

## Academic Trajectories of Newcomer Immigrant Youth

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Immigration to the United States presents both challenges and opportunities that affect students' academic achievement. Using a 5-year longitudinal, mixed-methods approach, we identified varying academic trajectories of newcomer immigrant students from Central America, China, the Dominican Republic, Haiti, and Mexico. Latent class growth curve analysis revealed that although some newcomer students performed at high or improving levels over time, others showed diminishing performance. Multinomial logistic regressions identified significant group differences in academic trajectories, particularly between the high-achieving youth and the other groups. In keeping with ecological–developmental and stage–environment fit theories, School Characteristics (school segregation rate, school poverty rate, and student perceptions of school violence), Family Characteristics (maternal education, parental employment, and household structure), and Individual Characteristics (academic English proficiency, academic engagement, psychological symptoms, gender, and 2 age-related risk factors, number of school transitions and being overaged for grade placement) were associated with different trajectories of academic performance. A series of case studies triangulate many of the quantitative findings as well as illuminate patterns that were not detected in the quantitative data. Thus, the mixed-methods approach sheds light on the cumulative developmental challenges that immigrant students face as they adjust to their new educational settings.

*Keywords:* immigrants, adolescence, academic trajectories, mixed methods

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Early adolescence is a time of heightened risk for a “downward educational spiral” (Eccles et al., 1993, p. 90), particularly when developmental needs are not met by the educational environment. Young adolescents need school environments that are stable and academically challenging and that provide both structure and relational warmth (Roeser & Eccles, 1998; Woolley & Bowen, 2007). This is especially true for newly arrived immigrant youth, who often experience dissonance between their home and school environments (Phelan, Davidson, & Yu, 1993). Many immigrant-

origin youth struggle to succeed in the American educational system, performing poorly on such academic indicators as achievement tests, grades, dropout rates, and college attendance (Gándara & Contreras, 2008). Newcomer students arriving at the midway point of their educational trajectory must surmount the “formidable barrier” (Hood, 2003, p. 9) of adjusting to a new land (Suárez-Orozco, Suárez-Orozco, & Todorova, 2008), developing academic English skills (Carhill, Suárez-Orozco, & Páez, 2008), and fulfilling graduation requirements (Ruiz-de-Velasco & Fix, 2001) in a high-stakes testing environment that is not designed with their educational needs in mind (Hood, 2003; Menken, 2008). Their parents are often ill-equipped to help them navigate a complex, foreign, and sometimes hostile educational system (Gándara & Contreras, 2008; Suárez-Orozco et al., 2008). Consequently, for many immigrants, length of residence in the United States is associated with declining academic aspirations (Hernandez & Charney, 1998; Portes & Rumbaut, 2001; Steinberg, 1996; Suárez-Orozco & Suárez-Orozco, 1995).

Such academic declines are particularly troubling when one considers the number of immigrant-origin youth in the U.S. educational system. Indeed, 22% of youth growing up in the United States have immigrant parents, and it is projected that by 2040 over one third will

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be growing up in immigrant households (Hernandez, Denton, & Macartney, 2007; Landale & Oropesa, 1995). Newcomer immigrant students undergo myriad stresses of migration (García-Coll & Magnuson, 1997; Suárez-Orozco & Suárez-Orozco, 2001) while adapting to new schooling environments, placing them at particular educational risk. Of these newcomer students, approximately one half arrive sometime during their secondary education (Ruiz-de-Velasco & Fix, 2001), a time of heightened developmental vulnerability (Eccles & Roeser 2003). The middle and high schools that these students encounter are often ill-equipped to address the needs of early adolescent newcomers, leaving them overlooked and underserved (Ruiz-de-Velasco & Fix, 2001). In a knowledge-intensive economy in which the stakes of school failure are greater than ever before (Bloom, 2004), deepening our understanding of the processes that contribute to trajectories of academic success, failure clearly has important social implications.

Despite the similar cumulative stressors that they face, not all newcomer youth follow the same academic trajectories. Some retain their initial optimism over time, whereas others fall prey to structural obstacles that lead to varying patterns of upward and downward assimilation (Kao & Tienda, 1995; Portes & Rumbaut, 2001). Others demonstrate fluctuating levels of achievement during the course of their education (Green, Rhodes, Heitler-Hirsch, Suárez-Orozco, & Camic, 2008). The present article draws on a longitudinal, mixed-methods study of newcomer immigrant adolescents with three key objectives: (a) to identify trajectories of academic performance for recently arrived immigrant youth over the course of 5 years through latent growth modeling; (b) to describe factors that contribute to patterns of membership in the identified trajectories while considering school, family, and individual characteristics that are associated with different trajectories of academic performance through multimodal logistic regression; and (c) to shed light on the cumulative and interactional developmental challenges that newcomer immigrant students encounter as they adjust to their new educational settings.

### Theoretical Frameworks Informing the Study

The academic trajectories of immigrant youth are determined not only by each individual's efforts and characteristics but also by the social and educational context (Bronfenbrenner, 1977). In this study, we focused on the most proximal school and family environments, though we also recognized the significance of the macrosystems that influence immigrant families and schools. For immigrant families, macrosystems of importance include the societies that they leave (Portes & Rumbaut, 2001) and their reception in their new land (M. J. White & Glick, 2000). Indeed, the circumstances leading to the immigration—such as political upheaval, undocumented status, and long family separations—are implicated in adaptation for the family and child (Portes & Rumbaut, 2001; Suárez-Orozco et al., 2008). Similarly, variations in economic opportunities are linked to widely different trajectories, resulting in what Portes and Zhou (1993) have termed “segmented assimilation.” On the whole, however, new immigrants face higher levels of poverty than those typical for U.S. native-born students (Hernandez et al., 2007); thus, many are forced to seek to assimilate via neighborhoods with underresourced schools (Kozol, 1991).

With respect to the immediate social contexts for immigrant youth, middle and high school students are at particular risk for

disengagement from school if their social environments do not meet their socioemotional needs (Eccles et al., 1993). To maintain academic engagement, students in early adolescence need structure and consistency, well-defined limits counterbalanced by interpersonal warmth, and a challenging, scaffolded curriculum (Eccles et al., 1993). When students encounter school contexts where tracking, “inferior educational experience[s]” (Eccles & Roeser, 2003, p. 132), and low teacher expectations are the norm, they are at high risk for disengagement. A poor fit between the student, the student's cultural home environment, and the school context has also been shown to complicate educational adjustment (Eccles & Roeser, 2003; Phelan et al., 1993). As noted, many newcomer students arrive to classrooms with greater-than-average educational and socioemotional needs (Ruiz-de-Velasco & Fix, 2001), yet they often encounter minimally resourced schools that are ill-equipped to meet their challenges.

Many immigrant youth also find themselves in racially and ethnically segregated schools, a factor that has been closely linked with reduced access to educational resources and negative school outcomes (Orfield & Lee, 2006). Immigrant students, particularly those of Latino origin, face an added burden of attending linguistically isolated schools that place them at particular academic risk (Orfield & Lee, 2006). These dimensions of significant segregation are associated with a variety of negative school characteristics, which include limited school district resources (Orfield & Lee, 2006), low teacher expectancies (Weinstein, 2002), poor achievement test outcomes (Gándara & Contreras, 2008), high dropout rates (Orfield & Lee, 2006), and limited information about access to college (Gándara & Contreras, 2008; Orfield & Lee, 2006). These school contexts are also associated with negative school climates (Noguera, 2003) as well as school violence (Goldstein & Conoley, 1997). Such schools do not offer an optimal, developmentally appropriate student fit (Eccles et al., 1993), a fact that can undermine students' capacity to concentrate, sense of security, and ability to learn.

A host of familial resources, indicative of the family's “capital,” have also been linked to academic attainment (Perreira, Harris, & Lee, 2006; Stanton-Salazar & Dornbusch, 1995). For example, there are well-established relationships between parental education and academic performance in terms of such outcomes as grades, dropout rates, and achievement test scores (Bourdieu & Passeron, 1977; Madaus & Clarke, 1998). In particular, maternal education plays a significant role in shaping children's development and academic outcomes (O'Connor & McCartney, 2007). Generally, more educated parents are better equipped to guide their children in studying, accessing, and making meaning of educational information. Research has also established the specific link between parental education and academic outcomes among immigrant populations (Portes & Rumbaut, 2001; Suárez-Orozco et al., 2008). Educated immigrant parents are more likely to seek information about the educational system in the new land, whereas parents with limited education are often intimidated and misunderstood by school authorities and are unable to help their children navigate the complicated college pathway system (Suárez-Orozco et al., 2008).

Parental employment is another robust family indicator of child developmental outcomes (Hauser & Warren, 1997; Hilton, Desrochers, & Devall, 2001). Parents who are active in the workforce are better able to provide the resources and support that their children need (Perreira et al., 2006). Although maternal employment has

“an ambiguous effect on child development” (Perreira et al., 2006, p. 515), paternal employment is consistently linked to better educational outcomes (Perreira et al., 2006; Ruhm, 2004). Likewise, children growing up in homes with two parents tend to have better developmental and academic outcomes than their peers in single-parent households (Thomson, Hanson, & McLanahan, 1994). Two-parent homes are more likely to have access to greater resources, time, and attention to invest in children’s well-being than single-parent homes (Gibson-Davis, 2008; Thomson et al., 1994). In fact, many newcomer immigrant youth grow up in nontraditional, complex households that include parents remaining in the homeland as well as multiple generations of caretakers (Hernandez et al., 2007; Suárez-Orozco, Todorova, & Louie, 2002). Families with more than one adult in the home may be better equipped to deploy resources to promote better educational outcomes than those with only one adult by diffusing the stressors of child care in a foreign country as well as providing financial resources and supervision (Portes & Rumbaut, 2001).

These school and family factors can interact with a host of individual-level characteristics to affect trajectories of academic performance. For example, English language fluency is a significant predictor of positive academic adjustment in studies of first- and second-generation immigrant students (Portes & Rumbaut, 2001) as well as newcomer students (Suárez-Orozco et al., 2008). Language skills affect students’ abilities to detect social nuances in the school setting and are also highly predictive of academic success (Muñoz-Sandoval, Cummins, Alvarado, & Ruef, 1998). The ability to perform well on multiple-choice tests, to extract meaning from written text, and to argue a point both orally and in writing are essential skills for high levels of academic attainment. Although oral proficiency can be developed within a couple of years, the level of language skills necessary to be competitive with native-born peers in the classroom takes, on average, 5–7 years to acquire under optimal conditions (Cummins, 1991). Language proficiency also affects the degree to which students feel “connected” to what goes on in their classes (Steinberg, 1996, p. 131), a key determining factor in academic performance (Fredricks, Blumenfeld, & Paris, 2004; Marks, 2000; National Research Council, 2004).

Psychological distress is another individual factor that interacts with school and family variables in predicting academic outcomes. Such distress has been linked to lower levels of academic performance in nonimmigrant adolescent populations (Blechman, McEnroe, Carella, & Audette, 1986; Ripple & Luthar, 2000). However, data examining the well-being of immigrant-origin youth populations across generations and ages reveal mixed results according to country of origin, developmental group, and age of arrival (Takeuchi, Hong, Gile, & Alegría, 2007).

Other individual-level factors have academic implications. As with other minority student populations, researchers have noted a gender gap in academic performance among immigrants, with girls outperforming boys (García-Coll, Szalacha, & Palacios, 2005; Suárez-Orozco & Qin-Hilliard, 2004). High rates of school mobility place students at a significant disadvantage for school performance (Mehana & Reynolds, 2004; Seidman, Aber, Allen, & French, 1996). Immigrant families are a particularly mobile population, as they have yet to fully establish stable ties to work and communities; thus, their children are likely to be less stable in their school attendance across the years of their education, placing them

at great academic risk (Rumberger & Larsen, 1998). Finally, many newcomer immigrant children are overaged for their grade level because of schooling interruptions or retention; in many student populations, being more than one year over age foreshadows later dropout (Ripple & Luthar, 2000).

### Overview of the Current Study

Despite the value of the research summarized above, our understanding of the factors that can impede or promote an immigrant child’s academic achievement in the United States has been constrained by the limitations of many previous studies. Rather than address trajectories of change over time within the same cohort, most authors have employed cross-sectional approaches that compare two or more generational cohorts (Hernandez & Charney, 1998; Steinberg, 1996; Suárez-Orozco & Suárez-Orozco, 1995). As a result, these studies fail to control for macrosystemic variables, making conclusions about the effects of immediate contextual and individual factors shaky at best. Moreover, studies that have included second- and third-generation immigrants do not fully capture the initial adjustment patterns and unique experiences of recently arrived immigrant students (Fuligni & Pederson, 2002; García-Coll et al., 2005; Portes & Rumbaut, 2001). Hence, we employed a longitudinal, mixed-methods approach designed to bring the circumstances faced by this population and the impact of contextual and individual factors into high relief.

On the basis of the empirical and theoretical literature, we hypothesized that within a given cohort different trajectories of performance would emerge over the course of 5 years, with some students maintaining high performance trajectories over time while some would decline and others improve. These different trajectories were expected to be influenced by the contextual and individual factors described above. Students attending poorer quality schools (defined as schools with a high proportion of students not passing the state English proficiency high-stakes test and with higher-than-average reported levels of school violence) were hypothesized to be at greater risk of declining performance over time. Likewise, students whose families were characterized by a range of protective factors (including having an employed parental figure, having a high-school-educated mother, and having two adult parental figures in the home) were expected to manifest positive academic performance across time more consistently than other cohort members. In addition, we anticipated that students with certain individual-level resources and characteristics would show improvements in performance over time. These resources and characteristics included being female, having or developing strong academic English language skills, and demonstrating high levels of academic engagement. Finally, students who experienced unusually high numbers of school transitions and/or were more than 2 years over age for their grade level were hypothesized to be at greater risk than their peers for low academic performance and for declining performance over time.

In the present study, we took a person-oriented perspective, which assumes that results are interpretable at the individual level (Magnusson, 1998), and used a complementary mixed-methods approach (Hammersley, 1996)—with each analytic approach providing a new level of insight (Bryman, 1996). We used latent growth modeling to describe trajectories of performance over time.

We used multinomial logistic regression to delineate how indicators of family characteristics, school characteristics, and individual characteristics were associated with academic trajectories. Moreover, we deepened our understanding of academic trajectories of performance by implementing multiple case studies (Yin, 2003). We used case studies to uncover unanticipated causal links, which quantitative data do not reveal, and to shed light on the developmental and interactional processes at play (Yin, 2003). This mixed-methods approach allowed us to triangulate our findings and deepened our understanding of the challenges that newcomer youth encounter as they enter U.S. schools.

## Method

### Procedures

This study used data from the Longitudinal Immigration Student Adaptation (LISA) study. The LISA study was a 5-year longitudinal study that used interdisciplinary and comparative approaches, mixed methods, and triangulated data to document patterns of adaptation among recently arrived immigrant youth from Central America, China, the Dominican Republic, Haiti, and Mexico.

**Recruitment.** Students were recruited from seven school districts in regions of Boston and San Francisco with high densities of newcomer immigrant students. Participating schools provided access to students, teachers, staff, and school records. With the help of school personnel, youth were identified who potentially met the inclusion criteria of newcomer immigrants whose parents were from the same country of origin. Bilingual and bicultural research assistants personally described the project to potential participants and requested their involvement. Parents received permission slips and letters in their native languages, which were followed up with phone calls. Students and parents were told that this was a 5-year project investigating educational experiences and that confidentiality was assured. Approximately 85% of families that met the inclusion criteria agreed to participate.

**Interviews.** Students were interviewed orally by research assistants at the same point in each academic year, either during or after school and in the participant's preferred language. The interviews took from 1.5 to 2 hr and involved a variety of question formats (open-ended, fill-in-the-blank, Likert scales, etc.). Students were remunerated for their time and participation. Parent interviews were conducted at the participants' homes in the 1st and last years of the study.

### Participants

A diverse sample ( $N = 407$ ; 53% female) of newcomer immigrant students was recruited. The study was designed to examine newcomers arriving just at the cusp of adolescence; ideally, all participants would have begun at age 12 and would have arrived in the United States within 1 year of the commencement of the study. The realities of recruitment, however, required the researchers to be more inclusive. Ultimately, the participants ranged in age from 9 to 14 at the beginning of the study ( $M = 11.7$ ) and were limited to individuals who had been in the United States for no more than one third of their lives ( $M = 1.93$  years in the United States at the beginning of the study). By Year 5, the sample had reduced to 309

participants—representing an attrition rate of 5% annually—of whom 72 were Chinese, 60 Dominican, 57 Central American, 50 Haitian, and 70 Mexican. Of these, the dependent variable, report card data for all 5 years of the study, was available only for 294 participants. There were no significant differences on any of the independent variables between the LISA final sample of 309 and the logistical regression analysis sample of 294.

**Family Characteristics.** On average, students' mothers (or maternal figures) had received 9.2 years of schooling, ranging from no formal schooling to 21 years of formal education. One third of the mothers had completed high school. During the 1st year of the study, 96% of the total sample of immigrant fathers was working. By the 5th year of the study, only 64% of the fathers were employed. Mothers were less likely to be employed outside the home than fathers. Twenty percent of the total population of mothers reported staying at home, with significant differences among the groups. Students lived in a wide variety of family constellations, ranging from single-parent households to crowded, shared spaces with several families and boarders. Participants lived in households ranging in size from 2 to 17 people (for details, see supplemental materials).

**School Characteristics.** Students in our study were recruited from over 50 schools in seven districts representing typical contexts of reception for newcomer students from each of the groups of origin (Suárez-Orozco et al., 2008). By the end of the study, the students had dispersed to over 100 schools. Transfer rates, which included normal administrative school transitions (i.e., from middle to high school), ranged between one and five transfer incidents per participant ( $M = 2.4$ ) over the course of the 5 years of the study.

Data on school quality for the quantitative analyses became available from school district data in the last year of the study as a result of the No Child Left Behind Act. These data included the percentage of students who were poor (as assessed by eligibility for free or reduced-cost school lunch), segregation rates (the racial and ethnic composition of the school), and the percentage of students performing at proficient levels on state-mandated English language arts standardized tests. Although there was fluctuation in school quality for individual students, ethnographic data revealed that students tended to stay within district and transitioned to schools of comparable quality.

By the last year of the study, 74% of the participants were attending high school, with 96% attending public noncharter schools. The majority of the participants (65%) attended large schools (i.e., those with more than 1,000 students), whereas 22% attended schools with between 500 and 1,000 students. Most of the students' schools were highly racially and economically segregated (see Table 1) and were characterized by high percentages of students living in poverty, with an average of 59.2% ( $SD = 23.9$ ) of the student population receiving free or reduced-cost lunch. The minority representation rate at the schools was, on average, 77.9% ( $SD = 23.6$ ; for details, see supplemental materials).

**Instrument development.** LISA involved students from a variety of linguistic and cultural backgrounds. Cross-cultural research with immigrants challenges traditional social science assumptions around validity and reliability (McLoyd & Steinberg, 1998; Suárez-Orozco & Suárez-Orozco, 1995). Questions and prompts that are valid for one group may be neither valid nor culturally and linguistically unbiased for another group. We thus

Table 1  
Demographic Variables by Country of Origin

Variable	Total sample (N = 309)			Central America (N = 57)			China (N = 72)			Dominican Republic (N = 60)			Haiti (N = 50)			Mexico (N = 70)		
	M	SD	%	M	SD	%	M	SD	%	M	SD	%	M	SD	%	M	SD	%
Age at Year 1 <sup>****</sup>	11.70	1.60		11.53	1.56		12.10	1.68		12.23	1.42		11.60	1.67		11.03	1.38	
Years in the United States at Year 1 <sup>**</sup>	1.93	1.37		1.51	1.09		1.93	1.44		2.28	1.44		2.22	1.52		1.77	1.26	
Family Characteristics																		
Two-adult home <sup>****</sup>	66.45			68.52		80.56						44.07			59.18			74.29
High-school-graduate mother <sup>****</sup>	32.65			18.52		49.25						48.28			9.30			29.00
Working parent <sup>****</sup>	64.95			66.67		83.58						42.37			63.41			65.71
School Characteristics																		
Percentage of low-income students in school <sup>****</sup>	49.43	23.56		43.50	22.33		36.97	26.70		64.22	8.49		47.77	20.43		55.87	23.50	
School segregation rate <sup>****</sup>	78.74	23.07		84.05	22.33		58.97	29.38		91.14	7.41		74.80	18.19		87.11	17.78	
Percentage of students passing state English test <sup>****</sup>	31.26	24.95		20.35	13.83		59.22	28.78		20.19	13.32		37.32	14.51		16.19	13.56	
Average perceived school violence <sup>****</sup>	22.00	4.74		22.12	4.48		19.30	4.02		22.30	5.03		22.80	3.91		23.85	4.81	
Individual Characteristics																		
Average academic engagement <sup>*</sup>	21.02	3.43		20.78	2.93		21.78	4.05		21.23	3.52		21.29	3.53		20.04	2.73	
Average academic English proficiency <sup>****</sup>	70.84	19.14		63.84	15.27		79.93	27.99		68.43	14.56		73.87	10.65		67.35	15.57	
Average mental health <sup>*</sup>	19.11	7.80		19.63	7.56		15.51	6.98		19.48	8.43		22.28	7.71		19.81	7.13	
Number of years overage <sup>****</sup>	1.68	2.09		1.16	1.85		2.46	2.31		1.63	2.02		2.24	2.14		0.93	1.66	
Three or more school transitions <sup>****</sup>			36.89			38.60			36.11			23.33			24.00			57.14
Gender: Female <sup>a</sup>			56.63			61.40			61.11			61.67			54.00			45.71

Note. For continuous data, we report least square means and establish significance with analyses of variance. For categorical variables, we report percentage and establish significance with chi-squares.  
<sup>a</sup> N = 175. Not significant.  
<sup>\*</sup> p < .05. <sup>\*\*</sup> p < .01. <sup>\*\*\*\*</sup> p < .001.



sought to develop protocols that would be relevant and equivalent across groups (for details, see supplemental materials).

**Case studies.** In the 3rd year of the study, we selected 75 students evenly distributed by country of origin (15 participants in each) who represented a range of academic engagement profiles for case study research. These students were selected based on an examination of school records and on ethnographic observations by the research assistants, with an eye to capturing a range of patterns of school engagement and performance across country-of-origin groups. For each country of origin, case studies were developed for students who were high, medium, and low achievers at Year 3 of the study (for details, see supplemental materials).

## Measures

**Family Characteristics.** Data for Family Characteristics were collected from the parent interviews. Maternal education was dummy-coded such that high school graduation was assigned a value of 1 and obtaining less than a high school education was coded as 0. Parental employment was dummy-coded such that a working parent was assigned a value of 1 and a nonworking parent was assigned a value of 0. Household structure was dummy-coded such that two or more adults in the home was assigned a value of 1 and one adult in the home was assigned a value of 0.

**School Characteristics.** Two indicators of school segregation were used: school segregation rate, the percentage of non-White students attending the school; and school poverty rate, the percentage of students in the school receiving free or reduced-cost lunch.

**Student perceptions of school violence.** We developed a 10-item scale to determine the frequency with which students perceived problems of violence and bullying in their schools and in the adjoining neighborhood (e.g., “I do not feel safe in my school”). Responses were coded on a 5-point scale (1 = *never*, 5 = *several times a day*). We administered this measure in the 3rd (Cronbach’s  $\alpha = .75$ ), 4th (Cronbach’s  $\alpha = .74$ ), and 5th years of the study (Cronbach’s  $\alpha = .78$ ); for the analyses presented here, we used the averaged score for the three points in time when data were collected.

**Academic English proficiency.** We used the English Language Proficiency Standard Score of the Bilingual Verbal Abilities Test (Muñoz-Sandoval et al., 1998), a standardized test of academic English proficiency, to assess proficiency in academic English. The Bilingual Verbal Abilities Test has been normed on all the languages represented in the study. The Bilingual Verbal Abilities Test manual (Muñoz-Sandoval et al., 1998) reports the median reliability across age groups for the English language proficiency scale as .96. These data were collected in Years 3 and 5 of the study; for the analyses presented here, we used the averaged score for the two points in time when data were collected.

**Academic engagement.** We assessed academic engagement using a seven-item self-report scale that focused on behaviors (for details, see supplemental materials). Participants were also asked how many hours they generally spent on homework after school, how many times they had been late to class in the last week, and how many times they had skipped class in the last week. The items were standardized and summed to create a scale score. We administered this measure in the 3rd (Cronbach’s  $\alpha = .70$ ), 4th (Cronbach’s  $\alpha = .75$ ), and 5th years of the study (Cronbach’s  $\alpha = .78$ ); for the

analyses presented here, we used the averaged score for the three points in time when data were collected.

**Psychological symptoms.** We developed a 26-item, cross-culturally relevant and developmentally appropriate psychological symptom scale informed by the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994) and the Symptom Checklist-90 (Derogatis, 1977). Participants were asked to respond to the prompt “Lately, do you . . . ?” Sample items included “feel sad,” “feel nervous,” and “lose your temper too easily.” Scores ranged from 1 to 4 on each item, with higher scores signifying higher levels of psychological symptoms. We administered this measure in the 1st (Cronbach’s  $\alpha = .84$ ) and 5th years of the study (Cronbach’s  $\alpha = .88$ ); for the analyses presented here, we used the averaged score for the two points in time when data were collected.

**Age-related analyses.** Number of school transitions was dummy-coded such that three or more school transitions was assigned a value of 1 and fewer than three transitions was assigned a value of 0. Being overaged for grade was dummy-coded such that 2 or more years over average age for grade was assigned a value of 1 and less than 2 years per grade was assigned a value of 0.

**Gender.** Gender was dummy-coded such that being female was assigned a value of 1 and being male was assigned a value of 0.

**Grade data.** Grades were the primary outcome measure. Report cards were gathered for each participant directly from the school during each year of the study. An individual academic grade point average (GPA) was calculated by averaging each student’s grades for math, science, language arts, and social studies courses (Cronbach’s  $\alpha = .88$ ).

## Quantitative Analytic Strategy

**Latent class growth modeling.** Latent class growth modeling uses a multinomial modeling strategy to identify clusters of individuals based on developmental trajectories in order to establish the number of groups that best fit the data based on both patterns of individual change and probability of group membership (Nagin & Tremblay, 1999). To facilitate the interpretation of results, we centered the data at 12 years, the focal age of study participants (for details, see supplemental materials; see also Suárez-Orozco et al., 2008). The analyses controlled for the effects of School Characteristics (school segregation rate and poverty rate), Family Characteristics (maternal education, parental employment, and household structure), and Individual Characteristics (gender, English proficiency, and academic engagement).

The key outputs of the model estimation consider the shape of the group’s trajectory, the estimated proportion of the population that belongs to each trajectory, and the probability that an individual will belong to each group. Several models with a variety of groups are tested, and a decision is then made about the number of groups that best describe the data. We selected the model with the largest Bayesian information criterion (Nagin & Tremblay, 1999).

**Multinomial logistic regression analyses.** We then computed multinomial logistic regression models to identify factors that may represent selection effects for entry into specific trajectories of performance. In particular, associations between School Characteristics (school segregation rate, school poverty rate, and student perceptions of school violence), Family Characteristics (maternal education, parental employment, and household struc-

ture), and Individual Characteristics (academic English proficiency, academic engagement, psychological symptoms, gender, number of school transitions, and being overaged for grade) were examined. Multinomial logistic regression allows for the simultaneous estimation of the coefficients for each independent variable within categories of the outcome variables—in this case, academic trajectories (Moss, St-Laurent, & Parent, 1999).

**Qualitative Analytic Strategy**

At the end of the study, the 75 case studies were sorted according to the trajectory into which they emerged, as determined by the latent growth class modeling analysis. We then coded each of the case studies individually, reading and rereading them together as a group (i.e., all the Improvers together, all the Precipitous Decliners collectively, and so forth) to search for patterns in the data (Maxwell, 1996; Miles & Huberman, 1994). We used the software program ATLAS.ti to facilitate the inductive and deductive development and application of codes across data sources, as well as the creation of conceptual models. Internal validity was established by pattern matching (Yin, 2003; for details, see supplemental materials). Because of space limitations, one representative case study (Yin, 2003) per trajectory of performance is presented here (see Suárez-Orozco et al., 2008, for detailed analyses of the multicase data and for additional case studies within each trajectory).

**Results**

**Quantitative Results**

**Latent class growth modeling.** We tested several models ranging from three to six categories. The model with five categories had the highest Bayesian information criterion and was thus selected to describe the data (Bayesian statistics available from the authors upon request). In examining the data by this method, five performance pathways emerged: (a) consistently high performers (High Achievers), (b) consistently low performers (Low Achiev-

ers), (c) students whose GPAs drifted slowly downward across time (Slow Decliners), (d) students whose GPAs declined precipitously (Precipitous Decliners), and (e) students whose GPAs improved over time (Improvers).

Two thirds of the participants demonstrated a decline in their academic performance over the 5-year study period. Nearly one quarter of the overall sample (24.7%, *n* = 70) consisted of Slow Decliners, showing a pattern of a slow but steady decline from, on average, 2.96 to 2.53 GPA, or an average grade point drop of about 0.5. Another quarter of the sample (27.8%, *n* = 79) was made up of Precipitous Decliners, whose GPAs slid from an average of 2.9 to an average of 1.67, demonstrating nearly a 1.5-point drop over the course of the study. A further 14.4% of the sample consisted of Low Achievers (*n* = 41); this group began with a lower average GPA (2.8) than any of the others and declined in performance as measured by GPA—on average by 1.44 points.

Although decline in performance characterized the majority of participants, two groups of students defied this pattern. Nearly one quarter of the students in the sample (22.5%, *n* = 64) were High Achievers, maintaining an average GPA of 3.5 across the 5 years of the study. A final group, the Improvers (11%, *n* = 30), made considerable strides in GPA over time. They began with an average GPA of 2.29 (i.e., just above that of their lowest achieving peers) but managed by the 5th year of the study to pull their performance up to an average GPA of 3.11 (a B average)—an increase of just over two thirds of a grade point (see Figure 1).

**Multinomial logistic regression analyses.** To gain a better understanding of how particular variables contributed to the likelihood of membership in one academic trajectory versus another, we conducted five multinomial logistic regressions, using each classification as the reference group (i.e., Low Achievers, Improvers, Precipitous Decliners, Slow Decliners, and High Achievers). We were thus able to determine which variables were significantly related to a participant’s membership in one academic trajectory versus the reference group, separately from those that were significantly related to being in a different academic trajectory group

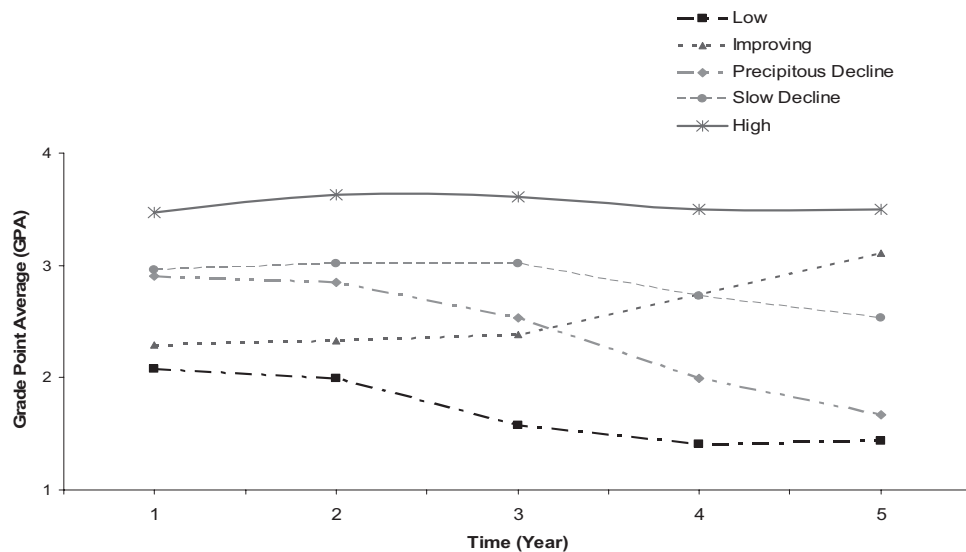


Figure 1. Grade point average performance trajectories.

versus the reference group. All the variables were entered into each of the models. Table 2 displays the variables that emerged as significant in contributing to the likelihood of membership when comparisons were made with each of the trajectories as reference groups (full models available from the authors upon request). A negative coefficient indicates a greater likelihood of being in the reference group.

**School Characteristics (segregation rate, poverty rate, perceived school violence).** Students attending schools with higher rates of segregation were significantly more likely to be Low Achievers than either Slow Decliners ( $OR = .95, p < .05, 95\% CI [.91, .99]$ ), Improvers ( $OR = .94, p < .05, 95\% CI [.90, .99]$ ), or High Achievers ( $OR = .94, p < .01, 95\% CI [.90, .98]$ ). They were also significantly more likely to be Precipitous Decliners than Improvers ( $OR = .95, p < .05, 95\% CI [.92, .99]$ ), Slow Decliners ( $OR = .97, p < .05, 95\% CI [.94, .99]$ ), or High Achievers ( $OR = .95, p < .05, 95\% CI [.92, .99]$ ). Students attending schools with greater proportions of low-income students were significantly more likely to be Low Achievers than Improvers ( $OR = .96, p < .05, 95\% CI [.92, .99]$ ) or High Achievers ( $OR = .96, p < .05, 95\% CI [.92, 1.00]$ ). Similarly, students attending high-poverty-concentration schools were significantly more likely to be Precipitous Decliners than Improvers ( $OR = .96, p < .05, 95\% CI [.93, 1.00]$ ) or High Achievers ( $OR = .96, p < .05, 95\% CI [.93, 1.00]$ ). In addition, students who improved over time reported lower levels

of school violence than Low Achievers ( $OR = 1.24, p < .05, 95\% CI [1.06, 1.44]$ ), Precipitous Decliners ( $OR = 1.16, p < .05, 95\% CI [1.01, 1.33]$ ), or Slow Decliners ( $OR = 1.21, p < .01, 95\% CI [1.06, 1.39]$ ).

**Family Characteristics (paternal employment, maternal education, family structure).** Having a parent who was active in the workforce did not differentiate the odds of membership in any of the trajectories, nor did having a mother who had graduated from high school. However, students who came from households with two adults were significantly more likely to be High Achievers than Precipitous Decliners ( $OR = 4.33, p < .05, 95\% CI [1.03, 18.15]$ ).

**Academic engagement.** Students' academic engagement differentiated all the trajectories from the Low Achievers. Students who had low levels of engagement were more likely to be found among the Precipitous Decliners ( $OR = 1.32, p < .01, 95\% CI [1.12, 1.56]$ ), Slow Decliners ( $OR = 1.48, p < .001, 95\% CI [1.22, 1.78]$ ), and Low Achievers ( $OR = 1.70, p < .001, 95\% CI [1.35, 2.13]$ ) than among the High Achievers. Further, higher levels of engagement were related to greater likelihood of being an Improving Achiever than a Precipitous Decliner ( $OR = 2.17, p < .01, 95\% CI [1.90, 2.55]$ ).

**Academic English proficiency.** Students' academic English proficiency differentiated all the trajectories from the High Achievers. Students with lower academic English proficiency were more likely to be found among the Low Achievers ( $OR = .92, p <$

Table 2  
Multinomial Logistic Regressions by Reference Group

Variable	Slow Decliners (24.3%)	Precipitous Decliners (26.8%)	Low Achievers (14.4%)	Improving Achievers (10.9%)	High Achievers (23.6%)
<b>Family Characteristics</b>					
Two-adult home		-1.465 <sup>qa</sup> (0.732)			1.465 <sup>qb</sup> (0.732)
<b>School Characteristics</b>					
Percentage low-income students in school		0.036 <sup>qa</sup> (0.018)	0.044 <sup>qc</sup> (0.022)	-0.039 <sup>qb</sup> (0.019)	-0.036 <sup>qb</sup> (0.018)
School segregation rate <sup>**</sup>	0.049 <sup>qd</sup> (0.021)	-0.034 <sup>qc</sup> (0.014)	-0.062 <sup>qc</sup> (0.025)	0.047 <sup>qb</sup> (0.020)	0.050 <sup>qb</sup> (0.020)
	0.034 <sup>qb</sup> (0.014)	-0.050 <sup>qa</sup> (0.019)	-0.049 <sup>qc</sup> (0.021)	0.062 <sup>qd</sup> (0.025)	0.065 <sup>qd</sup> (0.027)
Perceived school violence <sup>**</sup>	-0.191 <sup>qc</sup> (0.069)	-0.148 <sup>qc</sup> (0.068)	-0.213 <sup>qc</sup> (0.078)	0.191 <sup>qc</sup> (0.069)	-0.235 <sup>qc</sup> (0.076)
				0.235 <sup>qa</sup> (0.076)	
				0.213 <sup>qd</sup> (0.078)	
				0.148 <sup>qc</sup> (0.068)	
<b>Individual Characteristics</b>					
Academic English proficiency <sup>***</sup>	0.060 <sup>qa</sup> (0.016)	0.079 <sup>qa</sup> (0.017)	0.088 <sup>qa</sup> (0.021)	0.080 <sup>qa</sup> (0.020)	-0.060 <sup>qa</sup> (0.016)
Academic engagement <sup>***</sup>	-0.390 <sup>qd</sup> (0.096)	0.252 <sup>qa</sup> (0.095)	0.264 <sup>qc</sup> (0.108)	0.266 <sup>qa</sup> (0.110)	-0.252 <sup>qb</sup> (0.095)
		-0.278 <sup>qd</sup> (0.085)	0.278 <sup>qb</sup> (0.085)		-0.530 <sup>qd</sup> (0.116)
			0.390 <sup>qc</sup> (0.096)		-0.266 <sup>qc</sup> (0.110)
			0.530 <sup>qa</sup> (0.116)		
Mental health <sup>*</sup>	0.074 <sup>qc</sup> (0.034)	-0.073 <sup>qc</sup> (0.027)		-0.074 <sup>qc</sup> (0.034)	0.074 <sup>qb</sup> (0.034)
	0.073 <sup>qb</sup> (0.027)	-0.074 <sup>qa</sup> (0.034)		-0.075 <sup>qa</sup> (0.039)	0.075 <sup>qc</sup> (0.039)
Number of years overage	0.376 <sup>qd</sup> (0.142)	0.293 <sup>qd</sup> (0.131)	-0.293 <sup>qb</sup> (0.131)		
			-0.376 <sup>qc</sup> (0.142)		
Three or more school transitions <sup>*</sup>	-1.613 <sup>qd</sup> (0.594)	-1.643 <sup>qd</sup> (0.558)	1.414 <sup>qc</sup> (0.676)	-1.414 <sup>qd</sup> (0.676)	
			1.643 <sup>qb</sup> (0.558)		
			1.613 <sup>qc</sup> (0.594)		
Age at beginning of study <sup>*</sup>	0.419 <sup>qa</sup> (0.157)				-0.419 <sup>qc</sup> (0.157)
Gender <sup>*</sup>		-1.344 <sup>qa</sup> (0.524)	-1.604 <sup>qa</sup> (0.621)		1.344 <sup>qb</sup> (0.524)
					1.604 <sup>qd</sup> (0.621)

Note.  $N = 254$ . Log-likelihood = 605.744;  $df = 52$ . The significance of predictor variables was determined through a chi-square test. The values in parentheses are standard errors of coefficients.

<sup>a</sup> High Achievers. <sup>b</sup> Precipitous Decliners. <sup>c</sup> Improvers. <sup>d</sup> Low Achievers. <sup>e</sup> Slow Decliners.

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



.001, 95% CI [.88, .96]), Precipitous Decliners ( $OR = .92, p < .001, 95\% CI [.89, .96]$ ), Slow Decliners ( $OR = .94, p < .001, 95\% CI [.91, .97]$ ), and Improvers ( $OR = .92, p < .001, 95\% CI [.89, .96]$ ) than among the High Achievers.

**Psychological symptoms.** Students reporting higher levels of psychological symptoms were more likely to be found among the Improvers ( $OR = 1.08, p = .05, 95\% CI [1.00, 1.16]$ ) and Precipitous Decliners ( $OR = 1.08, p < .05, 95\% CI [1.01, 1.15]$ ) than among the High Achievers. Similarly, higher levels of psychological symptoms were reported by both Precipitous Decliners ( $OR = 1.08, p < .01, 95\% CI [1.02, 1.13]$ ) and Improvers ( $OR = 1.08, p < .05, 95\% CI [1.01, 1.15]$ ) than by Slow Decliners.

**Age (age at beginning of study, number of years overage, three or more school transitions).** Being older when the study began was associated with significantly greater likelihood of being a High Achiever ( $OR = 1.52, p < .01, 95\% CI [1.12, 2.07]$ ) than a Slow Decliner. In addition, students who were more overaged were significantly more likely to be found among Low Achievers than among Precipitous Decliners ( $OR = 1.34, p < .05, 95\% CI [1.04, 1.73]$ ) or Slow Decliners ( $OR = 1.46, p < .01, 95\% CI [1.10, 1.92]$ ). Further, students who experienced three or more school transitions were also more likely to be Low Achievers than to be Slow Decliners ( $OR = 5.02, p < .01, 95\% CI [1.57, 16.07]$ ) or Improvers ( $OR = 4.15, p < .05, 95\% CI [1.10, 15.64]$ ).

**Gender.** Being female was associated with a greater probability of being a High Achiever ( $OR = 4.97, p < .01, 95\% CI [1.47, 16.78]$ ) than a Low Achiever. In addition, being female was related to higher likelihood of being a High Achiever ( $OR = 3.83, p = .01, 95\% CI [1.26, 43.60]$ ) than a Precipitous Decliner.

## Case Studies

The quantitative findings were both reflected in and augmented by the multiple case study analyses. For each of the five pathways, we describe the themes that emerged from the study and provide a representative case to illustrate the recurring themes (for more detail on the case studies, see the supplemental materials; for more examples of case studies for each trajectory, see Suárez-Orozco et al., 2008).

**High Achievers.** Analyses of the case studies of High Achievers confirmed many of the patterns revealed by the multinomial logistic regressions demonstrating a tendency toward a constellation of family and school advantages. These individuals tended to live in stable homes and to attend relatively less disadvantaged schools. They also had more developed English language skills than the sample norm, which facilitated their following lessons, asking questions, answering multiple-choice test questions, completing homework, and writing persuasive essays. High Achievers were thus more likely to be engaged in school and more likely to attain high grades. Case studies also revealed that high-achieving students tended to display other advantages. They were more likely than their peers to have arrived in the United States with the entire family as a unit and to be documented. In the illustrative case study below, one can see the convergence of such good fortune with hard work.

Li, the son of a university professor, attends a highly competitive exam school. His parents take an active role in his day-to-day academic work and secure him a wide range of tutoring and extracurricular supports. According to Li, his Chinese immigrant

parents “always push me. Although I don’t like it at the moment, it’s good for my future.” Li is engaged in many activities at school and outside, and he spends about 3 hr every day on homework. He is one of the few students in our sample for whom proficiency in English is equivalent to that of his native language and for whom English is not a barrier to academic pursuits. As a result of Li’s persistence and determination, by the end of the study, he had been accepted to one of the most prestigious universities in the country.

Li has had optimal resources for academic success: highly educated and successful parents who know the university system well and ample economic resources that have given him access to advantages unavailable to families that are less well off. These resources, coupled with Li’s intelligence and drive for success, place him at a considerable advantage over other immigrant youth. A pragmatic and driven attitude, a willingness to work hard toward clear goals, and knowledge of how to maneuver the system have helped Li achieve his extraordinary success. In describing the “steps of going to college,” Li’s list is exhaustive: “hard classes, good grades, good SAT, sports team, music, publication, volunteer, awards, funny essay, recommendations, and internship. I have done all of these.”

**Low Achievers.** Case studies also shed light on the constellation of circumstances that taxed the coping abilities of Low Achievers. Many had been separated from their parents for long periods of time before migrating and were more likely to join single-parent homes when they arrived. These students often had limited or poor-quality educational experiences prior to migrating. They tended to enter the most dysfunctional, low-resourced schools, which were ill-equipped to help them attain the English language proficiency necessary to do well in school. The Low Achievers also typically did not put forth the requisite behaviors to do well in school. Finding school frustrating, they opted for paid work, which became a source not only for financial compensation but also for building self-esteem. In the illustrative case study of León, one can see how a multitude of negative circumstances leads to compromised academic opportunities.

León’s mother came to the United States as a single mother to provide better opportunities for her son and daughter, who accompanied her. However, because of her long work hours, limited education, and scant knowledge of English, she can scarcely help her children with their schooling. She would like to be more involved at the children’s school, but she feels uncomfortable expressing her opinions to the teachers because, as she puts it, “I don’t know the right words to use.” She wants her children to do well and worries constantly about their well-being, telling them repeatedly to “stay out of gangs and to do well in school.” Her worries are well founded, as her son attends a school in a city classified among the 25 most violent in the nation.

León admits that he was never much of a student while in Mexico, saying that he thinks he is not “all that smart.” When he first arrived, he applied himself but quickly became discouraged by the frustrations of learning English. He entered a failing middle school and soon transitioned into a chaotic high school. He quickly established a pattern of behavior in school reported by a math teacher: “He is absent almost every day. However, when he is in class, he pays attention and completes assignments.”

As time goes by, León finds the lure of paid work increasingly attractive. He locates a job at an upscale restaurant, where the change into a uniform and his warmth and good manners make

him a success with customers. The contrast between his confidence at his job and his sense of inadequacy in the classroom is striking. His mother appreciates that he is contributing to the family income, and he enjoys having money to spend. Though he retains vague ambitions about attending college—"if I can"—he checks off his obstacles: his inability to write well in English, his poor school record and study habits, the likelihood that he may not graduate, his lack of knowledge about getting into college, and his inability to pay for college. In addition, he is worried about his undocumented status; at college, he says, cringing, "they ask for a lot of papers."

**Precipitous Decliners.** The patterns that emerged from the case study analyses suggested that Precipitous Decliners tended to encounter a combination of factors that together derailed their academic performance across time. The poor, segregated school contexts, as verified by the multinomial regressions, provided a poor fit for students who arrived with high needs. These less-than-optimal school contexts provided a challenge to engagement for all but the most focused students. Case studies pointed to the fact that their parents often had limited education in their native countries and were challenged in their ability to advocate on their children's educational behalf. Although these students often reported good friendships, in most cases the friends were no better informed or equipped to navigate the educational system than the participants or their parents. Long family separations prior to migration, along with single-parent households, contributed to instability at home. In many cases, the voice of parental authority was disconnected and ineffectual, and there were many reports of conflicts within the family in this group. Declining students simply did not have the kind of relationships and social capital that could serve to sustain and enhance their academic relationships. Work or sports often provided these struggling students with more immediate rewards. Many faced issues of unauthorized status, which made them feel unwelcome in their new land and made them realize that they had limited access to college (Capps, Castañeda, Chaudry, & Santos, 2007; Gonzalez, 2009). For precipitously declining youth, motivation and sustained academic effort in such adverse circumstances were nearly impossible to maintain. As one can see in the illustrative case study of Marieli, a complicated reunification, psychological challenges, unsupportive school environments, an unsupportive context of reception, and the uncertainties of undocumented status lead to a precipitous drop in school engagement.

Traumatic loss and separation are recurring themes for Marieli. When she was 4, her father was assassinated in front of his wife and children. Her mother reluctantly left Guatemala for the United States to support the family. Seven years passed before the mother could marshal the resources to send for her children. During that time, the grandmother, who had raised the children in the mother's absence, died, and the mother hired another caretaker to substitute for her. Marieli arrived in the United States at age 11 without documentation to join a mother she barely knew along with a new stepfather and stepsister; the reunification has been complicated and fraught with ambivalence.

Ironically, considering the brutality that Marieli witnessed in Guatemala, she finds that one of the worst things about her new land is the violence: "In Guatemala, there was less danger, more freedom." Marieli's neighborhood is a hub of gang activity. She laments being *enserrada* (locked in): "You can't go anywhere or leave your house because something might happen to you," she

complains. Her negative perceptions of America increase over time as she witnesses and experiences discrimination aimed at people who lack residency papers and cannot speak English. She also reports high levels of ethnic tension and violence at school: "A lot of things can happen to you in school," she says. "A group of kids can still beat you down. There are only five security guards, and they can't cover the whole school. Last week, there was a fight, and a female teacher stepped in to separate them, and they hit her. Cut her face. Lots of blood."

Though Marieli starts high school with straight As and dreams of a soccer scholarship to college, with the difficulties at home, the preoccupations with violence, and the dawning realization that her documentation status stands in the way of college opportunities, her grades begin to plummet. As it dawns on her that her undocumented status will hold her back, Marieli gives up on her dreams of college. The more familiar she becomes with the school system and with U.S. society, the more she sees that her lack of documentation is a significant barrier, and the more she pulls back in righteous anger. Working hard in school no longer seems worth the effort.

**Slow Decliners.** The multinomial regression analyses provide little insight to explain the Slow Decliners' slow downward drift in performance over time. These students are likely succumbing to the same forces that pull many of their native-born peers downward during the same developmental period (Alspaugh, 1998). For many of these young people, however, the qualitative analyses revealed a pattern that would have been missed through the quantitative analyses alone. A distinguishing feature of this group was a pattern in which the participants often transferred out of low achieving and into higher achieving schools midway through their studies. Sometimes the transfer was out of a sheltered bilingual program, and sometimes the transfer was into a competitive exam school; often the high initial motivation and work ethic led to a premature transfer before academic English skills were sufficiently solidified. Without adequate social and academic supports, early high grades drifted downwards. In the case study of Lotus, one can see how grades are compromised by social isolation and by transfer to an exam school before academic English skills are strong enough for the newcomer to keep up with her native-born peers.

Twelve-year-old Lotus emigrated from China with her younger brother to come live with a 70-year-old critical and demanding grandmother and with a father who works long hours, leaving her mother and younger sister behind in China. Lotus's family holds traditional gender role expectations. She explains: "They don't have any expectations for me. . . . If I were a boy, my family would care more about me [and] pay for my college tuition. . . . But since I am a girl, they expect me to work for my tuition fee." Nonetheless, Lotus throws herself into her class work, and though she is painfully shy and rarely says anything in class, she manages to get straight As. Because she is so successful, she transitions into an exam high school, where most of her peers are middle- and upper-middle-class native English speakers; in this program her GPA slips by half a grade point. Her inability to maintain her goal of straight As despite intense hard work leads to painful self-doubt and self-deprecation, which take an emotional toll. She reports that she often feels anxious, shy, and sad; has stomach aches; has trouble concentrating; and feels that she is not as good as others.

Lotus faces huge disadvantages in terms of her poverty, immigration history, and home circumstances. She is further disadvan-

taged by her limited social skills and support, as well as by her limited English fluency. These factors contribute to her sense of constant pressure and to her difficulties adapting to her new homeland. Despite a myriad of obstacles, she does remarkably well in school. Although her grades slip over time, this seems largely attributable to the combination of her English language skills and the stricter grading standards in the new school.

**Improvers.** Qualitative analyses of Improvers confirmed that these students typically attended schools that they experienced as more supportive than did the low-achieving or precipitously declining students. Case studies revealed that students whose academic engagement improved over time often arrived in the United States after a particularly difficult period in their lives in their sending countries (e.g., one characterized by political turmoil, the death of a parent or caretaker, or neglect during a long separation). In such cases, it appeared that upon arrival these students were simply unprepared to focus on their academic work. Still deep in their healing process, such youth were forced to deal with the challenge of acclimating to a new land before they had recovered the emotional and cognitive resources to concentrate on their schoolwork. Once time played its healing role, the performance of these students often improved considerably. The improving students were also supported by the fact that they tended to attend less “toxic” schools; this case study result is triangulated by the logistical regression finding that Improvers were less likely to perceive violence in their schools than students in the other trajectories. The other distinguishing feature of these students was the role of a mentor. In nearly every case of a significant upward shift in performance, an advocate or mentor entered the youth’s life, helping to change the course of his or her academic trajectory. In Ramón’s illustrative case study, one can see how knowing the right people played a transformational role.

Fearing for his life, Ramón’s father, a union organizer during turbulent years in El Salvador, had crossed the border. His family joined him 3 years later with temporary asylum status when Ramón was 9. Ramón had undergone several traumatic events in addition to his fears for the life of his father: Someone had attempted to assassinate his older brother, and he and his mother had been in a serious car accident. These repeated traumas and the disorientation of migration take their toll on Ramón, leaving him anxious and cautious. Ramón’s mother frames her motivation for migration as seeking both safety and educational opportunities for her children: “My goal is to get ahead, principally for my children so they do something good for mankind.” Still, she regrets the decline in their quality of life.

Ramón’s mother enrolled him in a dual-immersion language program, in which all subjects are taught 50% in English and 50% in Spanish. Ramón had received a limited education before arriving in the United States, having attended a small village school, and is ill-prepared for the high-quality and demanding curriculum at this school. In our classroom observations, it seems that Ramón is barely on his teachers’ radar screens. As his academic foundation is shaky, Ramón finds it hard to keep up with the privileged middle-class children who are his peers. His parents have little education and read and write haltingly in their native Spanish and not at all in English, and therefore cannot help him with his snowballing homework load. With little outside support, the quality of Ramón’s work pales next to that of his peers. His grades reflect his teachers’ perceptions that he is doing poor work. By the

end of his 3rd year in the United States and his 2nd year in the dual-immersion program, his teachers recommend that he be held back for a year to catch up. This recommendation devastates Ramón and his mother. She seeks the counsel of the asylum interpreter, community leaders, and the college-professor mother of the boy for whom she babysits. They find someone in the community to provide daily after-school homework help—the kind of support that is routinely available to middle-class students from parents or paid tutors. The intervention proves transformational. Ramón makes excellent progress in summer school, and his teacher tells the principal that he is prepared for the next school year. A bilingual graduate student in education volunteers an hour every day after school to help with math tutoring and oversees the completion of nightly homework. By the end of fifth grade, Ramón has pulled his grades up to steady Bs with a sprinkling of As, and he maintains this average into the following year, when our study comes to an end.

## Discussion

A central aim of this study was to identify the varying academic trajectories of recently arrived immigrant students and, through a mixed-methods approach, to describe family, school, and individual contextual factors associated with membership in the different trajectories. Latent class growth modeling revealed five distinct trajectories of performance for the newcomer students. We examined several family capital factors, school characteristics, and individual characteristics using multinomial logistic regression analyses. These analyses showed that factors that contributed to membership in different trajectories included having two adults in the household, school segregation and school poverty, student’s perceptions of school violence, level of academic English proficiency, reported psychological symptoms, gender, and being over-aged for grade. A multiple case study approach (Yin, 2003) was used to triangulate and validate many of our quantitative findings. The multiple case study approach “capture[d] the complexity of the experiences” (Foster & Kalil, 2007, p. 831) across school and home contexts, allowed us to make cross-case conclusions, and revealed patterns that did not emerge from the descriptive data and the multinomial regressions. Thus, the study demonstrates the utility of mixed-methods approaches that incorporate the benefits of longitudinal quantitative studies with the attention to individual pathways more common in qualitative research (Raudenbush, 2004).

## Mixed-Method Insights Into Trajectories of Performance

Approximately one quarter of the participants did remarkably well academically, maintaining high achievement throughout the 5 years of the study. Upon examination of the data, these High Achievers demonstrated advantages in family capital and family structure that have been associated with academic achievement (Bourdieu & Passeron, 1977; Madaus & Clarke, 1998; K. White, 1982). Relative to the other groups, these participants attended schools that were the least segregated and had the fewest students qualifying for free lunch. They also had the strongest English language skills and were the most engaged in their studies.

Another 11% of the students—the Improvers—started out low but, over the course of time, overcame their initial “transplant shock” and reached nearly the same levels of achievement as the High Achievers. The quantitative data revealed that Improvers tended to settle into less problematic schools that provided them with a healthier fit with their developmental needs than did the schools of their counterparts who declined precipitously (Eccles et al., 1993). They were also more engaged in their schoolwork than their poorer achieving peers. The case studies provided further insights into this trajectory as well. Many Improvers had sustained premigratory trauma and had undergone long family separations as well as problematic initial family reunifications. Over time, many found mentors and community supports that guided them in their journeys in their new land, factors that arguably contributed to their engagement and thus to their academic improvement (Suárez-Orozco et al., 2008).

The rest of the participants—nearly two thirds of the sample—declined in performance over the course of the study. Approximately one quarter of the participants were Slow Decliners, demonstrating a waning in performance of approximately one half of a grade point over 5 years. In addition to the expected normative developmental drop in performance (Alspaugh, 1998), the case study data set revealed unanticipated patterns—including premature transitions into demanding academic settings—that appear to have contributed to the downward trend in grades. Many of these students’ initial placements were not particularly demanding academically, and they may have received high grades for modest effort and/or good behavior (Bang, Suárez-Orozco, Pakes, & O’Connor, 2009). After 2–3 years students would then transfer into more demanding academic settings, but they did not necessarily have the requisite academic English skills and received little in the way of social or academic support while making the transition. The result was often a drop in grades and a highly stressful academic voyage. Some participants swam against these strong currents and eventually succeeded, but others had trouble sustaining the energy needed to do so (Suárez-Orozco et al., 2008).

Even more alarming was the 1.5 GPA drop demonstrated by the Precipitous Decliners, who composed 27.8% of the sample. The multinomial logistic regressions showed that these students struggled with multiple school and background impediments. They attended low-quality schools by every measure and had limited opportunities to develop their English skills. In addition, Precipitous Decliners were the most likely of all the groups to report psychological symptoms, both at the beginning and at the end of the study. The case studies revealed that many of these students had difficult premigratory histories (e.g., hardship abroad and long separations from parents) and/or arrived to problematic circumstances in their new land (e.g., difficult reunifications and less than optimal neighborhoods). Students who had begun engaged had difficulty maintaining this engagement for long in school environments that were far from optimal and often even hostile (Suárez-Orozco et al., 2008). Few had adult supports or academic models, though they frequently had active social lives with peers. Many began to pull back on their academic efforts—often, especially for boys, to save face. All in all, though the majority of Precipitous Decliners had arrived with great hopes and dreams, they could not sustain them in the face of cumulative adversity.

The remaining 14.4% of our participants—the Low Achievers—started out with low performance and declined further over time.

Low-achieving students tended to arrive in their new land facing a series of significant challenges. The quantitative data suggested that these students had families with the least resources. Their English skills were weak, and they admitted to the least academic engagement, which distinguished them from the other trajectories. Their low engagement was not surprising given that a preponderance of school segregation and poverty, indicators of poor-quality schools, also separated them from the other performance trajectories. The case study analyses added further insights into the role of interrupted schooling, lengthy family separations, undocumented status, and barren social worlds in the poor academic performance of these youth. The Low Achievers simply never found their academic bearings and often found paid employment economically more viable and a salve to their egos.

### Consistencies and Inconsistencies With Nonimmigrant Populations

In some ways, these patterns of findings agree with those of studies of nonimmigrant students, making them consistent with more general developmental trends. Many U.S. students demonstrate declines in academic performance as they make transitions through middle and high school (Alspaugh, 1998; Seidman et al., 1996). School and developmental transitions, as well as more challenging course work, often set the stage for normative declines over time, and the risk is most pronounced among those who attend lower performing schools (Sirin & Rogers-Sirin, 2005). Newcomer families with limited resources often enter our poorest school systems; thus students who need the most in terms of support are in schools that have the least to offer in this regard. This school–student mismatch (Eccles et al., 1993) creates a particularly risky interaction. Indeed, the poor performance of the Precipitous Decliners as well as that of the Low Achievers in the study can in part be attributed to the particularly poor quality of schools that they attended, which did little to foster their engagement or to help them overcome their academic challenges (Eccles et al., 1993; Orfield & Lee, 2006; Woolley & Bowen, 2007).

In keeping with previous findings in other populations, girls demonstrated better educational outcomes than boys both initially and over time (Conchas & Noguera, 2004; García-Coll et al., 2005; Portes & Rumbaut, 2001; Suárez-Orozco & Qin-Hilliard, 2004). Girls were also more likely than boys to report interpersonal relationships in school that bolstered their engagement and persistence in the face of academic frustration (Lopez, 2003; Qin-Hilliard, 2003; Suárez-Orozco & Qin-Hilliard, 2004). Further, as in the general population, school engagement was related to higher academic performance (Fredricks et al., 2004; Greenwood, Horton, & Utley, 2002). The effort required to do well in school—regular attendance, completing homework assignments, being able to express and understand the language—was also related to high academic performance over time. Lastly, in keeping with previous findings with other populations, students who reported greater psychological distress were at greater risk for academic decline (Blechman et al., 1986; Ripple & Luthar, 2000).

**Family separations.** Other risk factors were more unique to the immigrant experience. For a variety of reasons—the high cost of migration, the difficulty establishing stable work and living conditions in the new land, and inefficient (at best) or draconian (at worst) immigration policies—a majority of immigrant children



experienced prolonged separations from their parents as part of the migratory process (Suárez-Orozco et al., 2002). Our analysis of parental separations revealed complicated relationships between the separation experience and academic trajectories. The presence of a maternal separation in the child's immigration history was negatively associated with academic success. Students who experienced separation from their mothers were more likely to be Precipitous Decliners or Slow Decliners than High Achievers. This was also the case for separations from the father; in the latter case, however, it was shown that the longer the separation, the greater the negative effect on academic performance.

**School transitions.** In addition to their transition as immigrants, early adolescent newcomers must also cope with a factor that has been established to be extremely disruptive to academic performance: school changes. Our participants typically changed schools two or three times in the course of the 5-year study; thus, multiple school transitions proved to be the norm and placed these students at risk for academic decline (Mehana & Reynolds, 2004).

**English language acquisition.** Research shows that it takes 4–7 years of optimal academic instruction for second-language learners to develop academic second-language skills that are comparable to those of native speakers (Cummins, 1991; Hakuta, Butler, & Witt, 2000). Unfortunately, many newcomers enter highly segregated, high-poverty, linguistically isolated schools (Orfield & Lee, 2006) that provide far from optimal conditions. Struggles with English are well presented in our data; only 7% of the participants had developed academic English skills comparable to those of their native-born English-speaking peers after an average of 7 years in the United States (Carhill et al., 2008; Suárez-Orozco et al., 2008). The case studies revealed that in many cases newcomer immigrant children have almost no meaningful contact with English-speaking peers. More than one third of the immigrant students reported that they had little opportunity to interact with peers who were not from their country of origin, which clearly contributed to their linguistic isolation (Suárez-Orozco et al., 2008). When English learners are not able to participate and compete in mainstream classrooms, they often read more slowly than native speakers and struggle with double entendres and with cultural references. Their lack of language skills may also prevent them from being easily engaged in academic contexts and from performing well on “objective” assessments that are designed for native English speakers (Suárez-Orozco et al., 2008). Thus, it is not surprising that the study found limited English proficiency to correlate with lower trajectories of academic performance.

**Unauthorized status.** Because this was a longitudinal study and it was important not to compromise our participants' trust, we did not ask students about their citizenship status as part of our data collection. Thus, this variable was not available to us for quantitative analysis. Over the course of the study, however, many of our participants confided to us their worries about their precarious unauthorized status. Particularly for the Low Achievers and Precipitous Decliners, the case studies revealed that the students' sense of being unable to participate in their new host society and their hopelessness about their ability to continue on to college and to obtain desirable employment contributed to their academic disengagement in palpable ways.

**Chinese exceptionalism.** Students with the most familial, school, and individual resources tended to perform better academically over time than the students who had fewer such advantages.

As a group, the Chinese students in our sample had greater constellations of resources than the other country-of-origin groups. This in part explains the notable finding that approximately one half of all High Achievers in this study were Chinese immigrant students. Consistent with the findings of others, however, it is important to note that some of the Chinese youth with constricted family resources attending poor-quality schools demonstrated patterns of low achievement and decline comparable to those of their counterparts from other country-of-origin groups facing similar stratifying forces (Lee, 1996; Lew, 2006; Louie, 2004). Nonetheless, the Chinese participants demonstrated a consistent academic advantage.

Rumbaut (1995) has noted the differing “sending context” of certain groups, which can give members of these groups a premigratory advantage and predispose them to perform better when they arrive. The effects of these premigration advantages have been noted in other research (Li, 2004; Louie, 2004; Tseng, Chao, & Padmawidjaja, 2007) and are seen in our sample of Chinese students as well (see Table 1). The Chinese families in our sample tended to arrive with more resources than those from other ethnicities, and the parents had higher levels of education upon entry and better jobs once they settled in the United States. However, this differential is largely reflective of the nature of the Boston area Chinese newcomer population; had we collected our Chinese data in cities with more diverse Chinese origin immigrants, including more of those who are quite disadvantaged, we might have had less pronounced country-of-origin differences. The Chinese newcomers in our sample were less likely as a group than the sample norm to endure lengthy and complicated family separations during the migration process (Suárez-Orozco et al., 2002), were less likely to be undocumented, and were less likely to attend the most troubled schools. They were also more likely to find their way to integrated schools, where their children came in contact with peers from mainstream households, who could act as strong linguistic models. Moreover, Chinese immigrants, who are expected by many of their teachers to embody the cultural myth of the “model minority” (Lee, 1996), generally encountered more positive teacher expectations (Weinstein, 2002) than their Mexican, Dominican, Haitian and Central American counterparts (Suárez-Orozco et al., 2008).

In addition, the qualitative data revealed that the Chinese immigrant families understood the culture of testing, as this is the main route to entering highly coveted schools in China. Chinese parents arrived in the United States with an understanding that all schools are not equal and that the high-school-to-college maze is a game that needs to be skillfully and strategically played. This active pursuit of the direct benefits of education is instilled in Chinese children from a very young age (Li, 2004). More acculturated Chinese-origin immigrants and second-generation Chinese, who have high levels of educational capital, become brokers, imparting the skills and cultural understanding needed to succeed in school to new arrivals. Unexpectedly, our data showed that the Chinese participants were, on average, 2 years overage for their grades, which may have provided them with a cognitive developmental advantage over their peers. Lastly, Chinese students in this sample, especially girls, reported spending more time on academic tasks and homework and greater levels of turning their work in on time (Suárez-Orozco et al., 2008). Given these cumulative advantages, it is not surprising that Chinese-origin youth in this sample performed better academically than other groups who did not

possess this constellation of capital. As has been suggested, this underscores the importance of looking across groups, as we did in this study, to distinguish whether advantages displayed by particular groups are in fact cultural or are attributable to other contextual factors (Sue & Okazaki, 1990).

### Study Limitations

The use of longitudinal data and mixed methods afforded sensitivity to this study of the academic trajectories of newcomer immigrant students. Similarly, the use of a large, bicoastal sample of adolescents adds to the likelihood that the parameter estimates are reliable. Nonetheless, the sample was one of convenience. Random sampling was not possible given the specific inclusion criteria of the study, the need for signed permission forms from school personnel and parents, and the required commitment of 5 years of participation. This limits, to some degree, the ability to generalize from our sample. Given the results of our descriptive statistics (parental education, parental employment, household size, etc.), however, we are confident that this sample is reasonably representative of recently arrived immigrants nationwide. As with all longitudinal studies, there is also the potential problem of attrition. Our attrition rate was low, however, and our comparison revealed few differences between students who completed the 5 years of the study and those who did not. Nonetheless, the rate of attrition tended to be somewhat higher for disengaged students, and it is therefore likely that our results underestimate the effect of disengagement on academic decline.

There are other limitations to this study. Recruitment challenges required us to expand our criteria from the intended focus on 12-year-olds to include 9- to 14-year-olds in the study; notably, however, the mean age was 12, and there were relatively few participants at either age extreme. As such, we were unable to systematically address developmental patterns; thus, future studies should sample across late middle childhood and early adolescence in order to consider the implications for attachment, social network formation, and English language acquisition, among other issues. The school report data were collected from school districts and as such are subject to quality of reporting biases. These (report card) data were available only in the last year of the study, 2002, when the No Child Left Behind Act first made this kind of data publicly available. It is possible that the data on school quality were not representative of the quality of experience over the course of the 5 years. Future studies should examine school quality measures across time. We did not collect data on academic English proficiency until Year 3; ideally, this would have been collected prior to Year 3 in order to provide baseline data. This was not possible, however, because of funding and timing constraints. Our assessment of socioeconomic status was also limited. Our data were collected from parents in their native languages in individual interviews. Data consisted of paternal employment and maternal education, two measures of socioeconomic status that are arguably a step above the standard proxy of family income in educational research (Conchas & Noguera, 2004). Nonetheless, ideally, quality family income data should be used in future studies. Another significant limitation of this study was the lack of comparison groups. To assess whether the academic trajectories identified here hold true for other groups, future studies should also include

second-generation immigrant-origin youth as well as minority and mainstream youth.

This study suggests that future research should be designed to examine nuanced aspects of change over time and to investigate whether country-of-origin differences exceed those touched upon here. To do so, future studies should employ larger samples of newcomer students from each country of origin under consideration and should include correlation analyses involving this variable. Such studies should also be designed with at least three points of data collection for each critical variable to distinguish true change over time from measurement error, and to examine the shape of individuals' growth trajectories (Singer & Willett, 2003). Research involving newcomer immigrant groups not included in this study is also warranted. A systematic and detailed examination of how relationships contribute to the academic performance of immigrant youth, looking at what particular academic and emotional resources these relationships provide, is another promising area for future research.

New research should test mediating mechanisms linking immigrant status to achievement, including parent-child relationships and perceptions of discrimination. Outcomes should include other indicators of academic performance, including culturally appropriate achievement tests. Moreover, it will be important to expand future studies to include additional domains of functioning, as academic functioning does not necessarily imply high functioning in other emotional or behavioral domains (Qin, 2008). Further, it will continue to be important to strive to disentangle the challenges that are normative to development from those that are secondary to the acculturative stresses resulting from adapting to a new culture (García-Coll & Magnuson, 1997).

### Implications

Despite limitations, the present study has implications for policy and practice. In particular, the results underscore the negative effects of poor school contexts. Rather than present impediments, schools should strive to serve as "sites of possibility" (Weis & Fine, 2004) that facilitate newcomers' adaptation. A variety of interventions could serve to close the academic gap between these students and their native-born peers, including thorough assessments of previous academic and literacy histories, providing academic and homework supports, designing programs that provide information about college access and pathways, and engaging parents in the learning community (Suárez-Orozco et al., 2008). In addition, given the protracted time needed to acquire academic proficiency in a second language (Cummins, 1991; Hakuta et al., 2000) and the apparent contribution of this factor to decline in academic performance over time (Suárez-Orozco et al., 2008), interventions should be targeted at this unique newcomer challenge. Students transitioning out of bilingual programs or into particularly rigorous programs should be provided with extra supports, such as tutoring and after-school homework assistance. Testing modifications, such as extended time, would also be appropriate. This is not to say that expectations should be low; on the contrary, expectations should be high (Weinstein, 2002) but with adequate supports provided. With appropriate academic scaffolding, newcomer students are less likely to disengage because of frustration or low academic self-efficacy.

The case studies demonstrate the significant contributions of social capital (Perreira et al., 2006; Sarason, Sarason, & Pierce, 1990) and interactions with school environments (Goodenow, 1993; Pianta, 1999; Ryan, Stiller, & Lynch, 1994) to academic outcomes for youth with limited opportunities. For newcomer immigrant youth, positive relationships with family, community, and school members relate to their well-being and to their performance at school. Prolonged separations during migration and rearranged family structure, however, often disrupt the stability necessary for newcomer students to focus on school (Suárez-Orozco et al., 2002). Relationships with individuals outside the family provide immigrant youth with opportunities to bridge the gap between home and school. Formal and informal relationships with supportive adults and mentors, although rare, sometimes help newcomers to navigate the complicated transition into a new country. The case studies revealed the dearth of supportive familial and nonfamilial relationships among the lowest achievers in our sample as well as the presence of such figures in the lives of students whose academic performance improved over time. By and large, the newcomer youth did not have access to supportive in-school or after-school programs, mentoring opportunities, and community-based organizations. Yet such programs, when carefully planned and well staffed, have been found to help students from many populations (Rhodes, 2002) and may play an especially important role in the lives of new arrivals in need of direction (Green et al., 2008; Roffman, Suárez-Orozco, & Rhodes, 2003).

Our data shed light on the cumulative challenges and on the often remarkable resilience of newcomer immigrant youth, as well as on the ways in which their educational environments currently fail to meet their socioemotional and educational needs. Working to bridge the gap between newcomers' developmental challenges and the resources available in their educational environments is an essential step in helping our nation's newest students to achieve their potential.

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