 | .34 |
| Exiting Ninth-Grade Cohort (<i>N</i> = 577) | | | | |
| In school lunch program | .51 | .69 | .82 | .70 |
| Overage | .24 | .20 | .33 | .27 |
| Enrolled late | .62 | .44 | .42 | .48 |
| Transient student | .41 | .15 | .30 | .29 |
| GPA | 2.22 | 2.50 | 2.31 | 2.35 |
| On track to graduate from high school | .56 | .79 | .72 | .70 |

Note: Both cohorts exclude non-Latino students and students who participated in the dropout prevention program.

lowest among the EO students, as evidenced by participation in the school lunch program.¹⁰ In the seventh-grade cohort, the FEP students were less likely to be overage and showed greater educational commitment than did either the EO or LEP students because they were much less likely to enroll late in the seventh grade and were less transient between the seventh and ninth grades. In the ninth-grade cohort, the LEP students were much more likely than the EO or FEP students to be overage, whereas the EO students showed less educational commitment than did the FEP or LEP students because they were more likely to enroll late and were more likely to be transient.

In summary, these comparisons suggest that FEP students are more successful in school not only because they earn higher grades, but because they demonstrate higher educational commitment, more educational stability, and a greater tendency to complete the requirements for high school diplomas. However, the descriptive results do not reveal the

specific factors that may account for these differences. We now examine the results of the statistical models to see if they can explain them.

Predictors of Educational Achievement

Entering seventh-grade students. We estimated two sets of models predicting two dimensions of educational achievement for entering seventh graders: academic grades for the fall of seventh grade and transiency between the seventh and ninth grades. The estimated coefficients are shown in Table 3.

In the first set of models, the results from the initial model show that the LEP students had lower academic grades than did the FEP or EO students (the omitted group) after other background factors were controlled, the female students earned higher academic grades than did the male students, students who were overage in the seventh grade had lower grades than did those who were not overage, and the students who enrolled in the school lunch pro-

Table 3. Predictive Models of Fall Seventh-Grade GPA and School Departure: Entering Seventh-Grade Latino Cohort

| | Fall Seventh-Grade GPA | | | School Departure ^a | | |
|-----------------------------------|------------------------|--------|---------|-------------------------------|--------|--------|
| | 1 | 2 | 3 | 1 | 2 | 3 |
| <i>Background Characteristics</i> | | | | | | |
| Limited English proficient | -.24* | -.23* | -.23** | .74 | .72 | .63 |
| Fluent English proficient | .09 | .08 | -.03 | .39** | .40** | .38** |
| Female | .14* | .15* | -.03 | 1.28 | 1.28 | 1.67* |
| Foreign born | .10 | .14 | .03 | 1.75 | 1.54 | 1.73 |
| In school lunch program | .35** | .34** | .03 | .38** | .39** | .47** |
| Overage | -.30** | -.28** | -.07 | 1.81** | 1.72* | 1.64* |
| <i>Educational Commitment</i> | | | | | | |
| Entered late | | -.13 | .04 | | 1.48 | 1.36 |
| <i>School Engagement</i> | | | | | | |
| Absent 15–25 percent | | | -.19** | | | 1.12 |
| Absent more than 25 percent | | | -.60** | | | 2.30* |
| Grades—cooperation fails 1 | | | -.26** | | | 1.42 |
| Grades—cooperation fails 2+ | | | -.51 | | | 4.55** |
| Grades—work-habit fails 1-2 | | | -.60** | | | 1.06 |
| Grades—work-habit fails 3+ | | | -1.24** | | | 1.37 |
| <i>R</i> ² | .11 | .11 | .71 | | | |
| -2 Log Likelihood | | | | 595.10 | 593.13 | 541.21 |
| Pseudo <i>R</i> ² | | | | .22 | .22 | .29 |

*Significant at the .05 level.

** Significant at the .01 level.

^a Coefficients represent the estimated effects on the odds ratio [exp(β)], which is the ratio of the odds of leaving school because of a one-unit change in the independent variable to the odds of leaving school without the change.

Note: The cohort excludes non-Latino students and students who participated in the dropout prevention program.

gram had higher grades than did those who did not. If enrollment in the school lunch program is a proxy for poverty, as it often is in educational studies, then this result seems counterintuitive.¹¹ However, the principal of the school stated that some students chose not to participate in the school lunch program even though they were eligible because they had to get their free meals at a particular location where they were easily identified by other students. Some students also felt that the food was no good. Therefore, one interpretation of these findings is that students in the school lunch program may be more compliant, whereas eligible students who did not participate in the school lunch program could represent a more

deviant or oppositional group in the school.

In the next two models, educational commitment did not significantly predict grades, but measures of engagement did. That is, absenteeism and fails in cooperation and work habits all predicted lower grades. Moreover, the students with the highest rates of absenteeism and the most fails had worse grades than did the students with even moderate rates of absenteeism and fewer fails. These results suggest that engagement operates as a continuous construct—the more disengaged a student becomes, the worse grades he or she receives. The results also suggest that both social and academic engagement are important in explaining school performance.¹² The

final model predicted 71 percent of the variance in grades.

The models predicting school departure tell a different story. Because the predicted probability of leaving school associated with any single independent variable depends on the values of the other variables in the model, the estimated parameters of these types of models were transformed (e^{β}) into an odds ratio, which is independent of the other variables in the model. An odds $[p/(1-p)]$ ratio represents the ratio of the predicted odds of leaving associated with a one-unit increase in the independent variable to the predicted odds without the one-unit increase. Thus, a value of 1 signifies no change in the odds of leaving school. A value greater than 1 indicates that the odds of leaving increase because of a one-unit increase in the independent variable, whereas a value less than 1 indicates that the odds of leaving decrease because of a one-unit increase in the independent variable.

The first model indicates that the odds of an FEP student leaving the school before completing the ninth grade were less than half the odds of an EO or LEP student doing so. The students in the school lunch program were also less than half as likely to leave the school early as were the students who were not in the program. Finally, overage students were 80 percent more likely to leave school early as were students who were not overage.

The next model suggests that the students who exhibited lower educational commitment by starting school late were more likely to leave school early, but the results are not statistically significant. The last model shows that some dimensions of school engagement predicted early school departure, but others did not. Students who were absent more than 25 percent of the time were more than

twice as likely to leave school early as were students who were absent less than 15 percent of the time. And students who received two or more fails in cooperation were more than four times as likely to leave school early as were students who did not receive any. Fails in work habits did not predict early school departure. Thus, the results suggest that school transience is dependent more on social behavior than on academic behavior.

The final model explained 29 percent of the variation in school departure. It was interesting that even after all these factors were controlled, the FEP students were still significantly less likely to leave school early than were the other students. This finding suggests that either the conceptual framework that we used is insufficient to explain the educational achievement of language-minority students or that the operational measures of the framework's constructs that we used are insufficient to test the conceptual framework adequately. We discuss this issue in greater detail later.

Exiting ninth-grade students.

We also estimated two sets of models predicting two dimensions of educational achievement for exiting ninth-grade students: academic grades for the spring of ninth grade and whether or not the student was on track to complete high school in four years by completing one-quarter of his or her high school credits. The estimated coefficients are shown in Table 4.

In the first set of models, the results of the initial model revealed no statistically significant differences in grades among the three language groups. As in the case of the results for the seventh graders, however, the female students and those in the school lunch program had higher grades. But the students who were overage did not have significantly lower grades than did those who were not.

Table 4. Predictive Models of Spring Ninth-Grade GPA and Being on Track: Exiting Ninth-Grade Latino Cohort

| | Spring Ninth-Grade GPA | | | On Track ^a | | |
|-----------------------------------|------------------------|--------|---------|-----------------------|--------|--------|
| | 1 | 2 | 3 | 1 | 2 | 3 |
| <i>Background Characteristics</i> | | | | | | |
| Limited English proficient | -.02 | -.12 | -.11* | 1.60* | 1.19 | 1.58 |
| Fluent English proficient | .18 | .01 | .00 | 2.47** | 1.54 | 1.70 |
| Female | .20* | .17* | -.07 | 1.72** | 1.77** | 1.37 |
| In school lunch program | .39** | .37** | .00 | 2.18** | 2.34** | 1.41 |
| Overage | -.17 | 1.09 | -.06 | .71 | .87 | .82 |
| <i>Educational Commitment</i> | | | | | | |
| Entered late | | -.03 | .10 | | 1.01 | 1.53 |
| Transient student | | -.36* | .05 | | .50 | 1.33 |
| Reentry student | | -.74** | .11 | | .28* | 1.46 |
| Transient x entered late | | -.35 | -.28* | | .23** | .07** |
| Reentry x entered late | | .12 | -.39* | | .58 | .10* |
| <i>School Engagement</i> | | | | | | |
| Absent 15–25 percent | | | -.32** | | | .45* |
| Absent more than 25 percent | | | -.65** | | | .20** |
| Grades—cooperation fails 1 | | | -.23** | | | .77 |
| Grades—cooperation fails 2+ | | | -.86** | | | .15** |
| Grades—work-habit fails 1-2 | | | -.51** | | | .65 |
| Grades—work-habit fails 3+ | | | -1.17** | | | .11** |
| <i>R</i> ² | .05 | .13 | .77 | | | |
| -2 Log Likelihood | | | | 661.47 | 577.73 | 374.95 |
| Pseudo <i>R</i> ² | | | | .07 | .18 | .47 |

*Significant at the .05 level.

** Significant at the .01 level.

^a Coefficients represent the estimated effects on the odds ratio [$\exp(\beta)$], which is the ratio of the odds of leaving school because of a one-unit change in the independent variable to the odds of leaving school without the change.

Note: The cohort excludes non-Latino students and students who participated in the dropout prevention program.

The second model shows that educational commitment affects grades. The transient and reentry students had significantly lower grades than did the stable students who remained at the school for the entire three years. And the transient and reentry students who entered the school at the beginning of the school year did not have significantly better grades than did those who entered the school after the start of the year.

As in the case of the seventh-grade results, the third model shows that all dimensions of school engagement adversely affect ninth-grade GPAs and again, that students with the most fails in cooperation and

work habits and the highest absence rates had the worst GPAs. After school engagement was controlled, only the LEP students and the transient and reentry students who started school late still had lower grades than did the other students. The third model explained 77 percent of the variance in grades.

The model predicting whether students were on track to graduate from high school in four years again revealed a different story about educational achievement. Both the LEP and FEP students were more likely to be on track than were the EO students. The female students and students in the school lunch program

were also more likely to be on track. Being overage was not a significant predictor in this model.

In the next model, some dimensions of educational commitment predicted being on track, but others did not. Specifically, only reentry students and transient students who entered the ninth grade after the start of the school year were less likely to be on track at the end of the ninth grade than were the other students. Controlling for all measures of educational commitment reduced the LEP and FEP variables to nonsignificance. Thus, the model suggests that LEP and FEP students are more likely to be on track at the end of ninth grade because they are more committed to school (are more likely to remain at the same middle school) than are EO students.

The final model again shows that some dimensions of engagement significantly predict being on track to finish high school while other dimensions do not. In this case, students with low and high rates of absenteeism, as well as high rates of failure in cooperation and work habits, were less likely to be on track to finish high school in four years. The final model explained 47 percent of the variance in the likelihood of being on track.

DISCUSSION AND POLICY IMPLICATIONS

In our study, the Mexican American students from Spanish-speaking backgrounds who became proficient in English (FEP) were generally more successful in school than were those from Spanish-speaking backgrounds who were not proficient (LEP students) in English or than the Latino students from English-speaking backgrounds (EO). The findings suggest that achieving proficiency in English is a necessary but not suffi-

cient condition for Latino students to succeed in American schools.

Moreover, SES did not explain educational achievement, at least among these low-income, urban Mexican Americans. In our study, the English-dominant Mexican American students came from relatively higher social-class backgrounds than did the Mexican American FEP and LEP students and should have been more proficient in English, but they were generally less successful in school. The FEP students, who came from Spanish-language backgrounds but had become fluent in English, were generally the most successful in school. Their success was not evidenced by significantly higher academic grades, but by the fact that they were more likely to remain in the same school and, consequently, were more likely to finish enough credits in the ninth grade to graduate from high school in four years. Hence, the bilingual status of the FEP students appears to be an indicator of a cultural, rather than a social-class, advantage. Stanton-Salazar and Dornbusch (1995:130) reached a similar conclusion in their study of Latino high school students:

In quantitative studies that attempt to predict academic performance, high school completion, and other related outcomes, conventional social class indicators wane in their predictive value; cultural and sociolinguistic variables, which may operate as proxies of consciousness, usually become key.

The findings of our study are consistent with those of several other qualitative and quantitative studies that found higher achievement among bilingual than among monolingual Latinos (Buriel 1994; Matute-Bianchi 1986; Portes and Rumbaut 1990; Stanton-Salazar and Dornbusch 1995; Valverde 1987). They are also

consistent with national data that indicated that dropout rates are higher for third-generation than for second-generation Latinos, even though third-generation Latinos should have higher levels of English-language proficiency (Rumberger 1995, Table 4; U.S. Department of Education 1993:60).

The results seem to validate a conceptual framework that recognizes that both the social and the academic dimensions of school behavior are necessary for understanding educational achievement. The social dimensions, in particular, appear to be important in predicting educational stability, which, in turn, contributes to students' progress toward high school graduation. The framework is also useful in distinguishing between the instrumental role of English-language proficiency, which is thought to affect primarily academic achievement, and the cultural or symbolic role of English-language proficiency, which is thought to affect mainly social behavior and educational stability.

Yet because the data used in this study did not allow us to develop full operational measures of all the constructs in the framework, our conclusions should be viewed as preliminary. That is, further research is needed to test the framework more thoroughly, particularly to examine differences in the socioeconomic and sociocultural explanations of school success in more detail. Such research should include both attitudinal and behavioral measures of students' and families' characteristics, including views about the educational payoff to efforts and the economic payoff to educational success. The few studies that have examined such factors have found that they can help researchers understand the mechanisms that contribute to educational success. For example, Steinberg, Dornbusch, and

Brown (1992:726) observed that "African-American and Hispanic youth devote less time to homework, perceive their parents as having lower performance standards, and are less likely to believe that academic success comes from working hard."

It is also important to understand how the attitudes and behaviors of students play out in schools. Although our conceptual framework focuses on students, research strongly supports the notion that attitudes and behaviors result from students' interaction with their environment or context (National Research Council 1993; Portes and MacLeod 1996). Stanton-Salazar (1997), for example, argued that low-income minority students have fewer opportunities to develop instrumental relationships with teachers, administrators, and other institutional agents who can provide the support and resources necessary for school success. In their study of Latino high school students, Stanton-Salazar and Dornbusch (1995) found that highly bilingual students had higher grades than did English-dominant students partly because they had more social capital in their schools (as represented by larger information networks and more ties to school personnel). This finding suggests that even if language-minority students have the desire to be more successful in school, they may not always have access to the resources that can help them succeed.

Although the results of this study are preliminary, two implications emerge from this and other studies that have documented the superior academic performance of bilingual and bicultural students. First, for schools to be successful in assimilating language-minority students, they must do more than simply teach students English. They must also attend

to and strengthen cultural awareness and identity so that language-minority students become bicultural as well as bilingual (Cumins 1994; Lucas, Henze, and Donato 1990).

Second, schools must actively address how to increase both the academic and social engagement of their students. In this study, academic engagement was measured by grades in work habits, which teachers give to reflect students' attention, preparedness, and completion of assignments. Schools could improve academic engagement by specifically teaching such skills as note taking, time management, and organizing, as well as carefully monitoring students' work-habit grades over time. But schools must not focus only on the academic curriculum; they must also work ardently on improving the social support system to engage students socially and reduce problematic behaviors.

NOTES

1. For example, some socioeconomic perspectives, particularly those associated with a Marxist perspective (see Bowles and Gintis 1976, for instance), stress that noncognitive traits are important determinants of economic success and important outcomes from schools, whereas some cultural perspectives (see, for example, Swidler 1986) emphasize that habits, skills, and styles are important determinants of educational and social success.

2. Coleman (1988) distinguished between the human capital embodied in parents and the social capital embodied in relations among family members and others. It is the latter that has a more direct impact on the time (attention and involvement) that parents spend with their children. Coleman further argued that human capital and social capital are not necessarily related. Families with high

levels of human capital may neglect their children and not provide such support and thus may be characterized by low levels of social capital, whereas families with low levels of human capital may provide high levels of support and encouragement and thus may be characterized by high levels of social capital. Coleman suggested that the concept of social capital can explain why some immigrant groups, particularly Asians, are generally successful in school despite their low SES, or human capital (Caplan, Choy, and Whitmore 1992).

3. Farkas (1996) also integrated two competing perspectives, human capital theory and cultural capital theory, to understand educational achievement in his study of ethnic minorities in the Dallas schools.

4. Student turnover has plagued evaluation studies of educational interventions, such as bilingual education (Meyer and Fienberg 1992).

5. The school's records were not adequate to determine whether students who left enrolled in another school or quit school altogether.

6. We tracked a small number of the students who left the school as part of another study and found that most enrolled in another school, although some did not do so right away.

7. Because students received more fails in work habits than in cooperation, we used a higher cutoff to measure poor performance in cooperation.

8. We did not observe any differences in the analysis when we examined IFEP and RFEP students separately.

9. For example, according to data from the California State Department of Education (1991b:Table 8), there were 755,359 Spanish-speaking LEP students and 401,298 Spanish-speaking FEP students in the state in spring 1991. These figures represent

44 percent and 24 percent, respectively, of the 1,702,363 Latino students enrolled in the state in fall 1990 (California State Department of Education 1991a:Table 2).

10. Because the school is in a high-poverty community, it is not clear whether differences in participation in the school lunch program reflect differences in eligibility (family poverty) or willingness to participate. But on the basis of a survey we conducted with 155 of the seventh-grade students in the school, 54 percent of the EO students reported that their fathers had completed high school, compared to 11 percent of the FEP and LEP students. These figures support our findings on the school lunch program and suggest that the EO students were relatively more economically advantaged than the other students.

11. In his study in Dallas, Farkas (1996:Table 8.5) found that the Mexican American students in the school lunch program had a higher mastery of the social studies course work than did the other Mexican American students, although the results were not significant.

12. The correlation among these variables was less than .6, suggesting that they capture different dimensions of engagement.

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