

Double Disadvantage or Signs of Resilience? The Elementary School Contexts of Children From Mexican Immigrant Families

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Children from Mexican immigrant families represent one of the fastest-growing populations in the American educational system, but their ability to use this system to improve their long-term prospects may be hampered by problems associated with their schools. The present study explored this issue in a national sample of American kindergarteners. First, propensity score matching techniques revealed that children from Mexican immigrant families were overrepresented in schools with a wide variety of problematic characteristics, even when family background differences were taken into account. Second, multilevel models revealed that the mathematics achievement, mental health, and interpersonal functioning of these children were often at lower levels in such schools. Studies such as the present investigation demonstrate the value of developmental models of inequality and can inform policy by identifying points of intervention.

KEYWORDS: early education, ECLS, Mexican immigration, school context.

Immigrant children have much to gain from the American educational system. Traditionally disadvantaged in socioeconomic terms, they can achieve social mobility by accruing the academic credentials necessary to maximize their prospects in the modern economy (Suárez-Orozco & Suárez-Orozco, 2001; Zhou, 1997). This process embodies deep sentiments about the role of educational equity in reducing inequality. As in so many other cases, however, this ideal does not bear out in the reality of immigrant children and their families. Instead, inequities in the educational system—both between schools and within schools—result in added obstacles to their educational attainment (Portes & Rumbaut, 2001; Valenzuela, 1999).

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The rapidly expanding population of children from Mexican immigrant families offers a stark example of this phenomenon. On average, families who have recently migrated to the United States from Mexico have fewer socio-economic resources to pass on to their children. Consequently, the long-term prospects of these children—whether they will matriculate in college, secure stable employment, or enter financially rewarding occupational strata—are tightly linked to their success in American schools (Stanton-Salazar, 2001). Many Mexican immigrant youth have translated their high levels of motivation and family security into academic success (Suárez-Orozco & Suárez-Orozco, 1995). The question remains, however, whether their success has been facilitated or undermined by an educational system designed to help them. Answering this question is crucial to the Mexican American population, the American economy, and the educational system itself. This study considers one way in which the educational system works at cross purposes with the well-being of children from Mexican immigrant families by focusing on the elementary schools through which they enter the system. Given evidence that Mexican immigrant youth attend different types of schools than other populations and the literature on the linkage between school disorganization and truncated learning trajectories and adjustment (Johnson, Crosnoe, & Elder 2001; Lee, Smith, & Croninger, 1997; Valencia, 2000), one might conclude that the nature of the elementary school contexts of children from Mexican immigrant families interferes with their basic functioning at the very start of their educational careers.

In the present study, I assessed this proposition by weighing alternative answers to two general questions: (a) Are children from Mexican immigrant families really enrolled in more disadvantaged elementary school contexts (see Figure 1, Path A)? and (b) Are these children differentially affected—in terms of academic factors such as math achievement as well as socio-emotional factors such as mental health and interpersonal functioning—by such enrollment patterns (Path B in Figure 1)? Answering these timely questions is a worthy goal. From a conceptual standpoint, this study demonstrates the value of life course approaches to education by using the transition to elementary school as a tool with which to shed light on the interplay of the educational system and child development, the cumulative nature of American

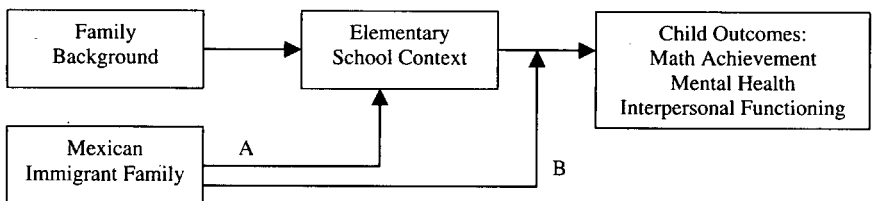


Figure 1. Conceptual model of the role of elementary school contexts in the functioning of children from Mexican immigrant families.

education, and the process by which population-level differences emerge and are reinforced over time (Entwisle & Alexander, 2002). From a policy standpoint, this study attempts to inform interventions aimed at the Mexican American population by pinpointing who in that population is most in need of assistance and what unit of analysis (e.g., schools, students) is most appropriate to target.

A Population of Interest

Children from Mexican immigrant families encompass two groups: (a) first-generation children born in Mexico who migrated to the United States with their parents at very young ages and (b) second-generation children born in the United States to Mexican-born parents. These children share an important commonality: They will spend essentially their whole lives in a country different from that in which their parents were born (Suárez-Orozco & Suárez-Orozco, 2001). This already sizable population is growing rapidly, making up an ever-larger proportion of American students (Hernandez, 2004; U.S. Bureau of the Census, 2000).

In general, this population has many socioeconomic disadvantages that block social mobility, and so its fortunes are inextricably tied to the American educational system. In the past, immigrants could gain financial security by accessing the large manufacturing sector of the American economy, which allowed entry into secure job trajectories without formal education. This sector of the economy, however, has been drastically downsized, leaving higher education as the main route to stable and rewarded job strata (Pastor, 2001; Wilson, 1991). These changes have prioritized education for children from Mexican immigrant families. As noted by Suárez-Orozco and Suárez-Orozco (2001, p. 124), "schooling has become a high-stakes goal for the children of immigrants . . . their only ticket for a better tomorrow." While equitable access to and treatment by other societal institutions (e.g., the political and health care systems) are also important (Luke, 2003), few would argue that success in the educational system plays anything less than a crucial role in the long-term social mobility of this population.

Unfortunately, the sectors of the educational system in which young people from Mexican immigrant families are concentrated can interfere with their attempts to use education as a means of social mobility. These children have many social and psychological resources that can counterbalance their high rates of poverty and socioeconomic disadvantage (Glick & White, 2003; Kao, 1999; Takanishi, 2004; Winquist Nord & Griffin, 1999), but their schools do not work in the same way. This study, therefore, considered the types of elementary schools that children from Mexican immigrant families enter when they begin their schooling careers and the role of these schools in their general, not just academic, functioning.

Such a focus is valuable for two key reasons. First, elementary school represents the introduction of Mexican immigrant children to the American edu-

cational system. How they make this transition helps to determine how they do in the long term in American schools; early setbacks and disadvantages can compound, with slow starts often leading to more problematic trajectories. This extends beyond achievement in core curricula, such as mathematics, to encompass how students feel and how they relate to others (Alexander & Entwisle, 1988; Lee & Burkham, 2002; Pianta & Cox, 1999). Second, schools have historically been more amenable to policy reform than other contexts. For example, school enrollment, organization, and resources are certainly not easy to alter, but they are probably easier to manipulate than the interpersonal dynamics (e.g., oppositional culture, family attachment) often studied in relation to immigrant youth (Crosnoe, Lopez-Gonzalez, & Muller, 2004; Millstein, 1988; Valenzuela, 1999). Thus, the transition to elementary school is a critical intervention point in the lives of Mexican immigrant children, and school context is an aspect of the wider ecology that may be leveraged for such intervention.

Elementary Schools Attended by Children From Mexican Immigrant Families

Even though the legal parameters of school segregation have been systematically dismantled over the past half century, the American educational system is far from open. Indeed, schools are still highly segregated along racial/ethnic lines (Moody, 2001; Reardon, Yun, & Eitle, 2001). This segregation is troubling for a variety of reasons, not the least of which is the strong association between minority group status and enrollment in problematic schools. In other words, minority students not only attend *different* schools from their White peers, they attend *worse* schools (Bankston & Caldas, 1998; Roscigno, 1998).

This connection between race/ethnicity and school context is especially strong among the Mexican immigrant population. Mexican immigrants are more segregated within the educational system than almost any other population, including African American youth (Suárez-Orozco & Suárez-Orozco, 2001). Moreover, ample evidence indicates that the schools in which Mexican immigrant youth are concentrated typically involve more problematic contexts than other schools, especially White-dominated ones. For example, ethnographic research has detailed the disorganization, resource deprivation, adversarial climate, impersonal structure, low academic focus, and constricted curriculum found in many high schools attended by Mexican immigrant youth (Matute-Bianchi, 1986; Valenzuela, 1999). These patterns have been extended to the state (e.g., Texas) and national levels in quantitative analyses (Crosnoe, Lopez-Gonzalez, & Muller, 2004; Valencia, 2000).

Confirming this apparent linkage between Mexican immigration and attendance at problematic schools is complicated, however, by the tendency for Mexican immigrant families to be socioeconomically disadvantaged. In other words, family background could be the driving force. If so, any observed

overrepresentation of children from Mexican immigrant families in problematic elementary school contexts is a function of class segregation rather than segregation related to race/ethnicity or immigration status. Unfortunately, the relative contributions of family background and Mexican immigrant status to school attendance are rarely teased apart.

The first objective of this study was to attempt such a teasing apart. The study drew on a nationally representative sample of kindergartners to investigate whether children from Mexican immigrant families are overrepresented, relative to their peers, in problematic schools. Six school factors widely considered to tap contextual disadvantage were examined (Coleman & Hoffer, 1987; Huff & Trump, 1996; Lee & Burkham, 2002; Lee & Smith, 1997; McNeal, 1997; Moody, 2001). These factors encompassed three broad categories: (a) structural (school size, teacher experience), (b) compositional (minority representation, poverty rate in student body), and (c) climate (disorganized community setting, school safety problems). I used propensity score matching techniques (see Morgan, 2001) to compare children from Mexican immigrant families with peers who had similar family backgrounds in an attempt to determine whether they were overrepresented in such school contexts even when their tendency toward greater family disadvantage was removed from the equation.

This study, therefore, posits two answers to the question of whether children from Mexican immigrant families attend more problematic schools (Path A in Figure 1). The first answer is that Mexican immigrant status itself is the driving force in these school-enrollment patterns. The second answer is that the true mechanism is the family background that is often coupled with Mexican immigrant status. Determining which answer has the most merit is an important policy goal because it would identify appropriate targets of school-based, student-focused interventions. If family background factors are paramount in the segregation of children in problematic schools, then addressing these factors will probably benefit children from Mexican immigrant families. If these factors are not paramount, then the school-going patterns of children from Mexican immigrant families deserve special attention.

Elementary Schools and the Functioning of Children From Mexican Immigrant Families

Demographic patterns in school enrollment matter because school contexts matter in the lives of children. Students tend to do worse academically in schools with the characteristics described earlier because such schools have fewer resources, more limited curricula, more learning distractions, and less supportive connections between students and school personnel (Finn & Voelkl, 1993; Kerkow & Bernhardt, 1993; Kozol, 1991; Lee et al., 1997; Roscigno, 1998; Valenzuela, 1999). Importantly, students' general well-being (e.g., mental health, interpersonal functioning) also tends to suffer in such schools. A lack of security, conflict between young and old, discontinuity in social relations,

social comparison, and blocked opportunities can impair students' social and psychological functioning (Cook, Herman, Phillips, & Settersten, 2002; Johnson et al., 2001; Moody, 2001; Watt, 2003).

Given this evidence, the potential overrepresentation of children from Mexican immigrant families in problematic elementary school contexts is especially troubling. The school-going patterns of these children represent systematic disadvantage if these schools expose them to a heightened level of academic and socioemotional risk factors. This basic process, however, assumes that the functioning of children from Mexican immigrant families is related to school context in the same way as in the general student population.

The second objective of this study, therefore, was to use multilevel modeling techniques to estimate the associations between elementary school context characteristics and three child outcomes. The first outcome, math achievement, tapped learning in, engagement in, and mastery of the core math curriculum. Because of the cumulative nature of the math curriculum in most American schools, early learning can determine math placement and course taking for several years into the future (Moreno & Muller, 1999). The second outcome, mental health, tapped emotional adjustment in school, that is, how well students adapt to schooling and its concomitant pressures. Again, early adjustment plays a significant role in long-term navigation of the system. The final outcome, interpersonal functioning, tapped how well children relate to and get along with their classmates. Because interpersonal relations smooth general adaptation to and liking of school, they are an important factor in school success (Roeser & Eccles, 2000). The pursuit of this second objective entailed a specific interest in the potential for these associations between school context characteristics and the three child outcomes to differ between children from Mexican immigrant families and their peers (Path B in Figure 1). Past research suggests that such an investigation could result in three possible scenarios.

First, school context characteristics could be associated with child outcomes in general, not especially more or less in any given population (Crosnoe, Johnson, & Elder, 2004). If so, then children from Mexican immigrant families would face the systematic disadvantage described earlier: greater exposure to particular school contexts that are problematic for all students.

Second, a "double disadvantage" will occur if the math achievement, mental health, and interpersonal functioning of children from Mexican immigrant families are more strongly related to school context, a scenario suggested by an extensive literature on the diverse effects of school contexts (Lee & Smith, 1997). According to this literature, the benefits of positive school organization are greater among traditionally disadvantaged populations (e.g., youth from racial/ethnic minority groups and poor youth) because such contexts help to even out the risk factors faced by these students outside of school (Bryk, Lee, & Holland, 1993; Johnson et al., 2001; Muller, 2001). This evidence suggests that students from such populations are more reactive to school contexts. If so, they may also be more detrimentally affected by problematic

school contexts, probably because school disadvantages compound non-school disadvantages. This general pattern could conceivably apply to children from Mexican immigrant families.

Third, if the math achievement, mental health, and interpersonal functioning of children from Mexican immigrant families are more weakly related to problematic school contexts than is the case with their peers, these children can be thought to exhibit a certain form of resilience. The immigration literature points to this scenario. Immigrant youth tend to have closer ties to their families and communities than nonimmigrant youth. These ties foster better functioning by providing a secure foundation for educational endeavors, instilling a strong work orientation, protecting against negative peer influences, and fostering a sense of personal and social responsibility (Portes & Rumbaut, 2001; Zhou, 1997). In this way, the nonschool environments of children from Mexican immigrant families counterbalance the risk factors they may face in their school contexts. Ethnographic research has demonstrated, for example, that Mexican immigrant youth tend to perform on par with their peers when enrolled in college-preparatory curricula in high school, which may be considered an advantaged within-school context. In general and remedial curricula, they often outperform their peers (Matute-Bianchi, 1986; Valenzuela, 1999).

If children from Mexican immigrant families are concentrated in more problematic school contexts, then determining which of these scenarios hold is crucial. Evidence for the first would suggest that the elementary school contexts of children from Mexican immigrant families place them at risk relative to their peers in other schools. Evidence for the second would suggest that these children face a double bind: They attend worse schools and are more affected by such schools. School-based reforms, therefore, would have a profound impact on them. Conversely, evidence for the third scenario would suggest that these children are resilient: They attend worse schools but manage better in these schools than their classmates. If so, then children from Mexican immigrant families might serve as models for helping other children in similar circumstances.

Method

Data Source

The Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K) was the primary data source for this study. The National Center for Education Statistics (NCES) constructed this representative sample of American kindergartners in multiple stages, selecting 100 primary sampling units (typically counties) followed by approximately 1,000 schools within these units and 22,782 students within these schools. Data collection began in the fall of 1998, when the children were in kindergarten, with evaluation and testing of the children as well as interviews with their parents, teachers, and school administrators. At present, data have been collected at four other time points: spring

1999 (second half of kindergarten), fall 1999 (first half of first grade; 25% subsample), spring 2000 (second half of first grade), and spring 2002 (second half of third grade). More information on ECLS-K can be found in NCES (2002) codebooks and in research reports published by Denton and West (2002) and Lee and Burkham (2002).

A subsample of ECLS-K served as my analytical sample. It included only non-Latino/Latina White, non-Latino/Latina African American, Asian American, and Latino/Latina children ($N = 18,890$) who met two selection criteria: (a) participation in both the kindergarten and first-grade waves (new $N = 16,245$) and (b) valid data from parent and teacher interviews and from cognitive assessments (final $N = 14,912$). As a gauge of the potential bias introduced by these criteria, Table 1 presents statistics for each stage of the selection process. Cumulatively, application of the selection filters biased the sample somewhat toward social advantage (e.g., slightly higher socioeconomic status) and adjustment (e.g., slightly better child outcomes), but these biases were not as strong as might be expected.

Table 1
Sample Characteristics for Each Stage of the Sample Selection Process

Characteristic	Sample 1 ^a	Sample 2 ^b	Sample 3 ^c
Female (%)			
<i>M</i>	49	49	49
<i>SD</i>	50	50	50
White (%)			
<i>M</i>	60	59	60
<i>SD</i>	49	49	49
Socioeconomic status score			
<i>M</i>	0.03	0.03	0.04
<i>SD</i>	0.80	0.80	0.79
Math achievement (kindergarten)			
<i>M</i>	19.75	19.80	19.89
<i>SD</i>	7.40	7.40	7.41
Mental health score (kindergarten)			
<i>M</i>	3.44	3.44	3.45
<i>SD</i>	0.52	0.51	0.51
Interpersonal functioning (kindergarten)			
<i>M</i>	3.12	3.13	3.13
<i>SD</i>	0.64	0.64	0.64
<i>N</i>	18,890	16,245	14,912

^aAll White, African American, Asian American, other Latino/a, and Mexican immigrant children who participated in the first wave of data collection during the first half of kindergarten (fall 1998).

^bSample 1, excluding children who did not participate in data collection during the second half of first grade (spring 2000).

^cSample 2, excluding children who did not take the achievement tests or did not have a parent or teacher interviewed.

Measures

Child Outcomes

I considered three child outcomes. Each was measured in the spring of first grade, with a previous version measured in kindergarten to serve as a control in longitudinal analyses. The first outcome, *mathematics achievement*, was measured via performance on a timed test administered as part of the ECLS-K data collection (descriptive statistics for child outcomes, as well as for all of the other study variables, are presented in Table 2). The test included items focusing on conceptual and procedural knowledge, problem solving, number sense, number properties, number operations, and measurement. In each wave, the children took the math test in two stages. The first stage was uniform across children. Their performance on this stage determined whether they then took the low-, medium-, or high-difficulty version of the second stage. Item response theory was used to develop single proficiency scores across stages. These scores ranged from 8 to 61 among first-grade students; the scores for kindergarten students were, as expected, much lower (see Table 2). A small portion of the children from Mexican immigrant families in the ECLS-K sample took a Spanish-language version of the math test because their score was below the threshold defined on the Oral Language Development Scale. Consequently, a binary marker of assessment language status served as a control in all multivariate analyses of math achievement.

Teacher ratings were used to assess the two remaining outcomes. *Mental health* was based on teacher reports of the incidence of internalizing symptoms exhibited by the child. Specifically, teachers rated, on a 4-point scale ranging from *never* (1) to *very often* (4), how often they observed signs of anxiety, loneliness, low self-esteem, and sadness. This measure was recoded so that high scores indicated better mental health. *Interpersonal functioning* was based on teachers' assessments (on the same 4-point scale) of children's relationship formation and maintenance, including their ability to get along with others who were different; comfort or help others; express feelings, ideas, and opinions in positive ways; and show sensitivity to the feelings of others. As can be seen in Table 2, both of these factors exhibited high mean scores that decreased slightly between kindergarten and first grade, indicating generally good but declining social psychological functioning.

As just explained, these final two child outcomes were both based on teacher ratings. Such ratings are certainly not ideal because teachers can bring their own biases to the table when evaluating the children in their classes, and they may be unable to adequately evaluate what represents expressions of emotional distress or what constitutes good social skills in diverse child populations. As a result, children from Mexican immigrant families may be mischaracterized in terms of these child outcomes, in either a positive or a negative direction. Indeed, inspection of racial/ethnic differences in these ratings typically reveals higher ratings for children from Mexican immigrant families than for children in other minority populations, echoing past research indicating that teachers have positive views of immigrant students (Valenzuela,

Table 2
Descriptive Statistics for Study Variables (N = 14,912)

Variable	%	<i>M</i>	<i>SD</i>
Child outcomes			
Math achievement: first grade		43.49	9.02
Math achievement: kindergarten		19.89	7.41
Mental health: first grade		3.41	0.51
Mental health: kindergarten		3.45	0.51
Interpersonal functioning: first grade		3.11	0.64
Interpersonal functioning: kindergarten		3.13	0.64
Race/ethnicity and immigration status			
Mexican immigrant	5.25		
White	59.57		
African American	15.27		
Other Latino/a	11.92		
Asian American	7.99		
School context			
School size ^a		3.41	1.15
Low teacher experience ^b		7.30	1.69
Minority representation ^c		36.80	34.85
Proportion of student body in poverty ^d		16.51	0.20
Disorganized community location ^e		2.07	0.87
Safety problems in school ^f		0.46	0.76
Family background			
Socioeconomic status		0.04	0.79
Family poverty status	18.27		
Two-parent family	63.79		
Stepfamily	8.47		
Single-parent family	17.91		
Other family structure	2.02		
Family insurance coverage	88.57		
Primary family language (non-English)		1.43	0.93
Residence in West	21.84		
Residence in Northeast	18.59		
Residence in South	34.58		
Residence in Midwest	24.98		
Residence in small town/rural area	21.47		
Residence in large city	39.35		
Residence in city fringe/large town	39.18		
School/teacher control variables			
School sector (private)	20		
Percentage of students enrolled in ESL		3.19	13.03
Services for LEP families		1.43	1.84
Teacher Latino/a status	5		
Teacher's ESL experience (years)		0.08	0.29

(continued)

Table 2 (Continued)
Descriptive Statistics for Study Variables (N = 14,912)

Variable	%	<i>M</i>	<i>SD</i>
Control variables			
Gender (female)	49.99		
Age (years)		6.23	0.37
Non-Mexican immigrant family	11.66		
No prekindergarten enrollment	60		
Preschool enrollment	33		
Head Start enrollment	7		
Assessment language status (Spanish)	1.60		
Timing of assessment (days from start)		64.74	17.13

^aQuasi-continuous variable ranging from 1 (0–149) to 5 (750+).

^bContinuous variable ranging from –0.003 (most experienced) to 9.15 (least experienced).

^cContinuous variable measured in whole numbers (e.g., 13 = 13%).

^dContinuous variable measured in whole numbers.

^eQuasi-continuous variable ranging from 1 (no problems) to 4 (many problems).

^fQuasi-continuous variable ranging from 0 (no problems) to 3 (many problems).

1999). Despite these flaws, teacher ratings are widely used in national data collection efforts. The self-reports common to national studies of adolescents are problematic for samples of very young children, and time, financial, and other practical constraints render infeasible collection of independent observations or professional evaluations of children. Thus, teacher ratings represent a compromise that, with the appropriate caveats, can be useful in large-scale studies such as this one.

Race/Ethnicity and Immigration Status

NCES identified all non-Latino/a White, non-Latino/a African American, Asian American, and Latino/a children included in the sample. Parents also reported the birthplace of their children and themselves but not the birthplace of their own parents. This information allowed the identification of Latino/a children born in Mexico (first-generation immigrants) or born in the United States to Mexican-born parents (second generation) but not the identification of those born in the United States to U.S.-born parents with Mexican-born grandparents or other ancestors (third-plus generation). Using this information, I categorized children from Mexican immigrant families (i.e., those in the first and second generations). In combination, these data resulted in five mutually exclusive dummy variables: *Mexican immigrant*, *White*, *African American*, *Asian American*, and *other Latino/a*. Because ECLS-K provided no information on third-plus-generation Mexican American youth, they could not be distinguished from other Latino/as. Thus, the “other” Latino/a category included some children of Mexican ancestry. Moreover, non-Mexican categories in this set of dummy variables included some children who came

from immigrant families. As a result, I created a binary marker of *non-Mexican immigrant family* for use as a control. This marker was not mutually exclusive with the set of five dummy variables. For example, a child could conceivably receive a rating of 1 on both the White and non-Mexican immigrant family variables.

School Context Characteristics

As mentioned earlier, six school-level characteristics, encompassing three categories, were measured during the spring of first grade. The first category tapped school structure. In terms of *school size*, an administrator (typically a principal) provided data on the total enrollment of each school (coded as 1 = 0–149, 2 = 150–299, 3 = 300–499, 4 = 500–749, 5 = 750+). Teachers in each school reported the number of years they had taught in their current school and in first grade. These reports were standardized, averaged, and reverse coded to provide a measure of *low teacher experience*.

The second category tapped the composition of the student body. As a means of measuring *minority representation*, school administrators estimated the percentage of students, in whole numbers (e.g., 42 = 42%), who were members of racial/ethnic minority populations. An aggregation technique allowed measurement of the *proportion of the student body living in poverty*. NCES identified all children in the sample whose family income, as reported by parents at the kindergarten data collection, fell below the poverty threshold set by the U.S. government in 1998. I calculated the percentage of children in each representative in-school sample who met this criterion. This final measure was also in the form of a whole number.

Climate was the third category of school characteristics. The two climate measures were replications of measures created by Lee and Burkham (2002) with ECLS-K data. In regard to *disorganized community location*, school administrators assessed the degree to which seven problems occurred in the neighborhoods surrounding their schools (1 = *no problem*, 2 = *somewhat of a problem*, 3 = *big problem*): (a) problems produced by ethnic or religious differences, (b) excessive litter in the streets, (c) public drinking or drug use, (d) heavy traffic, (e) violent crime, (f) vacant houses or buildings, and (g) general crime ($\alpha = .82$). Following the lead of Lee and Burkham, I took the mean of the seven items and divided the values into four categories: *none* (rating of 1), *slight* (rating of 1–1.5), *small* (rating of 1.5–2.0), and *somewhat or big* (rating of 2.0+). School administrators also reported how often in the past year children had brought weapons to school, things had been taken from children or teachers by force at or around school, and children or teachers had been physically attacked (coded as 1 = yes, 0 = no). The sum of these responses ($\alpha = .57$) served as a measure of *safety problems at school*.

Family Background Characteristics

Seven family characteristics were examined to identify the ways in which Mexican immigrant families differed from others. A continuous scale (pro-

vided by NCES) ranging from -5 (*low*) to 3 (*high*) was used to assess *family socioeconomic status*. The overall scale score comprised the mean of five standardized items: education of father/male guardian (1 = *eighth grade*, 9 = *post-graduate degree*), occupational status of father/male guardian (self-reported occupations were grouped into 22 categories and assigned prestige scores derived from the General Social Survey), education of mother/female guardian, occupation of mother/female guardian, and family income (all income, in dollars, earned by household members in the past year). A hot-deck imputation strategy was used to impute missing data; according to this strategy, any respondent missing data on a particular item was given the value of another respondent randomly selected from a group demonstrating many similarities with the respondent on other survey items. As described earlier, NCES also provided data on a binary measure of *family poverty status* (coded as 1 = family income at or below 1998 poverty threshold, 0 = income exceeding threshold).

At the kindergarten assessment, a parent-reported household roster allowed the creation of four *family structure* dummy variables: (a) two biological parents, (b) stepfamily, (c) single-parent family, and (d) other. In some analyses, a single binary measure (two-parent family vs. other) was used for the sake of parsimony. Parents also provided information on health care as well as how often languages other than English were spoken in their homes. Such information was used to create a binary marker of *family insurance coverage* (coded as 0 = no coverage, 1 = public or private coverage) and a continuous measure of *primary family language* (1 = non-English language never spoken at home, 2 = sometimes, 3 = often, 4 = very often). Finally, two different elements of family residence reported by NCES were considered: *region* (dummy variables for West, Midwest, Northeast, and South) and *urbanicity* (large city, city fringe/small city, small town/rural).

School/Teacher Control Variables

The three school-level controls were *sector* (coded as 1 = private, 0 = public), *percentage of student body enrolled in English-as-a-second-language (ESL) programs*, and *services available for limited-English-proficiency (LEP) families* (a count of whether the school offered translators to parents, written translations of school communications, home visits to LEP parents, outreach programs to encourage involvement, and other services). These three variables were all based on reports of the school administrator. Data collected from teachers who reported on target students allowed the creation of two other variables: *teacher Latino/a status* (coded as 1 = Latino/a, 0 = other race/ethnicity) and *teacher's ESL experience* (years spent teaching ESL classes). These control variables were included for two general reasons: They guarded against findings of spurious associations between school characteristics and child outcomes, and they helped to minimize the potential bias of teacher ratings of child outcomes by accounting for teachers' similarities to and familiarity with children from Mexican immigrant families.

Other Control Variables

I also controlled for basic demographic factors—*gender* (coded as 1 = female, 0 = male) and *age* (in years)—to capture variability within racial/ethnic populations. In addition, I controlled for *assessment language status* (as described earlier) and *timing of assessment* (date of first assessment subtracted from the date of child's assessment, measured in days); these factors were designed to account for the different conditions in which the achievement outcome was assessed. Finally, *prekindergarten educational enrollment* (dummy variables, based on reports of parents, for none, preschool, and Head Start) was controlled to account for potential differences in prekindergarten experiences that could differentiate the racial/ethnic groups in regard to outcomes.

Analysis Plan

Two objectives guided this study, each with its own set of analyses. The first concerned the assessment of whether children from Mexican immigrant families were overrepresented in problematic elementary school contexts relative to their peers and whether any observed overrepresentation was really due to differences in family background between these children and their peers. To make this assessment, I compared the means for children from Mexican immigrant families on each of the six school characteristics with the means for White, African American, Asian American, and other Latino/a children before and after matching these different comparison groups to children from Mexican immigrant families on propensity scores indexing family background characteristics.

To begin, a discussion on the logic of propensity score matching is in order. Observational data complicate analyses of treatment effects because they do not normally allow randomized assignment to treatment and control groups. Thus, group differences on a given variable (the observed treatment effect) could be a function of differences on some other variable related to group membership. Reducing this bias requires the control of potentially confounding factors (e.g., comparing groups that are similar except in regard to the variable of interest). Propensity score matching is a parsimonious way of reducing bias in this way because it generates a single index—the propensity score—that summarizes information across potential confounds. Specifically, a propensity score is the conditional probability of an individual receiving a treatment given pretreatment characteristics. Differences between individuals with the same or similar propensity score values are, therefore, a function of the treatment and not of the characteristics associated with receiving the treatment (Heckman, Ichimura, & Todd, 1997; Morgan, 2001).

In this study, Mexican immigrant status was the “treatment,” school context was the outcome, and family background characteristics were the potential confounds. To generate propensity scores, I first created a subsample of children from Mexican immigrant families and their White peers and then estimated, using STATA, a logistic regression model predicting Mexican immigrant

status according to the seven family factors. Obviously, predicting Mexican immigrant status is a statistical slight of hand. In reality, these regressions measured the family background characteristics of the average Mexican immigrant child to allow identification of non-Mexican immigrant children who "looked like" Mexican immigrant children. From this logistic regression, I determined the estimated probability of a respondent being in the focal category of the dependent variable—in other words, the predicted odds of a child being from a Mexican immigrant family (vs. a White family)—given her or his family background characteristics. This predicted odds value became the propensity score on which Mexican immigrant and White children were matched.

Next, via the average treatment kernel procedure in STATA, these propensity scores were used to reestimate the comparisons of Mexican immigrant and White children on the six school characteristics. In this case, however, children from Mexican immigrant families were compared only with Whites at similar levels of socioeconomic status, poverty status, family structure, and family residence, as captured by similar propensity score values. This same procedure was then repeated to compare the children from Mexican immigrant families with their African American, Asian American, and other Latino/a peers (Becker & Ichino, 2002).

Two issues concerning this matching method require further comment. First, in the kernel method, children from Mexican immigrant families were not matched to specific White (or other) children. Instead, they were matched to a weighted average of all White (or other) children in which children's contribution to the weighted average was determined by their similarity to the Mexican immigrant child being matched. Second, bootstrapping techniques were required to produce the most accurate standard errors for the mean differences between comparison groups. Thus, in the case of comparisons of school characteristics between children from Mexican immigrant families and each of the four other populations, standard errors were estimated with 1,000 bootstrap replications (Becker & Ichino, 2002).

The second objective of the study concerned assessment of the associations between school characteristics and child outcomes and whether these associations differed between children from Mexican immigrant families and their peers. For each of the child outcomes, I estimated a set of three models. The first regressed the outcome on the five race/ethnicity and immigration status dummy variables (with White as the reference category) and the six school context measures. In the second model, I added the family background measures and the control variables to determine the associations between school characteristics and the outcome net of other important factors. In the third model, I added a set of interaction terms, that is, each school context measure in interaction with each race/ethnicity and immigration status dummy variable. Significant interactions would suggest race/ethnicity- and immigration-related variability in the linkage between children's functioning and their school enrollment.

These multilevel models were estimated via the mixed procedure in SAS (see Singer, 1998). This technique partitioned the variance in the outcome into

between- and within-school portions, allowing the most accurate estimation possible of school-level effects on individual-level outcomes, correction of ECLS-K design effects (e.g., school-based clustering of observations), and use of sampling weights to account for unequal probability of sample selection and nonrandom attrition (see Denton & West, 2002).

Results

Basic Profile of Children From Mexican Immigrant Families

Table 3 presents descriptive statistics for the children in the ECLS-K sample who were born to Mexican-born parents. The average socioeconomic status among Mexican immigrant families was below the sample average, as indicated by the negative sign of the mean. Even more telling, fully one half of the Mexican immigrant families in this sample had annual incomes below the federal poverty line. In terms of language use, Spanish was spoken in the home of the average Mexican immigrant family somewhere between often and very often, and just under one fourth of the children from these families were sufficiently low in terms of English proficiency that they had to be tested in Spanish. Finally, more than two thirds of children from Mexican immigrant families had no organized educational experiences before enrolling in kindergarten.

In summary, the children from Mexican immigrant families examined here had basic profiles that could have had a negatively effect on their transition into elementary school, regardless of the kind of elementary school they entered. At the same time, these factors probably heightened the possibility—and implications—of enrollment in problematic elementary school contexts.

Table 3

Selected Characteristics of Children From Mexican Immigrant Families in the ECLS-K Sample ($n = 784$)

Characteristic	<i>M</i>	<i>SD</i>
Socioeconomic status	-0.73	0.60
Family poverty status	.50	.50
Primary family language (non-English)	3.42	0.87
Assessment language status (Spanish)	0.23	0.42
No prekindergarten enrollment	.70	.46
Preschool enrollment	.16	.37
Head Start enrollment	.14	.34
Math achievement (kindergarten)	14.23	5.00

School Contexts, Family Background, and Immigration From Mexico

For most children, elementary schools serve as entry points into the educational system. These schools vary considerably in the social and learning environments they offer. If children from one population enter largely through problematic segments of the system and children from another population enter largely through more positive segments, they two groups of children are set up to follow very different educational pathways over the next dozen-plus years. Does this differential capture the experiences of children from Mexican immigrant families versus their peers from various other racial/ethnic populations? If so, is this because of population-level differences in family background? Together, these two questions made up the first objective of this study.

Answering these questions involved comparing children from Mexican immigrant families with their peers from four other racial/ethnic populations before and after matching on family background characteristics. The first set of columns in Table 4 (unmatched means) presents the prematch comparison. These columns display the means on the six elementary school context characteristics among children from Mexican immigrant families and White, African American, Asian American, and other Latino/a children, regardless of family background. Virtually across the board, children from Mexican immigrant families scored significantly higher on these school characteristics, indicating more problematic school contexts. The only exception to this pattern concerned safety problems in school. Children from Mexican immigrant families did not differ significantly from their Asian American and other Latino/a peers in regard to this school factor, although they did exhibit higher mean levels. They actually had significantly lower mean levels on this school-level variable than their African American peers.

These patterns, however, could have been an artifact of differences in family background. To test this possibility, I matched children from Mexican immigrant families to their peers from other racial/ethnic groups, with propensity scores indexing differences in family background characteristics (as described in the plan of analysis section). The results of the logistic regressions that generated these propensity scores are shown in the Appendix. In general, the following characteristics predicted Mexican immigrant status: lower socioeconomic status, poverty, two-parent family structure, lack of insurance coverage, and living in the West and in large cities. Thus, these characteristics were combined into a single index: the family background propensity score.

The second set of columns in Table 4 (matched means) presents the post-match comparison: mean values on the school-level variables for children from Mexican immigrant families and for children from other race/ethnic populations who were matched to these children. For the most part, means were slightly higher—indicating increased school problems—for the comparison children who had family backgrounds similar to the children from Mexican immigrant families. Still, the patterns just described remained basically the same. Children from Mexican immigrant families generally scored higher than their peers from other racial/ethnic populations on all school context characteristics other than safety problems in school.

Table 4
**School Characteristics of Children From Mexican Immigrant Families
 and Other Racial/Ethnic Groups, With and Without Matching
 by Propensity Score**

Comparison and characteristic	Unmatched <i>M</i>		Matched <i>M</i>	
	Comparison group	Mexican immigrant	Comparison group	Mexican immigrant
White vs. Mexican immigrant				
School size	3.21***	4.15	3.43***	4.14
Low teacher experience	7.12***	7.93	7.36**	7.92
Minority representation	17.56***	80.58	31.51***	80.47
Proportion of student body in poverty	.10***	.39	.19***	.39
Disorganized community location	1.85***	2.75	2.07***	2.75
Safety problems in school	.38***	.56	.50	.56
African American vs. Mexican immigrant				
School size	3.54***	4.15	3.57***	4.14
Low teacher experience	7.53***	7.93	7.80	7.92
Minority representation	69.64***	80.58	76.70*	80.48
Proportion of student body in poverty	.30***	.39	.31***	.39
Disorganized community location	2.49***	2.75	2.52*	2.75
Safety problems in school	.71***	.56	.88***	.56
Asian American vs. Mexican immigrant				
School size	3.72***	4.15	3.98*	4.14
Low teacher experience	7.41***	7.93	7.48***	7.92
Minority representation	54.22***	80.58	65.33***	80.48
Proportion of student body in poverty	.16***	.39	.31***	.39
Disorganized community location	2.12***	2.75	2.31***	2.75
Safety problems in school	.51	.56	.71†	.56
Other Latino/a vs. Mexican immigrant				
School size	3.67***	4.15	3.95**	4.14
Low teacher experience	7.56***	7.93	7.78**	7.92
Minority representation	58.74***	80.58	74.13***	80.48
Proportion of student body in poverty	.22***	.39	.33***	.39
Disorganized community location	2.39***	2.75	2.75	2.75
Safety problems in school	.50	.56	.64	.56

Note. Sample sizes were as follows: Mexican immigrant, $n = 784$; White, $n = 8,883$; African American, $n = 2,277$; Asian American, $n = 1,191$; and other Latino/a, $n = 1,777$. School size was a quasi-continuous variable ranging from 1 (0–149) to 5 (750+). Low teacher experience was a continuous variable ranging from -0.003 (most experienced) to 9.15 (least experienced). Minority representation was a continuous variable measured in whole numbers (e.g., 13 = 13%). Proportion of student body in poverty was a continuous variable measured in whole numbers. Disorganized community location was a quasi-continuous variable ranging from 1 (no problems) to 4 (many problems). Safety problems in school was a quasi-continuous variable ranging from 0 (no problems) to 3 (many). Significance levels refer to instances in which mean levels of school characteristics differed significantly across two groups, as determined by pooled t tests. † $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Three differences between the unmatched and matched comparisons did appear. The first difference involved the low teacher experience measure. The previously observed overrepresentation of children from Mexican immigrant families relative to their African American peers in schools with lower teacher experience was eliminated by matching on family background. The second difference involved the measure of safety problems at school. Before matching, children from Mexican immigrant families had a higher mean on this measure than Asian American or other Latino/a children, but these differences were not statistically significant. After matching, children from Mexican immigrant families had lower means than these two groups, although the differences were either marginally significant or nonsignificant. The third difference involved the disorganized community location measure. Before matching, children from Mexican immigrant families had a higher mean on this measure than their other Latino/a peers, but this difference was eliminated by matching on family background characteristics.

The results of these analyses, therefore, indicated that children from Mexican immigrant families were overrepresented in regard to a wide variety of problematic school contexts. Partly, this overrepresentation was due to differences in family background, but these differences were not sufficient in magnitude to account for the effect observed.

These patterns are noteworthy if such contexts are related to child outcomes. Negative associations between these school contexts and child outcomes would indicate a major disadvantage for children from Mexican immigrant families who are concentrated in such schools, even if they are no more or less affected than their peers (Scenario 1). At the same time, not all children, or all child populations, experience school contexts in the same way. If the general functioning of children from Mexican immigrant families is more linked to school context (Scenario 2), then the tendency for these children to be overrepresented in problematic school contexts is especially worrisome. If, on the other hand, their general functioning is less linked to school context (Scenario 3), they can serve as models for understanding how children might be protected from school-level risk factors. Exploring these possibilities—with multilevel models of three child outcomes—was the second main objective of this study.

Mexican Immigration and Mathematics Achievement

The first child outcome was math achievement in first grade. The unconditional model for this outcome generated an intraclass correlation of .27, indicating that approximately 27% of the variation in achievement occurred between schools as opposed to within schools. I also estimated two conditional models containing the race/ethnicity and immigration status dummy variables and the other individual-level control variables, one in which the association between Mexican immigrant status and math achievement was allowed to vary across schools (random slope) and one in which it was held constant across schools. Addition of the random slope significantly improved

Table 5
**Results of Multilevel Models Predicting Mathematics Achievement
in First Grade**

Measure	Model 1		Model 2		Model 3	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Race/ethnicity and immigration status						
Mexican immigrant	-4.08***	0.57	-0.65	0.52	-1.23	2.49
African American	-4.74***	0.28	-2.18***	0.23	-2.63**	1.06
Other Latino/a	-3.08***	0.28	-0.77**	0.24	-2.21*	1.15
Asian American	-0.91†	0.49	-1.10**	0.40	2.63	2.03
School context						
School size	0.27*	0.12	0.11	0.10	0.12	0.12
Low teacher experience	-0.05	0.05	-0.02	0.04	-0.05	0.05
Minority representation	-0.02**	0.00	-0.01**	0.00	-0.01**	0.00
Proportion of student body in poverty	-5.73***	0.69	-0.31	0.56	0.62	0.74
Disorganized community location	-0.05	0.18	-0.18	0.13	0.16	0.14
Safety problems in school	-0.75***	0.18	-0.41**	0.14	-0.40**	0.14
Family background						
Socioeconomic status			0.72***	0.10	0.72***	0.12
Family poverty status			-0.27	0.19	-0.26	0.20
Family structure (two parent)			0.03	0.14	0.03	0.14
Family insurance coverage			-0.13	0.19	-0.13	0.19
Primary family language (non-English)			-0.09	0.11	0.11	0.11
Residence in Northeast			-1.38***	0.35	-1.45***	0.35
Residence in South			0.69***	0.29	0.62*	0.39
Residence in Midwest			0.20	0.33	0.19	0.33
Residence in large city			0.17	0.29	0.14	0.29
Residence in city fringe/large town			0.19	0.28	0.14	0.28
School/teacher control variables						
School sector (private)			-0.33	0.32	-0.27	0.32
Percentage of students enrolled in ESL			-0.01	0.01	0.00	0.01
Services for LEP families			0.12*	0.06	0.11†	0.06
Teacher Latino/a status			1.04**	0.35	1.01**	0.36
Teacher's ESL experience			0.22	0.28	0.23	0.28
Other control variables						
Gender (female)			-0.52***	0.12	-0.53***	0.11
Age			0.70***	0.18	0.71***	0.18
Non-Mexican immigrant			-0.06	0.27	-0.11	0.27
Preschool enrollment			-0.18	0.14	-0.16	0.14
Head Start program as child care			-1.28***	0.23	-1.34***	0.23
Assessment language status (Spanish)			-1.11†	0.65	-1.23†	0.65
Timing of assessment (days from start)			0.03***	0.01	0.03***	0.01
Math achievement (kindergarten)			0.75***	0.01	0.75***	0.01

(continued)

Table 5 (Continued)
**Results of Multilevel Models Predicting Mathematics Achievement
 in First Grade**

Measure	Model 1		Model 2		Model 3	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Cross-level interactions						
School Size × African American					-0.17	0.19
Low Teacher Experience × African American					0.18†	0.11
Proportion in Poverty × African American					-1.60†	0.98
School Size × Asian American					-0.58†	0.35
Low Teacher Experience × Asian American					-0.20	0.22
Proportion in Poverty × Asian American					-0.79	2.78
School Size × Other Latino/a					0.56**	0.19
Low Teacher Experience × Other Latino/a					0.02	0.12
Proportion in Poverty × Other Latino/a					-2.55*	1.10
School Size × Mexican Immigrant					-0.56	0.42
Low Teacher Experience × Mexican Immigrant					0.28	0.25
Proportion in Poverty × Mexican Immigrant					1.25	1.93
Intercept	46.91***	0.64	32.30***	1.30	32.47***	1.33
Δ 2 Res LL			-5,159		-28.8	

Note. White was the reference category for race/ethnicity dummy variables, West was the reference category for region, small town/rural was the reference category for urbanicity, and no prekindergarten enrollment was the reference category for prekindergarten enrollment. $n = 10,124$ (all models).
 † $p < .10$. * $p < .05$. ** $p < .01$.

model fit ($\Delta 2 \text{ Res LL} = 38.2$, $p < .001$). The results of these preliminary models suggested that a significant amount of student-level variation in achievement could be explained by school-level factors and that achievement differences between children from Mexican immigrant families and their peers were, in part, school specific.

Table 5 presents the results of the main models for math achievement. The first model contained the race/ethnicity and immigration status dummy variables (with White as the reference category) and the six school context measures. Children from Mexican immigrant families exhibited lower math achievement in first grade than their White peers. I reestimated this model with each racial/ethnic group as the reference category. These models (not shown in Table 5) indicated that children from Mexican immigrant families also exhibited lower math achievement than their Asian American and other Latino/a peers but basically the same achievement level as their African American peers. When entered into the model separately (data not shown), all school factors were associated with math achievement. With the exception of school

size, math achievement tended to be lower in schools characterized by higher levels of these characteristics. Unexpectedly, math achievement appeared to increase with increasing school size. When entered simultaneously (Model 1), two of the six measures—low teacher experience and disorganized community location—no longer significantly predicted math achievement. Standardizing the school context coefficients revealed that proportion of the student body living in poverty had the greatest effect size, followed by minority representation, safety problems, and school size.

Model 2 (see Table 5) added family background characteristics and control variables to the base model. One of the control variables was kindergarten math achievement, meaning that this model effectively estimated growth in math achievement over 1 year. These additions eliminated the achievement differences between children from Mexican immigrant families and their White, other Latino/a, and Asian American peers. They also reduced the associations between two other school context characteristics—school size and proportion of the student body living in poverty—and math achievement to nonsignificance and weakened, but did not eliminate, the other significant associations between school context characteristics and math achievement.

In the final modeling step, I added six sets of interaction terms: the race/ethnicity and immigration status dummy variable in interaction with the six school characteristics. To pare down this model, I then eliminated any set that did not contain at least one significant interaction term—in other words, any set in which the school context characteristic did not interact significantly with at least one of the race/ethnicity and immigration status dummy variables. The results of this pared-down model are presented in Table 5 (Model 3). Mexican immigrant status did not interact with any of the school context characteristics when White served as the reference category. It did, however, when the reference category was rotated across the different racial/ethnic populations. In fact, three significant interaction terms emerged from these alternative models. To interpret these interaction terms, I wrote out the equations for predicted math achievement, alternating 1 and 0 for Mexican immigrant status, alternating one standard deviation below and above the mean for the school context characteristic, and holding all other predictors to their sample means.

The first significant interaction term—Mexican Immigrant Status \times Proportion of the Student Body Living in Poverty—emerged when African American children served as the reference category. Writing out the equation revealed that the math achievement of African American children decreased ever so slightly (by less than half a point) when these children were enrolled in a school with a high as opposed to low proportion of poor students. The opposite was true of children from Mexican immigrant families, whose math achievement rose (by about one full point) across these two comparison schools. The second significant interaction term—Mexican Immigrant Status \times Proportion of the Student Body Living in Poverty—emerged when other Latino/a children served as the reference category. Writing out the equation

revealed the same pattern just described. The third significant interaction term—Mexican Immigrant Status \times School Size—also emerged from the comparison with other Latino/a children. Recall that math achievement was slightly higher, on average, in large schools. This pattern held true for other Latino/a children, whose test scores were about two points higher in large schools than in small schools, but it did not hold true for children from Mexican immigrant families, whose test scores were about one point lower in large schools.

Mexican Immigration and Mental Health

The analyses just described were repeated to allow assessment of mental health status. Preliminary analyses revealed a significant level of between-school variation (about 17%) in mental health as well as in its association with Mexican immigrant status ($\Delta 2 Res LL = 7.7, p < .05$, with addition of random slope). Model 1 (see Table 6) indicated that children from Mexican immigrant families had slightly better mental health than their White peers. Additional analyses revealed that their mental health was also slightly better than that of African American and other Latino/a children and on par with that of Asian American children. Also, only one school characteristic in Model 1 was significantly related to mental health. As the proportion of the student body living in poverty increased, the mental health of children declined. Model 2 added family background characteristics and control variables, including previous mental health status. These additions strengthened the mental health difference between White and Mexican immigrant children, eliminated the difference between African American and Mexican immigrant children (data not shown in Table 6), and reduced the association between proportion of the student body living in poverty and mental health status by more than 50%.

As in the math models, I added six sets of interaction terms—one set for each school characteristic—to the model both separately and together. Results of this pared-down model are presented in Table 6 (Model 3). When Whites served as the reference category, Mexican immigrant status interacted significantly with proportion of the student body living in poverty and minority representation. Again, I wrote out the equations for predicted mental health to interpret these interaction terms. First, the mental health of White students was roughly the same across schools differing in the proportion of their student bodies living in poverty, but the mental health of Mexican immigrant students was slightly better in schools with a high level of poverty (predicted mental health score of 2.85) than in schools with a low level of poverty (predicted score of 2.62). Second, the mental health of White students was roughly the same across schools differing in minority representation, but the mental health score of children from Mexican immigrant families was slightly lower in schools with a high minority representation (2.42) than in schools with a low minority representation (2.62). These same patterns were replicated, to different degrees, when the other racial/ethnic groups served as the reference category.

Table 6
**Results of Multilevel Models Predicting Students' Mental Health
 in First Grade**

Measure	Model 1		Model 2		Model 3	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Race/ethnicity and immigration status						
Mexican immigrant	0.05†	0.03	0.07*	0.03	0.26*	0.12
African American	-0.04*	0.02	0.02	0.02	0.10	0.07
Other Latino/a	-0.02	0.02	0.01	0.02	0.03	0.06
Asian American	0.11***	0.03	0.10**	0.03	0.11	0.10
School context						
School size	0.01	0.01	0.00	0.01	0.01	0.01
Low teacher experience	-0.01	0.00	0.00	0.00	0.00	0.00
Minority representation	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of student body in poverty	-0.23***	0.04	-0.10***	0.05	-0.20**	0.06
Disorganized community location	-0.02	0.01	-0.01	0.01	-0.01	0.01
Safety problems in school	0.00	0.01	0.01	0.01	0.01	0.01
Family background						
Socioeconomic status			0.06***	0.01	0.06***	0.01
Family poverty status			-0.06***	0.02	-0.06***	0.02
Family structure (two parent)			0.10***	0.01	0.10***	0.01
Family insurance coverage			-0.02	0.01	-0.02	0.01
Primary family language (non-English)			0.01	0.01	0.01	0.01
Residence in Northeast			-0.01	0.03	-0.01	0.03
Residence in South			0.03	0.02	0.04	0.02
Residence in Midwest			0.00	0.03	0.01	0.03
Residence in large city			0.01	0.02	0.01	0.02
Residence in city fringe/large town			-0.01	0.02	-0.01	0.02
School/teacher control variables						
School sector (private)			-0.03	0.02	-0.03	0.02
Percentage of students enrolled in ESL			0.00	0.00	0.00	0.00
Services for LEP families			0.00	0.01	0.00	0.01
Teacher Latino/a status			0.02	0.03	0.02	0.03
Teacher's ESL experience			-0.03	0.03	-0.03	0.02
Other control variables						
Gender (female)			0.03***	0.01	0.03***	0.01
Age			0.02	0.01	0.02	0.01
Non-Mexican immigrant			-0.03	0.02	-0.02	0.02
Preschool enrollment			-0.01	0.01	0.00	0.01
Head Start program as child care			0.03*	0.01	0.03†	0.02
Mental health (kindergarten)			0.25***	0.01	0.25***	0.01
Cross-level interactions						
School Size × African American					-0.04**	0.02
Minority Representation × African American					0.00	0.01
Proportion in Poverty × African American					0.33***	0.08
School Size × Asian American					-0.01	0.03

(continued)

Table 6 (Continued)
**Results of Multilevel Models Predicting Students' Mental Health
in First Grade**

Measure	Model 1		Model 2		Model 3	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Minority Representation × Asian American					0.00	0.00
Proportion in Poverty × Asian American					-0.11	0.10
School Size × Other Latino/a					-0.01	0.02
Minority Representation × Other Latino/a					0.00	0.00
Proportion in Poverty × Other Latino/a					-0.11	0.10
School Size × Mexican Immigrant					-0.02	0.03
Minority Representation × Mexican Immigrant					-0.01*	0.00
Proportion in Poverty × Mexican Immigrant					0.37**	0.14
Intercept	3.45***	0.04	2.33***	0.10	2.30***	0.11
$\Delta 2 Res LL$			794		-45	

Note. White was the reference category for race/ethnicity dummy variables, West was the reference category for region, small town/rural was the reference category for urbanicity, and no prekindergarten enrollment was the reference category for prekindergarten enrollment.

n = 10,169 (all models).

†*p* < .10. **p* < .05. ***p* < .01. ****p* < .001.

Mexican Immigration and Interpersonal Functioning

The third, and final, child outcome was interpersonal functioning. Again, preliminary analyses revealed a significant level of between-school variation in interpersonal functioning itself (17%) as well as in the association between Mexican immigrant status and interpersonal functioning ($\Delta 2 Res LL = 5.7, p < .05$, with addition of random slope). As can be seen in Table 7 (Model 1), children from Mexican immigrant families did not differ from their White peers in regard to level of interpersonal functioning. Additional analyses that rotated the reference category among the race/ethnicity and immigration status dummy variables revealed that children from Mexican immigrant families were at a higher level of functioning than their African American peers, at least as reported by teachers, and about the same level as their Asian American and other Latino/a peers. Three of the school factors were related to interpersonal functioning in Model 1. On average, interpersonal functioning was lower in schools with high rates of poverty and in schools situated in disorganized communities. On the other hand, interpersonal functioning increased in tandem with minority student body representation. Standardizing these coefficients revealed that minority representation had the largest effect size.

Table 7
**Results of Multilevel Models Predicting Interpersonal Functioning
in First Grade**

Measure	Model 1		Model 2	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Race/ethnicity and immigration status				
Mexican immigrant	-0.05	0.03	-0.05	0.04
African American	-0.24***	0.02	-0.10***	0.02
Other Latino/a	-0.07***	0.02	-0.03	0.02
Asian American	0.00	0.03	-0.01	0.04
School context				
School size	-0.01	0.01	-0.01	0.01
Low teacher experience	-0.01	0.00	0.00	0.00
Minority representation	0.01**	0.00	0.01**	0.00
Proportion of student body in poverty	-0.15**	0.05	0.10†	0.06
Disorganized community location	-0.03*	0.01	-0.02	0.01
Safety problems in school	0.01	0.01	0.01	0.04
Family background				
Socioeconomic status			0.08***	0.01
Family poverty status			-0.06***	0.02
Family structure (two parent)			0.10***	0.01
Family insurance coverage			0.02	0.02
Primary family language (non-English)			0.03**	0.01
Residence in Northeast			0.09*	0.03
Residence in South			0.02	0.03
Residence in Midwest			-0.01	0.03
Residence in large city			0.01	0.03
Residence in city fringe/large town			0.02	0.03
School/teacher control variables				
School sector (private)			-0.02	0.03
Percentage of students enrolled in ESL			0.00	0.00
Services for LEP families			0.00	0.01
Teacher Latino/a status			0.03	0.03
Teacher's ESL experience			0.08**	0.03
Other control variables				
Gender (female)			0.17***	0.01
Age			0.09***	0.02
Non-Mexican immigrant family			-0.04†	0.02
Preschool enrollment			0.01	0.01
Head Start program as child care			0.04†	0.02
Interpersonal functioning (kindergarten)			0.38***	0.01
Intercept	3.23***	0.05	1.17***	0.12
$\Delta 2 Res LL$			-2,165	

Note. White was the reference category for race/ethnicity dummy variables, West was the reference category for region, small town/rural was the reference category for urbanicity, and no prekindergarten enrollment was the reference category for prekindergarten enrollment. $n = 10,158$ (all models).

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

After addition of family background characteristics and control variables (including kindergarten interpersonal functioning) as predictors of first-grade interpersonal functioning, children from Mexican immigrant families were no different than children from other racial/ethnic groups (see Model 2). Moreover, the association between disorganized community organization and interpersonal functioning was eliminated. As with the other two child outcomes, I also estimated a third model that included six sets of interaction terms, one for each school context characteristic. No school context characteristic interacted with any race/ethnicity or immigration status dummy variable to predict interpersonal functioning in first grade. Consequently, these results are not shown in Table 7.

Discussion and Conclusion

In theory, the educational system is intended to alleviate social and demographic inequalities by providing educational opportunities to all children that allow them to make their own way in life. Of course, this theory does not always bear out in reality, largely because the opportunities for different populations of children vary so widely in quality and quantity. The linkage between Mexican immigration and elementary school context illustrates this lack of connection between theory and reality. Children from Mexican immigrant families have a good deal to gain from American schools, but their entry points into the educational system differ so sharply from those of their peers that they probably start off on an uneven footing, with lasting repercussions for themselves, their families, and the Mexican American population as a whole.

The results of this study demonstrate that children from Mexican immigrant families attend more problematic elementary schools, as measured in a wide variety of ways, than their peers from other racial/ethnic populations, including those that have been traditionally advantaged in American society (e.g., White children) and those that have historically faced institutionalized discrimination and other setbacks (e.g., African American children). These school attendance patterns are related to the social and economic factors that characterize the Mexican immigrant population, but they are not completely captured by these factors. In other words, something about their family background, more than being poor or being concentrated in certain areas, drives the segregation of children from Mexican immigrant families in problematic sectors of the educational system. Moreover, the overrepresentation of these children in schools with the characteristics studied here appears to have an impact on their academic functioning and general well-being at the start of elementary school. Because first grade serves as a foundation for children's educational career and early childhood serves as a foundation for adolescence, this impact is likely to be far-reaching. I focus in turn on each of the school context characteristics assessed here to provide an idea of the complexity with which these sequelae unfold.

First, children from Mexican immigrant families were shown to attend much larger elementary schools than their peers from other racial/ethnic groups, even net of family background characteristics. Was this pattern problematic? Some children exhibited higher math achievement in larger schools, but this was not the case among children from Mexican immigrant families, who exhibited worse achievement in such schools. Given the well-documented tendency for these latter children to rely heavily on social relations and closely knit networks, the more impersonal atmosphere of large schools could be daunting to them in ways that affect their performance. Thus, in terms of school size, children from Mexican immigrant families faced a "double disadvantage": They were overrepresented in a type of school context in which they had more academic problems. Of course, in this study school size was considered only in a linear way. Given past research demonstrating the potentially nonlinear effects of school size on student outcomes (Crosnoe, Johnson, & Elder, 2004; Lee & Smith, 1997), more detailed analyses of different school sizes (e.g., categories) might reveal more about why this size-related pattern exists.

Second, the schools in which children from Mexican immigrant families were concentrated were characterized by lower levels of teacher experience than those attended by other children. Their teachers had been in the profession, and at their current grade level, for shorter periods of time. For the most part, this linkage between Mexican immigrant status and low teacher experience was independent of family background (except in comparisons with African American children). This school factor was inversely related to math achievement when examined alone. However, the association disappeared when other school characteristics were considered in tandem with it, suggesting that other aspects of the elementary schools attended by children from Mexican immigrant families mattered more. Teacher experience was not related to the other two child outcomes. The measure used here might have been too simplistic. It did not take teacher skills or training into account, nor did it consider teachers' age. These other teacher-related factors, which probably would have been related to Mexican immigrant status in the same way as the teacher factor examined in this study, might have made more of a difference in the outcomes of children from Mexican immigrant families and their peers. Nevertheless, the present results suggest that low teacher experience, at least as measured in this study, was not especially problematic for the functioning of children from Mexican immigrant families.

Third, minority representation is a school factor that has received a good deal of attention because it taps racial/ethnic segregation in schools, always a controversial issue. Not surprisingly, children from Mexican immigrant families attended schools with higher percentages of minority students than their White peers. More surprisingly, they also attended schools with higher percentages of minority students than their peers from other minority populations. This finding demonstrates the hyper-segregation of children from Mexican immigrant families, who have replaced African American children in terms of social isolation (Suárez-Orozco & Suárez-Orozco, 2001). School minority representation was associated with lower math achievement among all children, worse mental health among children from Mexican immigrant families

only (representing a double disadvantage), and better interpersonal functioning among all children. These disparate, seemingly contradictory findings reveal the multifaceted nature of this school factor. Minority representation typically is coupled with academic risk factors (e.g., low funding, lack of community support), while homogeneous schools (whether minority or not) often foster a sense of belonging. Consequently, learning may be hampered, but socializing enhanced, in minority-concentrated schools. The mental health finding did not fit this pattern. Seemingly, children from Mexican immigrant families should exhibit better mental health when they are enrolled in such schools, but they did not. Perhaps they were more frustrated by the academic side of these schools than pleased with the social side.

Fourth, the proportion of the student body living in poverty taps class segregation in the educational system. Again, children from Mexican immigrant families attended schools with a higher proportion of poor schoolmates than did students in any other racial/ethnic group, regardless of family background differences. This was the one school factor that consistently revealed evidence of resilience. In the case of two of the three child outcomes, children from Mexican immigrant families exhibited better performance as the proportion of fellow students in poverty increased. Thus, they were overrepresented in a school context normally thought of as problematic, but they did not appear to be doing as badly in these schools as children from other populations. In other words, they demonstrated a certain resilience in the face of a well-documented academic risk factor. Why might this be the case? Such schools might have a more even playing field in which the sociodemographic aspects of the lives of the average student are counterproductive to academic functioning and general well-being. In such a context, children from Mexican immigrant families may be able to take greater advantage of the learning opportunities available and, consequently, feel better about their lives. Future research should delve into the mechanisms (e.g., social relations, social comparison) behind these associations to ascertain what underlies this resilience. Such mechanisms might point to ways of helping other children in poor schools.

Finally, children from Mexican immigrant families attended schools with different climates than their peers, but these differences were largely a function of their family backgrounds. Children from Mexican immigrant families were situated in more disorganized communities than their peers. However, their schools were no more or less located in disorganized communities and no more or less unsafe than the schools of children from other minority racial/ethnic populations with similar backgrounds. Thus, these two aspects of school context were a function of factors beyond immigrant status. Still, these patterns represented a potential school disadvantage in general, in that children in such schools exhibited lower math achievement and, in the case of disorganized community settings, lower interpersonal functioning. In other words, unsafe elementary schools in disorganized community settings played the same—generally problematic—role in the lives of children from Mexican immigrant families as they did in other populations. Perhaps more accurate measures (e.g., neighborhood measures culled from census data rather than school administrator reports, disciplinary and crime statistics from the school

and surrounding neighborhood) would tell a different story. This is an empirical question for future research, perhaps more qualitative research focusing on specific schools or communities.

Together, these patterns suggest that children from Mexican immigrant families attend different types of schools than other American children. In this case, for the most part, "different" means "worse." Typically, such attendance patterns place these children at a disadvantage relative to their peers from other racial/ethnic groups. The present results showed that even if they were not more or less reactive to problematic school contexts (which was the situation most of the time), their overrepresentation in these contexts meant that they were not on an equal footing at the start of their educational career. The basic picture that emerged, therefore, was one of general disadvantage, not simply a "double disadvantage" and not simply "resilience" (although some instances of each were observed). Overall, these findings are cause for concern. School context characteristics and child outcomes can be measured in different ways, and risk and resilience can be assessed with a variety of typologies, meaning that variations in conceptualization and operationalization may reveal different patterns than those reported here. Yet, my results were sufficiently consistent to serve as a call for more attention from researchers who can add to the foundation laid by this study and from policymakers and educators who can begin to leverage the knowledge generated by this and subsequent studies.

The time to build this knowledge base is now. Educational equity cannot be a reality for children from Mexican immigrant families if they are segregated in problematic sectors of the educational system, and, without educational equity, the long-term prospects of this fast-growing population will suffer. Educational policies might benefit this population by targeting school-level reforms (e.g., school restructuring, reorganization) or district-level reforms (e.g., redistribution of students across schools). In other words, improving the schools of children from Mexican immigrant families or moving them to new schools would probably benefit them at the start of their educational careers. Given that, in true life course fashion, this transition serves as the foundation for subsequent schooling and developmental trajectories, it also represents a critical intervention point. Thus, targeting this transition could be crucial in helping individual children launch successful life pathways as well as in weakening larger inequalities.

These results, and their implications, bring up several related issues. The first issue concerns the nature of resilience. This study operationalized resilience in terms of the variation in associations between school context characteristics and child outcomes across populations rather than by identifying groups of students doing well on a particular objective measure within a problematic school context. In other words, resilient children from Mexican immigrant families were those whose outcomes were not as poor as would be expected in problematic schools. This does not mean that their outcomes were necessarily good in these schools. Similarly, disadvantaged students were not necessarily doing bad but were doing worse than others. Thus, assessments of double disadvantage and signs of resilience were based on a relative standard and not an absolute one. The meaning of this interpretation is important.

At the same time, I examined only a limited set of child outcomes. While I attempted to assess as many domains as possible in a parsimonious fashion, I was not able to capture the diverse ways in which young people, including those from Mexican immigrant families, can be resilient or can be disadvantaged. The general trends reported here represent merely a window into a highly complex issue. These trends lay the groundwork for what comes next: motivating future researchers to take a finer-grained approach to doing well or doing badly while also recognizing that the two may not be mutually exclusive across diverse sets of outcomes.

While these results regarding disadvantage and resilience highlight areas of concern for educators, policymakers, and parents, they are not as bleak as they seem. It is true that children from Mexican immigrant families attend problematic schools that affect their learning and adjustment, and it is also true that such effects are likely to strengthen as these children become more acculturated over their school years. School context, however, is not completely deterministic. It is one factor in a multidimensional cluster of factors that predict where children end up within the educational system (Suárez-Orozco & Suárez-Orozco, 1995). Children from Mexican immigrant families have other resources on which to draw, some of which may counteract the risks they face in their school contexts. The school context patterns described here certainly need to be discussed and addressed, but they do not represent evidence that children from Mexican immigrant families are doomed to failure. The challenge is great, of course, but not insurmountable.

Another issue concerns the use of teacher ratings in this study as well as all future studies involving ECLS-K data on immigrant children. I addressed this issue at length in the method section, but it deserves further comment in light of the present analytical findings. Past qualitative research has demonstrated that teachers tend to have highly positive opinions about immigrant children in their classes (Matute-Bianchi, 1986; Valenzuela, 1999). They tend to view them as well behaved, obedient, and respectful. Such views could be accurate, but they might also reflect the different cultural orientations of these children (e.g., adult orientation and respect for authority). Consequently, in the present study, teachers' ratings of mental health status and interpersonal functioning, which were essentially evaluations of observed behavior, could have been inflated. This potential bias was probably compounded by the relatively low levels of experience of the teachers, both in general and with language minority children. As I argued earlier, teacher ratings represent a compromise in national data collection efforts, but the potential bias of these ratings does not negate the results of this study. Indeed, these results may be viewed as an initial look into some important phenomena that need to be more closely examined in the future with other methodological approaches.

This concern over teacher ratings brings up a final issue. Understanding the school-going patterns of Mexican-origin and immigrant *adolescents* has benefited greatly from a diverse set of methodological approaches. Large-scale demographic patterns in national data sets (e.g., Kao, 1999) have been unpacked with more intensive ethnographic work in schools (e.g., Valenzuela,

1999), while other researchers have applied multimethod approaches (e.g., Stanton-Salazar, 2001; Suárez-Orozco & Suárez-Orozco, 2001). This mixed-method enterprise is necessary to shed the same light on Mexican-origin and immigrant children as on their adolescent counterparts. The results of the present national-level quantitative study call for more thorough investigations of the mechanisms involved in these children's transition into school while also providing fresh perspectives to scholars working from other vantage points.

Such future studies will help researchers gradually construct a better understanding of how children from Mexican immigrant families are being served by American schools, which, in turn, could inform policies and programs aimed at helping these children or, alternatively, policies and programs that use the experiences of these children to help others. These worthy goals grow more timely with each year and each increase in the immigration rate from our nearest neighbor to the south.

APPENDIX

**Results of Logistic Regression Analyses Predicting
Mexican Immigrant Status**

Characteristic	Odds ratio			
	Mexican immigrant vs. White	Mexican immigrant vs. African American	Mexican immigrant vs. Asian American	Mexican immigrant vs. other Latino/a
Socioeconomic status	.13***	.37***	.16***	.36***
Family poverty status	3.51***	2.03***		1.96***
Stepfamily	.29***	.20***		.50***
Single-parent family	.21***	.07***	.69*	.27***
Other family structure	.36*	.04***		.17***
Family insurance coverage	.42***	.47***	.69**	.71**
Residence in Northeast	0.03***	0.01***	0.14***	0.07***
Residence in South	0.17***	0.05***	1.46*	0.56***
Residence in Midwest	0.07***	0.05***	0.39***	0.44***
Residence in large city	22.85***	3.52***	8.94***	3.12***
Residence in city fringe/large town	8.94***	2.55***	8.59***	2.85***
<i>n</i>	9,656	3,050	1,964	2,050

Note. Three variables were not included in the model comparing children from Mexican immigrant families with Asian American children (family poverty status, stepfamily, and other family structure) because the stepwise regression techniques eliminated nonsignificant predictors from the final model. Because single-parent family was the only family structure dummy variable remaining, its effect can be interpreted in comparison with all other family forms in this particular model. Two biological parents was the reference category for family structure variables, West was the reference category for region, and small town/rural was the reference category for urbanicity.

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

Notes

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