Immigrant and Native-Born Differences in School Stability and Special Education: Evidence from New York City[1]

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Using the literature on achievement differences as a framework and motivation, along with data on New York City students, we examine nativity differences in students' rates of attendance, school mobility, school system exit, and special education participation. The results indicate that, holding demographic and school characteristics constant, foreign-born have higher attendance rates and lower rates of participation in special education than native-born. Among first graders, immigrants are also more likely to transfer schools and exit the school system between years than native-born, yet the patterns are different among older students. We also identify large variation according to birth region.

Immigrant children make up approximately ten percent of the school-age population in the United States, with some metropolitan areas educating two to three times more immigrants than the national average (Lollock, 2001). There has been an abundance of research on the educational progress of these foreign-born youth, including several quantitative comparisons of immigrants to their native-born peers and to earlier waves of immigrants. With the exception of some Central American and Mexican immigrants (*e.g.*, Suárez-Orozco, 1989; Driscoll, 1999; Laird, Lew, and Chapman, forthcoming), much of this research points to a general advantage of being an immigrant or at least having an immigrant parent, despite the obvious difficulties associated with learning

a foreign language and new customs (*e.g.*, Kao and Tienda, 1995; Fuglini, 1997; Zhou and Bankston, 1998; Kao, 1999; Portes and Rumbaut, 2001; Glick and White, 2003; Tillman, Guo, and Harris, 2006; Schwartz and Stiefel, 2006). In New York City, for instance, foreign-born elementary school students scored up to one-tenth of a standard deviation higher than native-born on standardized tests in math and reading in 2001 (Schwartz and Stiefel, 2006). The higher achievement of immigrants is attenuated, but generally holds in studies that control for other social and demographic characteristics that are known correlates of school performance, such as poverty, race/ethnicity, and school characteristics (*e.g.*, Kao and Tienda, 1995; Schwartz and Stiefel, 2006). Several assimilation scholars suggest that protective cultural factors stemming in part from selective migration, such as stronger orientations toward schooling and more tightly knit families and communities, contribute to high immigrant achievement (*e.g.*, Gibson, 1988; Caplan, Whitmore, and Choy, 1989; Kao and Tienda, 1995; Portes and Rumbaut, 1996; Zhou and Bankston, 1998). Yet we are far from fully understanding what explains the apparent advantage for some immigrants in school. We are also relatively uninformed about how immigrants fare on non-academic measures of school experiences, such as attendance and mobility.

Building upon an earlier study by two of the authors showing higher test score performance among New York City immigrant students (Schwartz and Stiefel, 2006), this paper informs this larger research further by examining how immigrant and native-born students differ on non-academic indicators of school performance. Specifically, we use data on all first-, fourth-, and seventh-grade students in New York City public schools to examine nativity differences on several measures of school stability (attendance rates, inter-year exit from the school system, and inter-year school transfers) and participation in part-time special education programs.

Our goals are threefold. First, we examine the empirical reality experienced by educators who work with immigrant students by presenting raw (unadjusted) differences between the average immigrant and native-born student on the non-academic school performance measures listed above. Second, we determine whether the nativity differences we observe can be explained by underlying differences between immigrant and native-born students in their demographic and educational characteristics and the schools they attend. Finally, we use birth region as a crude proxy for ethnicity to examine variations among immigrants according to their ethnic backgrounds.

Exploring nativity differences on indicators of school performance other than achievement is important for at least two reasons. First, such indicators

represent stand-alone measures of students' well-being in school and at home. High rates of mobility between schools and absences from school could indicate a troubled home life, characterized by frequent residential mobility or chronic health conditions, such as asthma (*e.g.*, Diette *et al.*, 2000; Gilliland *et al.*, 2003). For older students, absence from school suggests the possibility of involvement in delinquent activity and drugs (*e.g.*, Roebuck *et al.*, 2004). Participation in special education flags students who have underlying physical or mental disabilities, and may reflect cultural or institutional barriers to parental involvement in special education diagnoses. Therefore, providing a statistical snapshot of nativity differences in rates of school stability and participation in special education may inform educators about immigrant students' home lives and levels of need.

Second, such analyses move us closer to understanding the nativity gap in achievement. The schooling experiences explored in this paper can be considered potential inputs to academic achievement. As examples, daily attendance in school has been found to associate with higher student achievement (Summers and Wolfe, 1977) and several studies have found that some school transfers associate with lower academic achievement (*e.g.*, U.S. GAO, 1994; Hanushek, Kain, and Rivkin, 2004).[2] From the school's perspective, high rates of absenteeism and transfers, particularly transfers that occur during the school year, can substantially disrupt school and classroom activities if school personnel must keep track of missing students or modify instructional and extracurricular activities to compensate for absences (Rumberger *et al.*, 1999). At least one study has found that students who attend schools with high rates of mobility, whether the students move themselves or not, have lower attendance than those in less disruptive schools (Hanushek *et al.*, 2004). In uncovering the differences between native-born and immigrants, therefore, this paper also lays the groundwork for additional empirical work that carefully examines how these schooling inputs mediate the link between nativity status and school achievement, and how these relationships differ according to immigrant students' birthplace and other background traits.

New York City represents an ideal case study for this type of analysis. Roughly 36% of the city's population and 15% of elementary and middle

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[2]A few studies have found positive or no effect of school transfers on student achievement when important background characteristics are controlled, such as poverty (*e.g.*, Alexander, Entwisle, and Dauber, 1996; Heinlin and Shinn, 2000). Yet Hanushek *et al.*'s (2004) rigorous examination of the relationship between school mobility and achievement that controls for pre-mobility outcomes and differentiates between promotional and non-promotional transfers, finds that high rates of mobility result in lower achievement.

school students in public schools are foreign-born. The city also offers an ethnic diversity unparalleled in other immigrant-dense cities, such as Los Angeles, Miami, and San Francisco, with large shares of immigrants from each of the major racial groups (*see* Kasinitz, Mollenkopf, and Waters, 2004 for rich descriptions of New York City's second- and 1.5-generation immigrants). In addition to capturing the experiences of a substantial portion of the country's immigrant students, this diversity allows us to examine the foreign-born according to their birthplace, an identity that may equal or exceed racial identity in shaping immigrants' reception in the U.S. and their success in school (*e.g.*, Portes and Rumbaut, 1996; Waters, 1999).

CONCEPTUAL FRAMEWORK AND PRIOR RESEARCH ON NATIVITY DIFFERENCES IN SCHOOLING INPUTS

While there has been some research on nativity differences in school achievement (*e.g.*, test scores, dropout rates, grade retention), and the possible explanations for those differences, we know far less about differences between native- and foreign-born students on the schooling indicators explored in this paper, including their school stability (attendance, enrollment, and mobility patterns) and participation in special education programs. Therefore, our expectations for this research are informed primarily by the existing studies on nativity differences in achievement and anecdotal reports from educators who work with immigrant students.

Conceptual Framework

We begin with an overarching conceptual framework often used to explain the experiences of contemporary immigrant children. Not surprisingly, immigrants are a heterogeneous group and their experiences upon immigration and over time vary quite a bit. Yet most scholars agree that immigrant parents often possess a strong work ethic and a value system that, despite relative disadvantages, such as higher rates of poverty or limited English proficiency, can translate into academic successes among their children (*e.g.*, Gibson, 1988; Caplan *et al.*, 1989; Kao and Tienda, 1995; Portes and Rumbaut, 2001). For those immigrant children who attend schools with largely poor and nonwhite native-born, such as those in New York City, their relative successes upon immigration may be even greater. At the same time, immigrant parents may also be less involved in their children's schooling, due to language barriers, concerns about illegal status, greater trust of educators,

and cultural norms (*e.g.*, Kao and Tienda, 1995; Waters, 1999; Gershberg, Danenberg, and Sanchez, 2004). Thus for children for whom parental participation in their education may be relatively more important, such as those with disabilities or other behavioral and learning issues, coming from an immigrant family may be less beneficial.

The progress of the immigrant student over time and across generations will depend upon the extent to which he acculturates to his native-born peers as well as the paths taken by those peers (*e.g.*, Portes and Zhou, 1993; Portes and Rumbaut, 1996, 2001). For instance, some immigrants may abandon their parents' values in favor of a more destructive attitude about schooling often attributed to native-born minorities. Others may selectively accommodate, rapidly learning English while maintaining their parents' high academic expectations. Likewise, second generation children may differ from first-generation in school because they have had a longer time (or a greater propensity) to acculturate to the third-and-later-generation students.

In addition to being more responsive to their parents as opposed to their native-born peers, immigrant children may differ from the second and later generations for other reasons, such as their lack of citizenship. Many foreign-born children are, for instance, ineligible for federal means-tested programs, such as food stamps and Temporary Aid to Needy Families, which may affect their economic stability and, ultimately, their schooling. Foreign-born may also differ from native-born on underlying health or disability characteristics. Calculations from the 2000 U.S. Census indicate, for instance, that foreign-born students in public elementary and middle schools in New York City are slightly more likely than native-born to have a disability.[3] Yet there are mixed findings on the relative health of immigrant children; in some studies, on some indicators, and for some age groups, immigrants are healthier than native-born and on others they are less healthy (Hernandez and Charney, 1998; Kao, 1999; Harker, 2001; Capps *et al.*, 2004).

As applied to our inquiry, the prevailing theory on immigrants suggests that immigrant optimism should translate to a greater commitment to schooling among foreign-born children from immigrant families. To the extent that high attendance is driven by strong commitments to schooling, we expect to

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[3]Approximately 93% of foreign-born versus 92% of native-born children were reported by their parents to have a physical, mental, sensory, or other disability that prevented them from being able to care for themselves (authors' calculations using the 5% Public Use Microdata Sample of the 2000 U.S. Census).

see better attendance among foreign-born children than among native-born children. If such commitments translate to school mobility, we should also see lower rates of school transfers and school system exit among immigrant than native-born. Yet transfers between schools and exits from the school system may stem from other parental decisions. For instance, some parents might send their children back to the home country to live with relatives during stressful times or for a higher quality education. Other immigrant parents send their children to private schools. If immigrant parents send their children home frequently or if they remove them from the public schools system for private schools, we should see higher rates of exit from the school system among immigrant children. Finally, since immigrant children are slightly more likely to have a disability, we expect them to participate in special education at slightly higher or equal rates to their native-born peers. Findings that show lower rates of participation may indicate that immigrant parents are less able to advocate for their children's special education needs. Whether school stability and special education participation decreases or increases across grades will depend upon the influence of age and length of time in the school system on these indicators.

The previous discussion outlines several expectations of differences between the average immigrant and native-born student. Yet there are factors unique to the immigrant experience that affect their acculturation and success in school, including the social and economic conditions in their home countries, the trauma they faced in emigrating, their legal status in the U.S., and their familiarity with U.S. culture and customs (Suárez-Orozco, 1989; Olsen, 1997; Hernandez and Charney, 1998). Reflecting these differences, previous literature reveals wide variation in first- and second-generation immigrant achievement according to what part of the world they or their parents come from (*e.g.*, Kao, 1999; Portes and Rumbaut, 2001; Rumbaut and Portes, 2001; Kasinitz *et al.*, 2004). Schwartz and Stiefel (2006), for instance, find that within the same school system (New York City), immigrants from European and Asian countries generally outperform those from Latin American and Caribbean countries on standardized tests. In addition to the important roles played by race and class, some attribute these differences to the context of reception experienced by the various ethnic groups in the U.S., including the acceptance or discrimination they experience in the labor market, the degree of support they receive from the government, and the economic and social vitality of their ethnic communities (Portes and Zhou, 1993; Portes and Rumbaut, 1996). These factors can also be expected to produce variation by source-region on the schooling indicators explored in this paper.

Prior Research

There is very little prior research on nativity differences in school stability and special education participation. One national survey of adolescents found that the immigrants reported fewer absences due to illness and emotional problems than their native-born peers (Harris, 1999). And while residential mobility does not always translate to school mobility, some studies have found that immigrant families move more frequently than do native-born families, a pattern that may be attributed to higher poverty rates among immigrants (McDonnell and Hill, 1993; Hernandez and Charney, 1998).

There is little evidence so far to support or refute the hypothesis that immigrant students' enrollment is disrupted because they are sent to their home countries for schooling at high rates. Some studies suggest that visits to the home country are infrequent and short (*e.g.*, Suárez-Orozco and Suárez-Orozco, 2001; Rumbaut, 2002). In their study of second- and 1.5-generation immigrants in New York City, Kasinitz *et al.* (2002) report that while many children have visited their parents' homeland, few remained for more than six months. Dominicans and West Indians were most likely to have extended stays in their sending countries, while Russian Jews and Chinese reported the lowest rates (Kasinitz *et al.*, 2002). In addition, immigrant students have a lower rate of private school attendance than native-born, indicating that changes in enrollment status due to private school attendance should be less likely among the immigrant population (Betts and Fairlie, 2001; Kasinitz *et al.*, 2002).

There is also little research on special education participation, yet some New York City advocates have complained that immigrant students are less likely to be enrolled in special education programs because of limited availability of bilingual paraprofessionals or combined bilingual/special education classes (AFC, 2000). A different pattern was revealed in one qualitative study of immigrants in New York City, where immigrant students were reported to be "over-referred" to special education programs, perhaps reflecting their parents' reluctance to challenge special education diagnoses (Gershberg, 2002).

METHODOLOGY AND DATA

Data Source and Samples

The New York City Department of Education (NYCDOE) provided data on all elementary and middle school students for our research on immigrant students. We focus on three cross sections of students for this analysis: those enrolled in the first, fourth, and seventh grades in the 1999–2000 school year.

We examine these grades to determine whether nativity differences vary for younger and older elementary school students as well as for middle school students. All students in these grades are included in the study except for those with missing birthplace data (less than one percent are excluded for this reason), resulting in approximately 224,000 students in the three grades combined.

For each student, the data include a school ID number and demographic and educational characteristics (*e.g.*, eligibility for free or reduced-price lunch, race/ethnicity, gender, age, year of entry into school system, test scores, and Limited English Proficiency (LEP) status and a variable indicating each student's country of birth).[4] We use this latter variable to identify foreign-born (those not born on U.S. soil) and to further distinguish them into 12 region groups; students from Puerto Rico, Guam, and the other U.S. territories are considered native-born by this definition.[5] The data do not include information on parents, so we are unable to distinguish between foreign- and native-born children of immigrants. Calculations from the Census indicate that roughly half of the native-born students are in immigrant households. Any observed differences between foreign- and native-born, therefore, suggest that foreign-born status influences schooling over and above the influence of having immigrant parents.

Schooling Variables

Using several non-academic educational indicators in the data, we construct four measures of school experiences, covering attendance, enrollment, school mobility, and receipt of part-time special education. The first is the *annual attendance rate*, measured as the number of days a student is present divided by the total number of days she is enrolled for the year. Also examined is the rate of *inter-year public school system exit.* This variable is coded as one if the student is enrolled in the fall semester of the current year but not enrolled in the fall semester of the following year, providing a straightforward indicator of enrollment disruptions. To measure intra-district school mobility, we examine whether students experienced an *inter-year school transfer*, coded as one if the student's school in the fall semester differs from her school in the fall semester of the following year. To be clear, not all exits from the school system or school

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[4]LEP status refers to students who come from a home where a language other than English is spoken and who score at or below the 40th percentile on the Language Assessment Battery (LAB), a test of English language skills.

[5]The 12 region groups were developed from a classification system used by the New York City Planning Commission. (*See* Schwartz, Stiefel, and Conger, 2002 for further information on how the region groups were created and the Appendix for a list of the countries in each region.)

transfers should be considered harmful events. Students might exit the public schools to attend private schools in the city or better schools in other jurisdictions. Additionally, many students transfer schools within the public school system because they graduate or because their parents seek higher quality schools. We are not able to distinguish between transfers that occur for these reasons and those that may be relatively more disruptive.

In addition to examining measures of school instability, we examine differences in the rate of participation in *part-time special education programs*. Students with mild or moderate disabilities, such as speech impediments, receive part-time special education services, often on a pull-out basis, where specialists work with the students in a separate classroom for a portion of the day. This variable measures both underlying disabilities and/or receipt of program services. Due to the possibility of misdiagnosed or overlooked students, there may be some students with special needs who do not receive special education services and some students in special education who have no inherent disabilities.

Analysis

The first goal of our analysis is to examine raw differences between native-born and foreign-born on these schooling variables. We, therefore, begin with a bivariate regression where only the foreign-born variable is included on the right-hand side of the equation and the coefficient can be interpreted as the mean difference between foreign- and native-born students (referred to as Model 1). In order to isolate the foreign-born effect (our second goal), we estimate two additional regressions. Model 2 includes the foreign-born indicator along with variables that measure students' demographic and educational characteristics as well as their time since entering the New York City public school system. Model 3 includes the same variables included in Model 2 along with school fixed effects. Differences on the foreign-born coefficient between Models 2 and 3 reveal the extent to which nativity differences on the schooling indicators are attributed to student versus school characteristics.

The student demographic variables include age (measured in years), and indicator variables to identify race/ethnicity, gender, and free or reduced-price lunch eligibility.[6] Previous research links these demographic and socioeconomic

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[6]Children in homes that are up to 130% of the federal poverty level are eligible for free lunch and those in homes between 130% and 185% of poverty are eligible for reduced-price lunch. In 1999, the poverty level was $17,029 for a family of four.

traits to school stability and special education participation (*e.g.*, Alexander, Entwisle, and Dauber, 1994; Rothman, 2001). To control for the possible role played by other educational needs and participation in school programs, we include two educational characteristics: LEP status and participation in part-time special education. Note, of course, that the coefficient on part-time special education is constrained to zero in the models that estimate this indicator on the left-hand side of the equation.

The models also include a measure of the number of years students have been enrolled in the New York City public school system.[7] This variable captures several unobserved differences both between native-born and immigrant as well as among immigrants themselves. It may reflect differences in the types of people that immigrate in different years; for instance, more recent immigrants may be more or less likely to have emigrated for economic reasons than previous cohorts of immigrants. Years since admission also reflects the length of time students have had to acculturate to schooling in the U.S., and for native-born, the length of time they have adjusted to the New York City school system in particular. This is a potentially important control variable since recent immigrants may have very different needs and experiences than immigrants who have been in the school system longer.

In addition to the student-level characteristics included in Model 2, Model 3 adds school-level fixed effects (an indicator variable for each school) intended to capture unobserved school-wide characteristics that do not vary across individuals, such as leadership and resources. By including the fixed effects, we seek to remove the effect of omitted school-wide characteristics from the error term. For instance, we know that foreign-born in New York City disproportionately attend large schools and if large schools foster lower attendance, then the estimated coefficient on the foreign-born variable will reflect school rather than immigrant status *per se*. The inclusion of fixed effects, along with analyses at the grade level, also allows us to examine within-school nativity differences in the likelihood of school transfer, consequently eliminating

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[7]This variable does not identify the precise year that students emigrated to the U.S. For most students, however, the New York City school system appears to be the first school system they encountered in the U.S. To establish this relationship between entry into the U.S. and entry into the New York City system, we used an additional variable in our dataset that identifies recent immigrants. Recent immigrants are defined as immigrant students who entered any U.S. school system within the previous three years. Very small percentages (less than 8% in each grade) of students who were recent to the New York City school system were not recent to any U.S. school system.

differences that arise from students attending schools that have reached the terminal grade. For instance, if foreign-born fourth graders disproportionately attend schools that end in the fourth grade, then a model that excludes school fixed effects will yield a foreign-born coefficient that captures nativity differences in the types of schools attended, rather than nativity differences in the likelihood of transfer.

Using these same three model specifications, we examine immigrant differences on the schooling indicators according to their region of birth. To do this, we estimate each of the models with 12 region indicators instead of the foreign-born variable.

We use ordinary least squares to estimate the regressions, with robust standard errors that correct for clustering of students within schools. For the binary dependent variables (*e.g.*, exit from school system), the coefficients can be interpreted as differences in the predicted probability of the event occurring. The results from several sensitivity analyses – using alternative variables, different estimations techniques, and additional grade/year samples – were also conducted and are summarized below.

RESULTS

Unadjusted Differences in Schooling Inputs

Table 1 provides the differences between foreign-born and native-born on each of the schooling indicators. The raw comparisons show that immigrant first graders have higher attendance; foreign-born and native-born first graders' attendance rates were 93.7% and 92.4%, respectively. Yet they are also slightly more likely to exit the school system between years and to transfer schools. The differences on these indicators of school instability, however, are quite small. Foreign-born first graders are 0.8 percentage point more likely to exit between years and 1.2 percentage points more likely to transfer schools within the district between years. Larger nativity differences are observed in the rates of part-time special education and, contrary to our expectations, foreign-born first graders are substantially less likely than native-born to participate in the program.

Nativity differences in attendance, inter-year exit, and part-time special education are similar for fourth and seventh graders. Foreign-born have better attendance, higher rates of exit, and lower rates of special education in all three grades, with slightly larger differences in the higher grades. In contrast, patterns in inter-year transfer rates differ substantially across the grades. One difference is that students in the elementary school grades are more likely to transfer

TABLE 1
MEAN OF SCHOOLING INDICATORS BY NATIVITY STATUS AND GRADE, 1999–2000 (PERCENTAGES UNLESS OTHERWISE NOTED)

	Foreign-Born	Native-Born	Percentage Point Difference
1st Grade			
Number of Students	7,524	74,452	
Average Attendance	93.7	92.3	*1.4*
Inter-Year Exit	6.5	5.7	*0.8*
Inter-Year Transfer	12.6	11.4	*1.2*
Part-Time Special Education	1.2	4.3	*−3.1*
4th Grade			
Number of Students	11,238	65,148	
Average Attendance	95.4	94.0	*1.4*
Inter-Year Exit	5.2	4.3	*0.9*
Inter-Year Transfer	13.8	14.2	*−0.4*
Part-Time Special Education	3.6	8.8	*−5.2*
7th Grade			
Number of Students	14,286	50,713	
Average Attendance	94.4	92.0	*2.4*
Inter-Year Exit	5.4	4.0	*1.4*
Inter-Year Transfer	6.3	7.6	*−1.3*
Part-Time Special Education	3.6	9.2	*−5.6*

Notes: All differences between foreign- and native-born are statistically different from zero at the 5% level except inter-year transfer for fourth graders.

schools than those in the later grades, perhaps reflecting differences in grade-span configurations (*e.g.*, schools are more likely to end in the fourth grade than the seventh grade). Another difference is the direction of the nativity effect. The nativity difference is positive in the first grade, no different in the fourth grade (the −0.4 difference is the only statistically insignificant difference in the table), and negative in the seventh grade. Again, most differences, though statistically significant, are relatively small.

To summarize, these bivariate analyses suggest that foreign-born are more likely to attend school, slightly more likely to exit schools between years, and substantially less likely to participate in special education. Whether they transfer schools depends upon their grade level; the higher rates of transfers among young foreign-born disappear (and, in fact, turn negative) among the older foreign-born. Though statistically significant at conventional levels, only in the case of special education participation do the differences appear large in magnitude.

Immigrant and native-born students differ in other ways that may drive some of the differences observed in Table 1. Table 2 provides the average characteristics of fourth-grade students according to their nativity status.

TABLE 2
MEAN OF STUDENT AND SCHOOL CHARACTERISTICS BY NATIVITY STATUS, 4TH GRADE, 1999–2000
(PERCENTAGES UNLESS OTHERWISE NOTED)

	Foreign-Born	Native-Born	Percentage Point Difference
Student Characteristics			
Free lunch eligible	82.9	77.4	*5.5*
Reduced-price lunch eligible	7.0	7.6	*−0.6*
Female	49.5	50.5	*−1.0*
Black	17.9	37.0	*−19.1*
Hispanic	35.1	38.8	*−3.7*
Asian/Other	28.8	9.0	*19.8*
White	18.1	15.2	*2.9*
Limited English Proficient (LEP)	30.3	6.0	*24.3*
Average age (in years)	9.6	9.5	*0.1*
Average years since admission to NYC school system	2.6	3.7	*−1.1*
School Characteristics			
Enrollment	1,014	924	*90*
Total per pupil expenditures	$9,074	$9,460	*−$386*
% of teachers with more than 5 years' experience	58.9	57.5	*1.4*
% of teachers with master's degree	79.9	77.7	*2.2*

Notes: Eligibility for free lunch is calculated only for students with non-missing data: approximately 94% of all students. Asian/other includes Asian, native-American, and "other." All differences between foreign- and native-born are statistically different from zero at the 5% level except female. The sample of 4th graders includes students from 671 schools.

Though similar in age and gender, foreign-born are disproportionately free lunch eligible, Asian, white, and LEP. They also have been in the school system for a shorter amount of time, by over a year on average, reflecting the greater likelihood that foreign-born students enter the school system after the first grade (Ellen and O'Regan, 2005). The resources of the schools attended by the two groups of students also differ as shown in the bottom half of the table: while immigrants attend schools that are larger and that spend slightly less per pupil, they also attend schools with slightly more experienced and educated teachers.

Adjusted Differences in Schooling Indicators

In this section, we seek to remove the effect of student and school differences from the estimation of the foreign-born coefficient. We estimate three models for each of the schooling indicators; the first includes only the foreign-born indicator (reflecting the raw differences presented in Table 1), the second adds a set of student demographic and educational characteristics, and the third adds school fixed effects.

TABLE 3
OLS Regressions of Attendance Rate, 4th Grade, 1999–2000

	Model 1	Model 2	Model 3
Foreign-Born	1.36[a]	1.05[a]	0.95[a]
	(0.07)	(0.08)	(0.07)
Free Lunch Eligible		−1.19[a]	−0.85[a]
		(0.07)	(0.07)
Reduced-Lunch Eligible		−0.19[b]	−0.08
		(0.08)	(0.08)
Female		0.05	0.06
		(0.04)	(0.04)
Age (in Years)		−1.31[a]	−1.23[a]
		(0.06)	(0.06)
Black		0.13	0.64[a]
		(0.11)	(0.11)
Hispanic		0.14	0.27[a]
		(0.09)	(0.09)
Asian/Other		2.35[a]	2.10[a]
		(0.13)	(0.11)
LEP		−0.06	−0.04
		(0.09)	(0.09)
Part-Time Special Education		−0.62[a]	−0.63[a]
		(0.09)	(0.09)
Years in NYC Schools		0.00	0.02
		(0.02)	(0.02)
Constant	94.06[a]	105.62[a]	104.38[a]
	(0.06)	(0.58)	(0.56)
Observations	76,386	76,386	76,386
R^2	0.8%	5.5%	9.6%
School Fixed Effects	No	No	Yes

Notes: Robust standard errors in parentheses. Asian/other includes Asian, native-American, and "other." Models 2 and 3 also include a dummy variable to identify students who have meal code data.
[a]Significant at 1%.
[b]Significant at 5%.
[c]Significant at 10%.

Table 3 considers the full regression results of attendance rate using the fourth-grade cross section. Model 1 shows the raw nativity difference of 1.36 percentage points, the same difference found in Table 1. The coefficient on foreign-born in the second model, which includes student controls, reveals that the higher rate of attendance among foreign-born fourth graders remains fairly robust to the addition of these variables. The table also shows the relationship between attendance and the control variables. All else constant, attendance tends to be lower among students who are poor, older, white, and not in part-time special education. Interestingly, there is no relationship between years in the school system and attendance. The third model adds school fixed effects and further attenuates the foreign-born coefficient. In each of the three models, the coefficient is statistically significant but clearly small in magnitude (less

than one percentage point). Note that in all three regressions the R-squared is relatively low, ranging from 0.8% in Model 1 to 9.6% in Model 3.[8]

Table 4 provides summary results from the three models for each grade and each schooling indicator. The table includes the foreign-born coefficient (F-born), corresponding standard error (S.E.), number of observations (N), and R-squared (R^2) from each model.

With respect to attendance, the sign and direction on the foreign-born coefficient is positive and significant in every model, though the magnitude of the coefficient drops with the addition of control variables. The largest decrease in the foreign-born coefficient occurs with the inclusion of student control variables (from Model 1 to Model 2), indicating that school differences play a relatively small role in explaining the nativity gap in attendance.

The next three columns provide the results for inter-year exit, where the coefficient is interpreted as the difference in the predicted probability of exit (converted to percentage-point differences). Among first graders, for instance, foreign-born are 0.77 percentage point more likely to exit the school system than native-born. With this indicator, there is less consistency across grades. In the unadjusted models, foreign-born students are more likely to exit the school system in each grade. Once we compare foreign-born to similar native-born students on the characteristics we can observe, foreign-born first graders continue to be more likely to exit (with a slight increase in the magnitude of the coefficient) while foreign-born fourth and seventh graders do not differ significantly from their native-born peers. The nativity gap for the older students, therefore, is entirely explained by differences across the two groups in their underlying demographic and educational characteristics. The school fixed effects modify the foreign-born coefficients only slightly.

In the analysis of school transfer rates within the district, we find even larger differences across the grades. Among fourth graders, the statistically insignificant difference in Model 1 is unaltered by the addition of student and school controls. Yet first-grade foreign-born students are more likely to transfer schools, a difference that increases with the inclusion of student controls and school fixed effects. In contrast, seventh-grade foreign-born transfer at lower

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[8]Such results are common when individual-level data are used except in panel data analyses with individual fixed effects. If we could have included data on parents' education, health of the child, parental and child attitudes toward school, etc., we might have increased the explanatory power, but ultimately much of individual behavior is simply idiosyncratic and captured in the error term. While additional variables might increase the R-squareds, we do not think they would influence our main results about foreign-born versus native-born students.

TABLE 4
SUMMARY TABLE, FOREIGN-BORN COEFFICIENT (STANDARD ERROR) FROM REGRESSIONS OF SCHOOLING INPUTS, 1999–2000

	Attendance Rate			Inter-Year Exit			Inter-Year Transfer			Part-Time Special Education		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
1st Grade												
F-born	1.38[a]	0.85[a]	0.66[a]	0.77[b]	0.94[a]	0.84[b]	1.15[b]	1.67[a]	1.74[a]	−3.1[a]	−2.6[a]	−2.5[a]
S.E.	(0.09)	(0.10)	(0.09)	(0.31)	(0.31)	(0.33)	(0.56)	(0.52)	(0.44)	(0.17)	(0.18)	(0.19)
N	81,976	81,976	81,976	81,976	81,976	81,475	77,256	77,256	76,333	81,976	81,976	78,192
R^2	0.0	3.7%	8.3%	0.0%	0.3%	1.4%	0.0	0.9%	10.1%	0.0	1.5%	3.3%
4th Grade												
F-born	1.36[a]	1.05[a]	0.95[a]	0.85[a]	−0.50[c]	−0.52[c]	−0.44	−0.69	−0.08	−5.2[a]	−4.5[a]	−4.2[a]
S.E.	(0.07)	(0.08)	(0.07)	(0.23)	(0.27)	(0.27)	(0.65)	(0.58)	(0.36)	(0.23)	(0.26)	(0.27)
N	76,386	76,386	76,386	76,386	76,386	74,960	72,996	72,996	71,960	76,386	76,386	69,810
R^2	1.0%	5.5%	9.6%	0.0%	0.6%	1.8%	0.0%	1.7%	32.2%	0.5%	4.5%	6.7%
7th Grade												
F-born	2.36[a]	1.71[a]	1.59[a]	1.40[a]	−0.16	−0.21	−1.30[b]	−1.89[a]	−1.25[a]	−5.6[a]	−3.7[a]	−3.9[a]
S.E.	(0.16)	(0.13)	(0.13)	(0.24)	(0.26)	(0.25)	(0.58)	(0.43)	(0.30)	(0.28)	(0.32)	(0.33)
N	64,999	64,999	64,999	64,999	64,999	64,194	62,187	62,187	61,870	64,999	64,999	61,528
R^2	1.3%	12.0%	16.2%	0.0%	1.5%	2.4%	0.0%	0.9%	18.4%	0.7%	4.3%	6.0%

Notes: Model 1 includes only the foreign-born variable. Model 2 includes variables indicating free and reduced-price lunch eligibility, female, age, race/ethnicity, LEP, years in the school system, and whether meal code data is non-missing. Participation in part-time special education is also included in the regressions of attendance, inter-year exit, and inter-year transfer. Model 3 includes the same variables as Model 2 plus school fixed effects. For the binary dependent variables (exit, transfer, and special education) the OLS regression coefficients are interpreted as the difference between foreign-born and native-born in the probability of experiencing the event (differences converted to percentage points). The total number of students used to estimate the inter-year transfer models is lower than the number used in the other models because students who exited the system between years were omitted from the regressions. In Model 3 regressions, we dropped all students in schools for which there was no variation on the dependent variable (*e.g.*, a school with only students who did not transfer) to get more precise estimates. Thus, the number of students used to estimate the adjusted models for inter-year exit, inter-year transfer, and special education differ from the total number of students used to estimate the unadjusted models.
[a]Significant at 1%.
[b]Significant at 5%.
[c]Significant at 10%.

rates than their native-born counterparts, and the negative coefficient increases in Model 2, then decreases in Model 3.

The final set of columns reveals the results for special education participation. Foreign-born students are 3 to 5.5 percentage points less likely than native-born students to participate in part-time special education. Though the magnitude of this difference decreases with the addition of student and school controls, it never disappears. Recall that LEP is also included as a control variable in this model, indicating that language differences do not explain why foreign-born are less likely to receive special education services. In fact, the coefficient on the LEP indicator variable is statistically significant and positive, indicating that language needs associate with higher rates of participation in special education, but again, do not remove the nativity difference (not shown in table).

Note that in the linear probability models (those used to estimate the binary dependent variables inter-year exit, inter-year transfer, and part-time special education), the R-squareds are very low. This is a common limitation of the linear probability model, which does not provide useful measures of fit. The exception is the R-squared from Model 3 of inter-year transfer among fourth graders, which reached 32.2%. The fourth-grade regressions produce higher R-squareds in the inter-year transfer variable because many schools end in the fourth grade, thus requiring students to transfer schools. In other words, the school fixed effects explain much of the variation across students in inter-year transfer. As noted earlier, by including the fixed effects, we are comparing foreign to native-born within the same school and consequently removing differences between these two groups in whether they attend schools ending in the fourth grade.

Birth Region Differences

So far, this analysis reveals some differences between the average immigrant and native-born that are not entirely explained by differences in their respective characteristics. Yet immigrants in New York City public schools are heterogeneous, hailing from almost 200 countries and territories. The largest share of foreign-born are from the Dominican Republic; using fourth graders as an example, roughly 18 percent of foreign-born were born in this single country (*see* Table 5). There are also substantial shares of students from Latin America, Caribbean countries, and South Asia. Students from the different regions also perform very differently on standardized tests in math and reading. As shown, native-born as a group score just below average (zero), while foreign-born score roughly one-tenth of a standard deviation above average. Yet students from the

TABLE 5
Characteristics by Region of Birth, 4th Grade

	Number of Students	% of Foreign-Born	Average Math Score	Average Reading Score	% Free-Lunch Eligible	Average Years in School System	% LEP
Native-Born	65,148	0.0	−0.014	−0.010	77.4	3.7	6.0
Foreign-Born	11,238	100.0	0.109	0.104	82.9	2.6	30.3
Dominican Republic	2,062	18.4	−0.448	−0.382	96.2	3.1	51.0
Latin America	1,811	16.1	−0.202	−0.125	88.6	2.6	45.7
Caribbean	1,493	13.3	−0.221	−0.156	89.1	2.3	9.3
South Asia	1,321	11.8	0.454	0.273	85.0	2.6	30.0
Former USSR	1,094	9.7	0.875	0.736	63.5	2.9	14.8
China	835	7.4	1.036	0.545	80.3	2.3	40.2
Guyana Region	554	4.9	−0.089	−0.124	89.0	3.0	0.4
East Asia	536	4.8	0.777	0.552	52.2	2.4	23.5
East Europe	536	4.8	0.564	0.381	70.1	2.4	29.1
West Europe	372	3.3	0.548	0.497	58.4	2.8	9.1
Middle East	328	2.9	0.454	0.247	85.1	2.5	30.5
Sub-Saharan Africa	296	2.6	0.033	0.060	87.1	2.3	25.0

Notes: Eligibility for free lunch is calculated only for students with non-missing data: approximately 94% of all students. Standardized test scores are calculated by subtracting each student's raw score from the mean score for all students and dividing through by the standard deviation.

Caribbean and Latin American countries, including those from the three countries in South America where Spanish-speaking people are not in the majority (Guyana, Surinam, and French Guinea – referred to in the table as "Guyana region" since most are from Guyana), score far below average. The rest of the foreign-born tend to exceed the average, with some groups scoring extremely high, such as students from the former Soviet Union, China, East Asia, and other European countries.

Students from these regions of the world also differ markedly in their background characteristics. The regions are racially homogeneous, with a few exceptions. For example, students from Guyana are a mix of Asian, black, and Hispanic (not shown in table). Students from the Latin American and Caribbean regions have the highest poverty rates, with almost all of the Dominican students eligible for the free lunch program. Relatively low rates of poverty are found among immigrants from the three European regions (former USSR, other Eastern Europe, and West Europe) and, notably, East Asians differ from their Asian neighbors with a low rate of 52.2% eligibility, despite including groups from less developed countries such as Burma and Cambodia. Students from the various regions also differ in terms of their length of time in the U.S. school system. Finally, students from the Caribbean and Guyana region, where English is the dominant language, have very low rates of LEP (9.3% and 0.4%), equal to or lower than native-born students. The highest LEP rates are found among students whose native languages are Spanish and Chinese, with roughly one half of the Dominican, Latin American, and Chinese students in need of English language instruction.

In this section we seek to determine whether immigrant students' patterns of school stability and special education participation differ by region of birth, and whether these differences are explained by the underlying characteristics of the region groups. We present only the results from the fourth-grade analyses and from Model 1 (unadjusted) and Model 3 (adjusted with student and school controls) for simplicity. Table 6 provides the coefficients and standard errors (in parentheses) from both regressions of each of the schooling indicators. The reference group in both models is the native-born so that the coefficients can be interpreted as the average difference between the native-born and the region group in question. The table shows, for instance, some relatively large differences in attendance. In the Model 1 column, Chinese, East Asians, and Sub-Saharan African students have the highest rates, while Former Soviets are the only group that does not differ from the native-born. These findings are not entirely consistent with regional differences in test score performance, where former Soviets perform quite well.

TABLE 6
SUMMARY TABLE, REGION INDICATOR COEFFICIENT (STANDARD ERROR) FROM REGRESSIONS OF
SCHOOLING INPUTS, 4TH GRADE, 1999–2000

	Attendance Rate		Inter-Year Exit		Inter-Year Transfer		Part-Time Special Education	
	Model 1	Model 3	Model 1	Model 3	Model 1	Model 3	Model 1	Model 3
Dominican Republic	1.45[a]	1.92[a]	1.31[a]	0.49	4.91[b]	−1.07	−5.38[a]	−6.06[a]
	(0.11)	(0.12)	(0.48)	(0.54)	(2.21)	(0.75)	(0.44)	(0.49)
Latin America	0.90[a]	1.04[a]	0.77	−0.59	0.98	0.11	−4.63[a]	−5.65[a]
	(0.12)	(0.13)	(0.53)	(0.57)	(1.65)	(0.79)	(0.51)	(0.58)
Caribbean	1.34[a]	1.46[a]	0.58	−1.10[c]	−1.25	−1.02	−4.82[a]	−2.44[a]
	(0.15)	(0.15)	(0.57)	(0.60)	(1.14)	(0.88)	(0.49)	(0.55)
South Asia	1.03[a]	−1.30[a]	1.21	0.09	−1.86	1.02	−6.58[a]	−2.25[a]
	(0.14)	(0.16)	(0.74)	(0.88)	(1.55)	(0.94)	(0.42)	(0.54)
Former USSR	−0.31	−0.45[b]	−0.20	−1.47[b]	−4.57[a]	0.27	−5.67[a]	−6.36[a]
	(0.22)	(0.20)	(0.59)	(0.72)	(1.42)	(1.14)	(0.63)	(0.81)
China	3.85[a]	1.12[a]	−0.84	−2.31[a]	−4.65[a]	1.47	−6.38[a]	−4.43[a]
	(0.11)	(0.16)	(0.69)	(0.76)	(1.50)	(1.24)	(0.68)	(0.70)
Guyana Region	1.56[a]	1.17[a]	−1.61[b]	−2.58[a]	0.27	−0.86	−3.18[a]	0.31
	(0.20)	(0.22)	(0.67)	(0.76)	(2.04)	(1.30)	(0.98)	(1.17)
East Asia	3.01[a]	0.48[b]	1.10	−0.63	−4.93[a]	0.03	−5.79[a]	−1.22
	(0.19)	(0.20)	(0.98)	(1.03)	(1.52)	(1.25)	(0.76)	(0.79)
East Europe	1.14[a]	1.34[a]	0.54	−2.12[b]	−4.99[a]	−0.96	−4.11[a]	−4.22[a]
	(0.19)	(0.24)	(0.87)	(0.94)	(1.60)	(1.39)	(1.01)	(0.95)
West Europe	0.52[b]	−0.11	2.41[c]	1.06	−0.66	2.77	−3.40[a]	−1.73
	(0.24)	(0.23)	(1.34)	(1.36)	(1.95)	(1.84)	(1.20)	(1.28)
Middle East	1.07[a]	0.50[c]	8.49[a]	6.39[a]	−3.01	0.51	−5.73[a]	−5.84[a]
	(0.24)	(0.27)	(1.90)	(1.91)	(2.15)	(1.84)	(0.89)	(0.93)
Africa	2.73[a]	3.21[a]	0.75	−1.62	9.64[a]	1.73	−5.06[a]	−3.64[a]
	(0.27)	(0.30)	(1.35)	(1.41)	(3.14)	(1.99)	(1.10)	(1.22)
N	76,386	76,386	76,386	74,960	72,996	71,960	76,386	69,810
R^2	1.2%	10.0%	0.1%	1.7%	0.2%	32.2%	0.5%	6.6%

Notes: For the binary dependent variables, OLS regression coefficients are interpreted as the difference between foreign-born and native-born in the probability of experiencing the event (differences converted to percentage points). The reference group is native-born. Model 3 includes school fixed effects and variables indicating free and reduced-price lunch eligibility, female, age, race/ethnicity, LEP, years in the school system, and whether meal code data is non-missing. Participation in part-time special education is also included in the regressions of attendance, inter-year exit, and inter-year transfer. The total number of students used to estimate the inter-year transfer models is lower than the number used in the other models because students who exited the system between years were omitted from the regressions. For Model 3, we dropped all students in schools for which there was no variation on the dependent variable (*e.g.*, a school with only students who did not transfer) to get more precise estimates. Thus, the number of students used to estimate the adjusted models for inter-year exit, inter-year transfer, and special education differ from the total number of students used to estimate the unadjusted models.
[a]Significant at 1%.
[b]Significant at 5%.
[c]Significant at 10%.

With controls added to the model, the attendance story changes a bit. The groups whose attendance ranking remains relatively the same are the Africans (high rates remain high), and the Russians, South Asians, and Western Europeans (low rates remain low). In contrast, the Chinese and East Asian

superiority in attendance decreases dramatically, while Dominicans, Caribbeans, and Eastern Europeans have higher attendance once compared to native-born with equivalent characteristics. As in the earlier regressions of the foreign-born as a group, the largest changes in the region coefficients occur with the inclusion of student controls and less so school controls (not shown in table). These findings suggest that some of the birth-region differences are explained by other differences in student characteristics; for example, Dominicans, a group with extremely high poverty rates, experience a relative improvement in attendance once poverty is held constant.

With some exceptions, most of the immigrant groups do not differ from their native-born peers on exit from the school system. The most notable exception is the group of students from the Middle East; the rates of exit for this group are approximately 8.5 percentage points higher than those of native-born. Recall that the school year is 1999–2000 (prior to September 11, 2001); therefore, high rates of exit are not being driven by recent challenges facing Middle Eastern immigrants, such as heightened anti-Arab hostility. Middle Eastern students may be exiting the public schools for private schools, other school systems, or to return to their country of birth. Note also that the adjusted version of the model does not substantially alter the coefficient on the Middle Eastern indicator variable. Findings for the Dominican and Caribbean students are quite different. Prior work on second- and 1.5-generation immigrants in New York City has suggested that Dominicans and Caribbeans might be most likely to have extended stays in their home countries (Kasinitz *et al.*, 2002). While our analysis indicates that Dominicans do in fact have higher rates of exit than native-born and some other immigrant groups, adding controls (primarily student-level characteristics) to the equation renders exit rates for Dominicans insignificantly different from native-born exit rates. Other Caribbeans do not differ from native-born, and students from Guyana and surrounding countries are significantly less likely to exit, a difference that increases when student characteristics are held constant.

Interestingly, while Dominicans are not more likely than native-born to exit the school system when other attributes are held constant, they do tend to transfer schools at higher rates. Again, however, the higher rate of transfer disappears with the inclusion of controls. Thus, while teachers may observe higher rates of transfer among Dominican foreign-born, it may be explained by their poverty status. Africans are most likely to transfer schools; their transfer rate is almost 10 percentage points higher than native-born, though this differences drops to zero in the adjusted model. In fact, almost all of the coefficients on the birth-region indicators become statistically insignificant once

control variables are included. For most groups, the effect disappears when student characteristics are added to the model, while for the Africans it is the school fixed effects that eliminate their high rates of transfer (not shown in table). These results indicate that while students from the various regions do differ in their transfer rates, the differences are not necessarily attributed to their ethnicity, but rather other characteristics, such as poverty and schools.

Finally, all of the immigrant students fall far below native-born in their participation in special education. Some groups, such as those from China, South Asia, the former Soviet Union, and the Dominican Republic have particularly low rates of participation. The adjusted model results indicate that many of the differences between the region groups and the native-born in fact magnify the size of the disparities; once poverty, LEP status, and other characteristics are held constant, Dominicans, Latin Americans, former Soviets, Eastern Europeans, and Middle Easterners are even less likely to participate in special education. Other groups move closer to native-born with controls, such as the Caribbeans and the South Asians.

Sensitivity Analyses

The analyses presented here focus on a small set of indicators among cross sections of students from three grades in one year. We chose to present these particular findings because they sufficiently capture the trends we observed in our more complete set of analyses, which included other ways of operationalizing our variables, different estimation techniques, other years of data, and students in other grades. For instance, because the attendance distribution is very right skewed (few students have extremely low rates of attendance), we also compared native-born and foreign-born on dichotomous measures of absenteeism, for instance, having an attendance rate below 80% or 90%. We also explored the extent to which nativity differences exist on rates of school transfers during the middle of the year as opposed to between years, a type of transfer that may indicate a more significant disruption from school. Without focusing on cross-grade distinctions (in other words, collapsing all students in New York City public schools into one sample), we examined differences in rates of participation in full-time special education programs, programs for students with more severe disabilities who do not attend general education programs. We also estimated logistic and probit models instead of OLS for the dichotomous dependent variables, and estimated fixed effects with and without dropping students in schools for which there was no variation on the dependent variable (*e.g.*, schools where none of the students transferred).

Finally, all analyses were conducted using the fifth-grade sample and students in the 1997–1998 school year.

Qualitatively similar results were, on the whole, obtained using these alternative specifications and estimation strategies. Results from these sensitivity analyses can be obtained from authors.

CONCLUSIONS

This study set out to describe nativity differences on measures of school stability and participation in special education. Given the absence of research on the indicators explored here, we weigh the findings against popular wisdom held about immigrant students on these school performance measures and against the more extensive theoretical and empirical research on immigrant student achievement. Some of the results are consistent with the achievement literature and conventional wisdom, while others are not. And still others leave us with several questions for further exploration.

In previous research, two of the authors discovered that immigrant students in New York City perform better on standardized reading and math tests, even controlling for their demographic, educational, and school characteristics (Schwartz and Stiefel, 2006). The patterns in attendance tell a similar story. Immigrant students have higher attendance rates, even when differences on other student and school characteristics are taken into account. These findings are consistent with theories about immigrant achievement; immigrant students may be more likely to attend school because their parents place a greater value on school than parents of native-born children. Of course, the native-born group includes both those of immigrant and non-immigrant parents so that this explanation would only be true if immigrant parents consider school even more important when their children are not born in the U.S. or if foreign-born are more motivated than native-born children of immigrants. Interestingly, the immigrant effect is larger among older students than among younger ones, indicating that those children who have been in the New York City school system for a longer period of time do not appear to be heading on a downward spiral.[9] There have also been conflicting reports about whether immigrants are in better or worse health than their native-born counterparts. To the extent that attendance is caused by poor health, the findings in this study suggest that immigrants are not missing school at greater rates due to health problems, consistent with at least one other study (Harris, 1999).

[9]Differences in attendance across grades could also be due to age-related or cohort differences.

There has been some concern that immigrants may have higher rates of school mobility, due either to transnational movements or to greater residential mobility within the U.S. The analysis presented in this paper indicates that younger immigrants (those in the first grade) may be slightly more likely than native-born first graders to exit the public school system between years and to transfer within the public schools between years. However, older immigrant students are either less or equally likely to exit and transfer than native-born. These grade-level differences may indicate something of a settling among immigrant groups, where families move a bit more when the children are young but do so less frequently as they get older. The reader is to be reminded that the magnitude of the nativity differences (though statistically significant) is small; the largest difference is in the inter-year transfer rates among first graders, where foreign-born are only 1.5 percentage points more likely to exit.

Much larger differences are found in special education participation. Although New York City immigrants may have equal or slightly higher rates of underlying disabilities as indicated by the Census, we find that immigrants are far less likely to participate in part-time special education. We found similar results when we examined rates of participation in full-time special education programs for students with more severe mental and physical disabilities. Interestingly, these relative rates are not explained by differences between immigrants and native-born on other characteristics, such as their poverty status, number of years in the school system, and schools. The underrepresentation of immigrant students in special education programs also does not appear to be explained by their lack of English language skills. These findings could reflect language, cultural, or institutional barriers to immigrant parents' ability or willingness to obtain special services for their children, a possibility in need of further research.

Our analyses comparing the average immigrant to the average native-born help to uncover general trends among immigrants, but they substantially mask the variation within each of these groups. We took an additional step to explore patterns by immigrant students' birth region and it is in this analysis that the largest differences emerge. Students from the former Soviet Union, for example, have fairly low attendance rates relative to the other region groups and to the native-born, which is an interesting departure from their higher test score performance. Even with adjustments for poverty status, LEP, and other student and school characteristics, students from Sub-Saharan Africa have relatively high attendance rates, again, departing from their poor performance on tests relative to many other immigrant groups. These findings suggest that

attendance may not actually drive achievement, at least for some immigrant groups. In fact, the reverse may be true; for immigrant groups that generally perform well in school or that are proficient in English, attendance in school may be less important.

Students from the Middle Eastern countries are much more likely to exit the public school system than the other immigrants and the native-born, a result that holds for other grades and years and controls for other characteristics. These students could be exiting for private schools, moving to other school districts in the U.S., or returning home. Further research on the experiences of students from this region, particularly given the changes they must have experienced after the terrorist attacks of September 11, 2001, are warranted. Moreover, despite concerns that Dominican students might be exiting at high rates, the adjusted models suggest that Dominicans do not differ from similar native-born. Again, though we have no way of determining where students go when they exit, these finding suggest that if students from this country are moving back and forth, it is not resulting in enrollment disruptions between years at greater rates that native-born students with equivalent characteristics.

The rates of transfer between years are quite low for several groups, most notably for those from European and Asian regions. At the other extreme, Sub-Saharan African students transfer schools at extremely high rates. These findings are consistent with achievement patterns, indicating that school mobility might play a role in immigrant achievement. At the same time, all of the differences in transfer rates disappear once adjustments are made to the models.

Finally, though there is source-region variation in special education rates, none of the immigrant groups participate at nearly as high a rate as the native-born. These results indicate that there is something about immigrant status (rather than race, ethnicity, or even having immigrant parents, for example) that lowers participation in these programs. Moreover, there are some groups – former Soviets, Middle Easterners, Latin Americans, and Dominicans – that have particularly low rates, suggesting that selective emigration or other cultural factors affect these groups more than others.

In addition to providing a statistical portrait of the variation in immigrant students' rates of school stability and special education participation, these findings suggest further investigation into the relationship between these schooling indicators and student achievement and, further, how they moderate the nativity gap in test scores. It may be, for instance, that immigrant student performance is partially explained by their higher rates of attendance in school. We plan to explore these relationships more fully in the future.

APPENDIX: COUNTRIES IN REGION GROUPS

Dominican Republic: Dominican Republic.

Latin America: Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela.

Caribbean: Antigua & Barbuda, Bahamas, Barbados, British Virgin Islands, British West Indies, Cuba, Dominica, French Antilles, French West Indies, Grenada, Guadeloupe, Haiti, Jamaica, Nether Antilles, Saint Kitts & Nevis, Saint Lucia, Saint Vincent & Grenada, Trinidad & Tobago.

South Asia: Bangladesh, India, Pakistan.

Former USSR: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, USSR, Uzbekistan.

China: China, Hong Kong, Taiwan.

Guyana Region: French Guiana, Guyana, Surinam.

East Asia: Bhutan, Brunei Darussalam, Burma (Myanmar), Cambodia, Fiji, French Polynesia, Indonesia, Japan, Korea (North and South), Laos, Malaysia, Maldives, Marshall Islands, Micronesia, Mongolia, Nepal, Papua New Guinea, the Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Thailand, Vanuatu, Vietnam.

East Europe: Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Slovak Republic, Slovenia, Yugoslavia.

West Europe: Australia, Austria, Belgium, Bermuda, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

Middle East: Afghanistan, Algeria, Bahrain, Cyprus, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates, Yemen.

Africa: Angola, Benin, Botswana, Burkina Faso (Upper Volta), Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Djibouti, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea-Bissau, Guinea, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome & Principe, Senegal, Seychelles, Sierra Leone, Somalia, Republic of South Africa, Sudan, Swaziland, Tanzania, Togo, Tonga, Uganda, Zaire, Zambia, Zimbabwe.

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