

The Academic Adaptation of Children of Immigrants in New and Traditional Settlement
States: The Role of Family, Schools, and Neighborhoods

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Abstract

This paper examines one of the most pressing challenges facing the educational system: the diaspora of immigrant families. To assess how this geographic dispersion of immigrants affects the education of immigrants' children, I evaluated how settlement location in new, traditional, and other immigrant states affected academic achievement in math and reading for a national sample of 10th grade youth and whether these effects differed for each immigrant generation and for each racial/ethnic sub-group of the immigrant generations. I also assessed how socio-demographic, family, school, and neighborhood characteristics affected the relationship between settlement location and achievement. Results indicate that achievement is highest in new immigrant states but that achievement differences varied by immigrant generation and racial/ethnic groups. While demographic differences between settlement locations largely explained differences in student achievement, families and schools in new immigrant states also strongly influenced academic achievement.

Changing the geography of immigration, immigrant families have increasingly started to settle in new metropolitan areas and rural locations throughout the West, Southeast, and Midwest (Crowley, Lichter and Qian 2006; Fortuny et al. 2009; Kandel and Cromartie 2004; Lichter and Johnson 2006, 2009; Massey 2008; McConnell 2008; Singer 2004; Suro and Singer 2002). No longer concentrated in traditional areas, children of immigrants made up over 10% of the total child population in 29 states by 2006, compared to only 16 in 1990 (Fortuny et al. 2009). This dispersion has changed the face of public education and presented significant challenges for new immigrant destinations (e.g., North Carolina and Utah), many of which are learning to educate the children of immigrants for the first time.

As a consequence of this rapid growth, many educational and social services in new immigrant destinations lack the infrastructure, social resources, and institutional support systems that promote the adaptation of immigrant youth (Gozdziak and Martin 2005; Massey 2008; Perreira, Chapman and Levis-Stein 2006; Wainer 2006). Case studies of immigrant growth in new settlement destinations indicate that public schools have been overwhelmed by the dramatic influx of a minority population with limited English fluency, few economic resources, and varying educational backgrounds (Bohon, MacPherson and Atilas 2005; Wainer 2006; Wortham, Murillo and Hamann 2002). Schools in these destinations often lack the infrastructure, social resources, and institutional support systems that promote the adaptation of immigrant youth (Gozdziak and Martin 2005; Massey 2008; Perreira, Chapman and Levis-Stein 2006; Wainer 2006). Consequently, educators in these new destinations have grown increasingly concerned with the high dropout rate and low achievement of their immigrant newcomers (Wainer 2006; Wortham, Murillo and Hamann 2002).

While several studies have examined how dispersion to new settlement areas (classified across of a variety of geographic levels, including states, counties, cities, and zip-codes) has impacted the adaptation of immigrant adults (Crowley, Lichter and Qian 2006; Hall 2009; Kandel and Cromartie 2004), only a few studies have examined how this dispersion has affected immigrant youth and their academic adaptation. One study found that Latino youth in North Carolina, a new immigrant destination had stronger academic motivations than Latino youth in Los Angeles, a traditional immigrant destination (Perreira, Fuligni and Potochnick 2010). This difference, however, partially reflected demographic differences between the states where North Carolina's Latino youth were more likely to be foreign-born. In a national-level study of youth aged 15-17, Fischer (2010) found that immigrant children in new immigrant destinations compared to those in traditional immigrant destinations were more likely to drop-out of high school after controlling for demographic, household, and community characteristics. She did not, however, examine how differences in each of these characteristics explained variation in dropout behavior between settlement locations.

This study advances previous research on the link between immigrant settlement location and student achievement. In addition to providing one of the first national-level assessments of immigrant youth's academic achievement in new and traditional settlement destinations, this study provides contextual information on how family, school, and neighborhood characteristics differ across settlement locations and how these differences explain diverging achievement patterns. Moreover, the study assesses whether the effect of settlement location differs for each immigrant generation (first, second, and third) and for racial/ethnic sub-groups of each immigrant generation (e.g., first generation Latinos or second generation Asians). By identifying the unique needs and resources of immigrants' children in new and traditional settlement

destinations, this paper provides valuable information to policymakers and educators as they develop policies and programs aimed at facilitating the academic adaptation of immigrant newcomers.

Using the Educational Longitudinal Study (ELS) from 2002, I examine how settlement location affects math and reading test scores for all 10th grade youth living in three different settlement locations: traditional, new, and other immigrant states. I use two-way and three-way interactions to assess whether the effect of settlement location differs for each immigrant generation (first, second, and third) and for racial/ethnic sub-groups of each immigrant generation (e.g., first generation Latinos or second generation Asians). I follow the settlement classification outlined by Massey and Capoferro (2008) and define new, traditional, and other immigrant destinations at the state level.

Social Context of Reception

Both segmented assimilation theory (Portes and Rumbaut 2001, 2006; Portes and Zhou 1993) and Alba and Nee's (2003) new assimilation theory provide a useful framework for understanding how settlement in new and traditional immigrant states may affect the academic adaptation of immigrant youth. According to segmented assimilation theory, immigrant incorporation is determined in large part by the multitude of factors that comprise the social context of reception, including the receptiveness of government, economic barriers, such as joblessness and concentrated poverty, and social barriers, such as racial discrimination (Portes and Rumbaut 2001, 2006) or the social isolation of minority groups (Massey 1990).

Complimenting segmented assimilation theory, Alba and Nee's (2003) new assimilation theory classifies these contextual factors as distal and proximate causes and emphasizes the active and influential role immigrants have in the assimilation process. Often deeper and more embedded in

broader social structures, distal causes include the institutional structure of the state, firm and labor market, while proximate causes operate at the individual and social network level and are shaped by the capital levels (i.e. social, human, and cultural) of both the individual immigrant and his/her co-ethnic group.

For new and traditional immigrant destinations distal causes operate at the state-level where differences in migration histories, structural resources, economic vitality, and public reception of newcomers suggest that the social context in new immigrant states is distinct from that in traditional immigrant states. At the proximate-level, variations in the resources and characteristics of immigrant families, schools, and neighborhoods between new and traditional immigrant states may also lead to distinct social contexts.

Context of Reception of New Immigrant Destinations

Emerging research on new destinations provides insight into how the characteristics of both the settlement area and its newcomers may influence the context of reception for immigrant youth. While dispersed across the US, new immigrant destinations tend to be places with well-developed and growing economic opportunities in the low-skill service sectors, including construction and service jobs in urban areas and manufacturing jobs in rural areas (Crowley, Lichter and Qian 2006; Donato et al. 2008; Hirschman and Massey 2008; Leach and Bean 2008; Parrado and Kandel 2008). The lower cost of living and tranquil pace of life in new immigrant destinations has also attracted immigrants, many of whom desire better quality schools and safer neighborhoods for their children (Hernández-León and Zuñiga 2003).

Less homogenous are the characteristics and traits of the immigrants moving to these new immigrant destinations. In contrast to historical patterns of migration, which were headed by single male sojourners (Waldinger and Lichter 2003), a diversity of migrant streams are settling

in new immigrant destination areas, including second destination migrants (Hall 2009; Lichter and Johnson 2009; Stamps and Bohon 2006), recent arrivals (Kandel and Cromartie 2004; Singer 2004), and dual-worker families (Crowley, Lichter and Qian 2006). Equally diverse are the economic and educational characteristics of immigrants in these new destination areas. Research on Asian, South American, and second destination migrants finds that immigrants in new immigrant destinations have higher incomes, education levels, and employment rates than their counterparts in traditional immigrant areas (Hall 2009; Kuk 2010; Winders 2008). In contrast, other new destination migrants, mostly those in rural areas, tend to be younger, less educated, more undocumented, more recently arrived, more Mexican, and from larger families than migrants in traditional areas (Crowley, Lichter and Qian 2006; Donato et al. 2008; Parrado and Kandel 2008).

The social context of new immigrant destinations is also shaped by the rapid growth of immigrant populations, which can both promote and hinder the successful academic adaptation of immigrant youth. Between 1990 and 2000, the rate of growth for children of immigrants grew rapidly in new immigrant states, exceeding 50% for most states and reaching as high as 223% in Nevada (Capps et al. 2005). On the one hand, given the newness of the immigrant population, these immigrants most likely will not experience (at least not fully) the detrimental effects of white-flight, which have resulted in high levels of economic, racial, and linguistic segregation in traditional immigrant destinations and their schools (Orfield and Lee 2005; Park and Iceland 2011; Van Hook and Snyder 2007). On the other, they must learn to adapt in destination areas where there is not a strong co-ethnic presence and where many public institutions lack the resources to provide linguistically and culturally appropriate services (Perreira, Chapman, Livas-Stein, 2006; Wortham, Murillo, and Hamann 2002). At the same time, public reception to

immigrant newcomers in new immigrant destinations has varied among the native majority from hostile (e.g., blaming immigrants for burdening the tax system and threatening traditional American values) to welcoming (e.g., praising immigrants for stimulating the economy and diversifying the community; Fennelly 2008; Hirschman and Massey 2008; Wainer 2006).

Context of Reception of Traditional Immigrant Destinations

Similar to new immigrant destinations, several positive and negative factors shape the context of reception in traditional immigrant destinations. Because these destination areas have had a long history of building relationships with and providing services to immigrants, many immigrants are highly integrated into their communities, have well-established co-ethnic networks, and wield substantial political influence (Saito 1998). Moreover, educators and service providers—many of whom are second and third generation immigrants themselves—have the structural resources (e.g., multilingual specialists, translated documents, and bilingual education) and knowledge base to address immigrant needs (Massey 2008).

At times, however, the structural advantages of traditional immigrant destinations can become a disadvantage due to the long held stereotypes and racial inequalities ingrained in them. Ethnographic studies of high schools in traditional immigrant destinations have identified a subtractive schooling process that devalues minority culture by sorting, selecting, and rewarding students based on their adherence to white middle-class values (Flores-Gonzalez 2005; Valenzuela 1999). Furthermore, while ethnic enclaves may be larger in traditional immigrant destination areas many of them are socially isolated and replete with poverty and unemployment, neighborhood factors typically associated with poor educational outcomes (Crowder and South 2003). Lastly, the economic decline of traditional immigrant destination areas, which in large part sparked the out-migration during the 1990s, may also hinder immigrant adaptation by

decreasing economic opportunities and creating racial divisions (Massey and Capoferro 2008).

In sum, like new immigrant destinations, traditional immigrant destinations still face challenges in meeting the needs of their immigrant population, but unlike new immigrant destinations, traditional immigrant destinations have stronger infrastructure and more social and political resources to help them meet these challenges. These resources, however, may be strained by the economic troubles of these destination areas and at times may be more of a disadvantage due to the social and racial inequalities they promote. Given that both new and traditional immigrant destinations have positive and negative factors that shape the context of reception for immigrant youth, I expect that the academic well-being of children of immigrants will differ by location of residence but have no *a priori* expectations for the direction of this difference.

Background Characteristics of Children of Immigrants

Differences in the racial composition and generational status of immigrants in new and traditional immigrant states may account for observed differences in academic achievement. Extant research has found significant variation in achievement patterns across racial/ethnic groups and immigrant generations. Of all ethnic groups, Asian American immigrants (except for Cambodians and Laotians) perform the best academically on multiple educational outcomes (e.g., grades, test scores, high school completion rates, college expectations, college application and enrollment levels, and post-secondary achievement) while Latino immigrants, especially Mexicans and Puerto Ricans, perform the worst (Bohon, Kirkpatrick, and Gorman 2006; Desmond and Turley 2009; Glick and White 2004; Kao and Thompson 2003; Kao and Tienda 1998; Keller and Tillman 2010; Perreira, Harris and Lee 2006; Rumbaut 1999) and white and black immigrant youth fall somewhere in between (Kao and Tienda 1998; Keller and Tillman

2010; Perreira, Harris and Lee 2006). No matter the ethnic group, however, almost all children of immigrants often (but not always) perform better academically than their co-ethnic later generation peers once models account for variation in family economic resources (Fuligni 1997; Glick and White 2003, 2004; Kao and Tienda 1995; Perreira, Harris and Lee 2006; Pong, Hao and Gardner 2005; Valenzuela 1999).

In terms of racial composition, evidence indicates that the settlement locations of immigrant families vary significantly across ethnic/racial groups. In analyzing migration trends, Massey and Capoferro (2008) found that between 1990 and 2000 the percent of immigrants living in traditional immigrant states declined by 86% to 61% for Mexicans, 72% to 42% for other Latin Americans, 60% to 52% for Asians, and 56% to 47% for all other immigrants (e.g., white and black immigrants). Thus, while Mexican immigrants dominated the dispersion to new immigrant areas during the 1990s, they were also the group most likely to still live in a traditional immigrant destination in 2000.

Evidence also suggests that the settlement locations of immigrant families vary by generational status. Immigrant settlement in new immigrant destinations has been dominated by new arrivals rather than by redistributed internal migrants, and Latinos (the largest immigrant group) in new immigrant states are more likely to be foreign-born while those in traditional states are more likely to be US-born (Bump, Lowell and Pettersen 2005). Thus, I hypothesize that differences in achievement between settlement locations will partially reflect variation in the generational status and ethnic/racial identity of immigrants living in these destination areas.

Family Context

In addition to socio-demographic characteristics, differences in familial characteristics may also contribute to diverging achievement patterns in new and traditional immigrant states.

Students do not enter a school system as empty vessels waiting to be filled with knowledge but instead bring with them a set of resources and skills that they acquire from their parents and home life (Coleman 1988). Consequently, researchers have identified a number of family characteristics that influence academic aspirations and achievement, including parental education, family income, family structure, household English language usage, and parental involvement (Goyette and Xie 1999; Glick and White 2003; Kao and Tienda 1995; Fuligni 1997; Fuligni and Fuligni 2007; Perreira, Harris and Lee 2006; Rumbaut 1999).

Of all the familial characteristics, research suggests that parental socio-economic status (SES), which incorporates elements of both financial and human capital, is the strongest predictor of student achievement (Glick and White 2003; Sirin 2005). Parents with higher levels of education and family income generally have higher educational expectations (Davis-Kean 2005), invest more time and resources in their students school-work (Roscigno and Ainsworth-Darnell 1999; White and Kaufman 1997), enroll their students in more resource rich schools (Sirin 2005), form stronger relationships with teachers and schools (Lareau 2003), and use more concerted cultivation child-rearing practices (Lareau 2003). For immigrant families, English language usage is another important human capital resource. Research indicates that English language ability of both the parent and child as well as the usage of English in the home can have a positive impact on student achievement (Glick and White 2003; Fuligni and Fuligni 2007; Perreira, Harris, and Lee 2006).

School Context

For many children of immigrants, school attendance marks the beginning of their assimilation process by introducing them to mainstream American cultures and other ethnic backgrounds for the first time. In an era of both record high immigration flows and school re-

segregation levels, there is concern that schools will be able to successfully foster the academic adaptation of immigrant's children. Creating a triple disadvantage for many children of immigrants, U.S. schools have re-segregated across racial/ethnic, linguistic, and economic divisions (Orfield and Lee 2005; Ruiz-de-Velasco and Fix 2000; Schmid 2001). Because high poverty and high minority schools have a number of characteristics that consistently reduce student achievement (e.g., an urban location, larger class sizes, lower teacher skills, higher teacher shortages, and lower academic rigor) extant research finds that achievement is lower in these schools than in more economically and racially integrated schools, even after controlling for family background differences (Borman and Dowling 2010; Hanushek, Kain and Rivkin 2009; Mickleson 2006; O'Connor et al 2009; Orfield and Lee 2005; Ryabov and Van Hook 2006). To the extent that school resources and school composition levels differ between traditional and new immigrant destination areas, I would expect variation in student achievement by settlement location.

Neighborhood Context

Lastly, differences in the neighborhood contexts in new and traditional immigrant destination areas may also contribute to diverging achievement patterns. Several studies have examined how neighborhood characteristics, particularly socioeconomic characteristics, affect various aspects of youth's academic performance. While results are not uniform, evidence suggests that compared to adolescents living in more advantaged neighborhoods (i.e., wealthier, racially integrated, and more educated), adolescents residing in disadvantaged neighborhoods are more likely to drop out of high school (Crowder and South 2003; Perreira, Harris and Lee 2006), have lower grades and test scores (Ainsworth 2002; Pong and Hao 2007), and complete fewer years of schooling (Mayer 2002). While some of the neighborhood effects decrease when

omitted familial- and school-level attributes are accounted for (Ginther, Haveman and Wolfe 2000; Pong and Hao 2007), research suggests that their effects are especially pronounced for black youth and children of immigrants as well as youth from low-income families and single-parent households (Crowder and South 2003; Pong and Hao 2007).

Study Design

Data and Sample

This analysis utilizes data from the base year of the Educational Longitudinal study of 2002 (ELS), which is sponsored by the National Center for Education Statistics (NCES). Data were collected on a cohort of approximately 16,200 10th graders from a sample of 750 schools beginning in the spring of 2002 with follow-ups conducted in 2004 and 2006. Providing rich contextual information, NCES collected information from students, parents, teachers, and school administrators, and the restricted datasets (for which I have licensed access) can be connected to zip-code level 2000 census data to identify neighborhood characteristics. As with most national-level data, the ELS study does not contain information on neighborhood boundaries. Instead, I follow the work of other researchers and use the smallest ecological unit available (i.e. zip-codes) in order to reduce measurement error (Ainsworth 2002; Goldsmith 2003). Lastly, the large sample size and the over-sampling of minority students in NELS, makes it possible to adequately assess the influences of ethnic and generational differences among immigrant youth living in new, traditional, and other immigrant states.

I include all self-identified white, black, Asian, and Latino students in the sample (N=14,380)ⁱ but eliminate other racial/ethnic groups since the sample sizes were too small. No students had missing values on the dependent variable, and I minimized the loss of data due to missing values on independent variables. First, I imputed school-level information from the 12th

grade if the student attended the same school in 10th and 12th grade. This is reasonable because school-level variables were strongly correlated across school years ($r \geq .80$). Second, for variables that were missing information from at least 3% of the sample, I followed Goldsmith's (2003) suggestion and substituted the mean value and created a dummy variable to flag mean-substituted cases. I then used list wise deletion for the remaining variables missing fewer than 3 percent of the cases. The final sample (rounded to the nearest ten as required) was 13,780.

Measures

Academic Achievement. I use reading and math test scores as my indicator for student achievement for two reasons. First, states have increasingly relied on standardized tests in both math and reading to measure school performance and to serve as requirements for high school graduation (Hanushek and Raymond 2005). Second, math and reading ability have been shown to affect future labor market outcomes (Farkas 2003). I used the standardized math and reading test scores created by NCES, which provide an indicator of achievement relative to the spring 2002 10th grade population and have a mean value of 50 and standard deviation of 10.

Settlement Location Type: Research on immigration to new destinations has classified new immigrant gateways across a variety of geographic levels: regions (Crowley, Lichter and Qian 2006), states (Hall 2009; Leach and Bean 2008; Massey and Capoferro 2008), metropolitan and non-metropolitan areas (Kandel and Parrado 2005; Parrado and Kandel 2008; Stamps and Bohon 2006), counties (Donato et al. 2008; Kuk 2010), cities (Singer 2004), and suburban areas (Singer 2004). By measuring the influence of a geographical level lower than the state, I could identify new immigrant destinations within traditional immigrant states (e.g., Jacksonville, Florida or Albany, New York) or traditional immigrant destinations within new immigrant states (e.g. Albuquerque, New Mexico or Denver, Colorado; Suro and Singer 2002). With ELS,

however, the data cannot be reliably disaggregated any lower than the state level. ELS provides residential zip-codes, but the boundaries of zip-codes change frequently making it difficult to determine rates of growth in the foreign-born population over time—an essential component for classifying new immigrant destinations.

Previous research indicates that the state-level classification still captures overall trends between new and traditional immigrant destinations (Hall 2009; Leach and Bean 2008; Massey and Capoferro 2008). Moreover, the state level classification builds on Alba and Nee's (2003) discussion of distal and proximate causes. By classifying destination areas at the state-level, I am able to identify the educational effects of broader social structures (i.e. distal causes) and how the characteristics of immigrant families, schools, and neighborhoods (i.e. proximate causes) within states also influence achievement.

I use a variation of Massey and Capoferro's (2008) typology to identify new, traditional, and other immigrant states. In their classification of traditional immigrant states, Massey and Capoferro include 10 states: 1) the "big five" immigrant-receiving states (California, Texas, Illinois, New York, and Florida) where the majority of immigrants settled between 1965 and 1990, and 2) five "second tier" states (New Jersey, Massachusetts, Washington, Virginia, and Maryland), which received a significant (though considerably lower) number of immigrants during the same time period. They then classify 20 states as new immigrant states because these states accounted for more than one percent of the inflow of any recently arrived (in US less than five years) immigrant group between 1980 and 2005. The remaining states are classified as other.

Following this typology, I classified the "big five" states as traditional immigrant states. Because the "second tier" states were at a "considerable distance behind the 'big five' states" I classified them and the 20 new states as new immigrant states.ⁱⁱ I included Washington DC in the

new immigrant state classification because the area has experienced considerable growth in its immigrant population (Wilson and Singer 2011). All remaining states (n=20) were classified as other immigrant states.ⁱⁱⁱ As a sensitivity check, I ran the results using both my modified classification scheme and the scheme outlined by Massey and Capoferro (i.e. combining the “big five” and “second tier” states). While the results were similar, they were more robust in the modified classification scheme.

Student Background: Research has shown that educational outcomes vary across a variety of demographic characteristics, including age, gender, ethnic/racial group, and generational status (Kao and Thompson 2003). To control for these differences, I included a dummy female gender variable to determine the influence of gender on student test score performance and use a month-based age variable to control for the influence of age. To control for variations in achievement among different ethnic groups, I created four mutually exclusive race/ethnic categories: white (reference category), black, Asian, and Latino. I used a three-category classification of generational status: first generation (both child and parents were foreign-born), second generation (child was US-born and at least one parent was foreign-born) and third generation and higher (child and both parents were US born). Due to the small sample size, I was not able to identify the 1.5 generation, which refers to youth who arrived before the age of 6 (Perreira, Harris, and Lee 2006).

Family Context. Levels of human capital in immigrant families depend on the economic, educational, and linguistic resources of parents as well as the structure of the family. To measure the family’s economic and educational well-being, I used the standardized scale of socioeconomic status (SES; range: -3.29 to 2.76) created by NCES, which is a composite measure combining information on the mother’s and father’s education, income, and occupation.

To measure the linguistic resources of immigrant families, I created measures of both the student's English language ability and the family's home language background. Because these two linguistic indicators were strongly correlated ($r=.95$), I only included the student's English language ability variable. I measured the student's English language ability by averaging the self-reported scores students gave about their reading, writing, listening, and/or speaking ability on a scale from 1="very well" to 4="not very well." I reverse coded the scale so a higher score indicated stronger English language ability and coded native English language speakers as 6 (Goldsmith 2003).

To control for differences in family structure, I followed the work of Glick and White (2003) and created five dummy variables: 1) respondent lived with both biological parents, 2) respondent lived with one biological parent and that parent's partner, 3) respondent lived with a single mother, 4) respondent lived with a single father, and 5) respondent lived with neither parent (typically lives with grandparents or another relative). Because the sample sizes were small in the latter three categories, I collapsed them into one dummy category—single/other parent family. Thus, I have three dummy indicators for family structure: biological parent family (reference group), stepparent family, and single/other family.

School Context. To measure the social context in schools, I include information about the student body and school resources. I teased out the unique influence of class, racial, and linguistic composition in schools. First, I included an indicator for the proportion of students on free and reduced lunch in the school as a measure of the school's poverty level (Orfield and Lee 2005). Second, I included an indicator of the proportion of minority students in the school to assess the influence of racial composition. Lastly, I accounted for the proportion of students who were limited English proficient (LEP) to measure linguistic composition. Since proportion LEP

was highly skewed, I classified proportion LEP into three dummy variables: low (prop. LEP=0), mid (prop LEP is >0 and ≤ 0.10), and high (prop. LEP > 0.10). All school indicators are based on the principal survey and supplemented with information from external school-level data (e.g., Common Core Data) provided in ELS.

Since students are found to perform better in schools with a smaller student-teacher ratio (Ferguson 1998), and since the student teacher-ratio is a commonly used school resource indicator (Ainsworth 2002; Ferguson 1998; Goldsmith 2003; Krueger 2003), I created a control for the number of students per teacher. Additionally, I controlled for whether the student was attending a public or private school given the varying resources associated with school type. I also controlled for differences in urbanicity—urban, rural, and suburban—given that school resources and the characteristics of migrants settling in these areas vary (Parrado and Kandel 2008).

Neighborhood Context. I measured the social context of neighborhoods by including information on the economic and ethnic/racial make-up of the zip-code in which the student lives and by assessing the neighborhood's experience with immigrant populations.^{iv} To measure the neighborhood's economic well-being, I included an indicator of the proportion of households living below the poverty level. To measure the influence of ethnic/racial composition, I included an indicator of the proportion of minorities residing in the zip-code by subtracting the proportion of non-Latino white from one. To capture the effect of living near other immigrant groups, I included a measure of the proportion of zip-code residents that were foreign-born (Pong and Hao 2007).

Analytical Approach

To understand immigrant youth's academic adaptation in new immigrant states and how

this adaptation compares to those of immigrant youth in traditional immigrant states, I estimated chi-square tests and T-tests to evaluate proportion and mean differences in academic achievement as well as key socio-demographic, family, school and neighborhood characteristics by settlement type (new, traditional, and other). I also assessed mean differences in achievement by settlement type for each immigrant generation and ethnic racial group. While the focus of the paper is to compare new and traditional immigrant states, for reference purposes I provide information on other immigrant states in the tables.

In order to examine the effect that settlement type has on student achievement, I estimated OLS regression models and included a dummy variable indicating whether the individual resided in a traditional (reference group), new, or other immigrant state. A baseline model that includes only the settlement location dummy variables indicates the total difference in achievement between youth in traditional, new, and other immigrant states. I then subsequently added blocks of variables representing each of the theoretical constructs (i.e. individual, family, school, and neighborhood characteristics) to assess how differences in each of these constructs contributed to the differing achievement patterns by settlement location. Lastly, I assessed how settlement location affected each immigrant generation and each immigrant generation racial/ethnic sub-group by adding two-way (immigrant generation*settlement location) and three-way interactions (immigrant generation*race/ethnicity*settlement location) to the models. All models corrected for design effects by using sample weights, robust standard errors, and a correction for the clustering of students in schools.^v

Characteristics of Settlement Locations

High school aged youth residing in new immigrant states scored higher in both math and reading than their peers residing in traditional immigrant states (Table 1). These differences in

high school achievement may partially reflect key demographic differences between settlement locations. In terms of racial/ethnic differences, new immigrant states had smaller minority populations than traditional immigrant states. I found that the vast majority of youth in new immigrant states (73%) but less than half of youth (46%) in traditional immigrant states were white. As would be expected, I also found that the size of the immigrant population (i.e. first and second generation) was largest in traditional immigrant states (32%).

<<Table 1 Here>>

A notable difference between 10th grade students in new immigrant states and students in traditional immigrant states was in their family resources and characteristics. As measured by familial SES, youth in new immigrant states had more financial and human capital resources ($M=0.08$; $SD=.02$) than their peers in traditional ($M=-0.10$; $SD=.03$) immigrant states.

Additionally, compared to youth in traditional immigrant states, youth in new immigrant states were more likely to live with both their biological parents (60% vs. 56%), thus, suggesting a greater degree of family support. Lastly, I found that student's English language ability was lowest in traditional immigrant states ($M=5.44$; $SD=.03$)—a likely reflection of the differing sizes of the immigrant population across settlement locations.

As hypothesized by previous research (Hernández-León and Zuñiga 2003), compared to schools in traditional immigrant states, schools in new immigrant states had more resources and served a compositionally different student population. The proportion of students on free and reduced lunch in a school (an indicator of poverty) was lower in new immigrant states (.17) than in traditional (.27) immigrant states, and the proportion of minority students in a school was lower in new immigrant states (.26) than in traditional immigrant states (.48). Mirroring settlement location differences in the size of the immigrant population, I also found that the

proportion of LEP students in a school was highest in traditional immigrant states. In terms of school resources, I found that teacher-student ratios and the percent of schools that were urban were higher in traditional immigrant states ($M=18.62$; $SD=0.29$ and 38%, respectively) than in new immigrant states ($M=16.61$; $SD=.22$ and 26%).

Similar to schools, I found that economic and racial composition of neighborhoods differed between traditional and new immigrant states. The proportion of zip-code residents living in poverty in traditional states was .14 compared to .10 in new immigrant states, and the proportion of zip-code residents who were minority was .43 and .23, respectively. Youth in traditional immigrant states were also more likely to live in neighborhoods with a larger immigrant population (.43 vs. .23).

Settlement Location Achievement by Racial/Ethnic Group and Immigrant Generation

Given the observed variation in the demographic composition of the different settlement locations, I assessed how achievement rates between settlement locations varied for each ethnic/racial group and immigrant generation (Table 2). I found few differences in achievement rates between peers of the same racial/ethnic group and immigrant generation living in different settlement locations. There were no differences in math test scores between youth of any racial/ethnic group in new and traditional immigrant states, and only Whites in new immigrant states ($M=53.35$; $SD=.25$) had higher reading scores than their racial/ethnic counterparts in traditional immigrant states ($M=52.36$; $SD=.32$). Comparing immigrant generations, I found that reading achievement was higher for second and third generation youth living in new immigrant states than their respective peers living in traditional immigrant states, but there was no similar difference among first generation youth. Moreover, I found no differences in math achievement for any immigrant generation between these two locations. These results suggest that

demographic differences between settlement locations account for the majority (but not all) of the observed differences in high school achievement.

<<Table 2 Here>>

Effect of Settlement Location on Student Achievement

To fully assess the extent to which settlement location differences in demographic, family, school, and neighborhood characteristics contribute to the observed differences in student achievement, I used multiple regression. These regressions also assessed whether variations in these characteristics masked achievement differences that existed between settlement locations.

<<Table 3 Here>>

In the unadjusted models, I found that reading (Table 3; Model 1) and math (Table 4; Model 1) test scores were higher in new immigrant states than traditional immigrant states. Demographic differences between settlement locations largely accounted for these observed settlement location differences. Once I controlled for the higher percent of blacks and Latinos (both of whom had lower achievement than their white peers) and the smaller percent of first generation immigrants (who had lower achievement than their third generation peers) in new immigrant states, the academic advantage of residing in a new immigrant state compared to a traditional immigrant state decreased from 2.53 to 0.72 in reading (Table 3; Model 2) and became non-significant in math (Table 4; Model 2).

<<Table 4 Here>>

I also found that the more advantageous family characteristics (i.e. higher familial SES, percent of youth residing with both biological parents, and English language ability) detected among youth living in new immigrant states compared to youth in traditional immigrant states further contributed to their achievement advantage in reading (Table 3; Model 3). The coefficient

on new immigrant states decreased from 0.72 to 0.56 and became marginally significant once I controlled for family characteristics.

Differences in school characteristics and resources further contributed to differences in achievement by settlement location. Once I controlled for differences in the economic, racial, and linguistic composition of schools in new and traditional immigrant states and for the lower student-teacher ratios in schools in new immigrant states, I found no difference in reading test scores between youth living in new and traditional immigrant states (Table 3; Model 4). For math, on the other hand, I found that once I controlled for these school differences, achievement rates were actually lower in new immigrant states. The coefficient on new immigrant states was negative and significant (Table 4; Model 4).

This achievement disadvantage, however, weakened once I controlled for differences in neighborhood characteristics across each settlement location. The marginal significance and the attenuation of the coefficient (from -.61 to -.55) on new immigrant states indicate that neighborhood characteristics were detracting from student achievement in math. Having more foreign-born neighbors increased math test scores (as seen by the positive and significant coefficient on Proportion zipcode is foreign-born —3 .18), but youth in new immigrant states were less likely to have foreign-born neighbors.

Effect of Settlement Location on Student Achievement for Each Immigrant Generation

Given that recent arrival immigrants have led the dispersal to new immigrant states (Bump, Lowell and Pettersen 2005) and that many aspects of family, school and neighborhood contexts may differentially affect each immigrant generation, I added two-way interactions between each immigrant generation and each settlement location to the models. These models allow me to compare how first generation immigrant youth in traditional immigrant states

compare to first generation immigrant youth in both new immigrant states and other immigrant states, and so forth for the other generations. In table 5, I present the total marginal effects of living in a new or other immigrant state compared to a traditional immigrant state for each immigrant generation by adding the main effect of residing in a new (other) immigrant state and the interactive effect between new (other) immigrant location and immigrant generation. I followed Brambor, Clark, and Golder's (2006) guidelines on multiplicative interaction models to calculate the variances^{vi} and confidence intervals (full model results available upon request).

<<Table 5 Here>>

I found that compared to their respective generational peers in traditional immigrant states, first, second, and third generation immigrant youth in new immigrant states were protected by their school's economic composition and greater resources. In both reading and math, first generation youth in new and traditional immigrant states had similar achievement rates (i.e. the total marginal effects were not statistically different), until I controlled for school characteristics (Table 5, Model 4). Once I accounted for the lower free and reduced lunch proportions ($M_{NewGen1}=0.22$; $SD_{NewGen1}=.03$; $M_{TradGen1}=0.38$; $SD_{TradGen1}=.03$; $p<.05$) and student-teacher ratios ($M_{NewGen1}=17.42$; $SD_{NewGen1}=.56$; $M_{TradGen1}=20.48$; $SD_{TradGen1}=.37$; $p<.05$) in schools attended by first generation youth in new immigrant states, I found that first generation youth actually had lower math ($ME=-2.34$) and reading ($ME=-1.53$) test scores than their first generation peers in traditional immigrant states.

Math scores for second generation youth and reading scores for third generation youth suggest a similar school protection effect in new immigrant states. Math scores among second generation immigrant youth did not differ between youth residing in new and traditional immigrant states (Models 1-3), until I controlled for school characteristics (Model 4). Once I

controlled for the protective factors associated with schools in new immigrant states, I found that second generation youth in new immigrant states had lower math scores (ME=-1.78) than their second generation peers in traditional states. In contrast, I found that third generation youth in new immigrant states had higher reading scores than their third generation peers in traditional immigrant states until I controlled for school characteristics. Once I controlled for differences in school economic composition and teacher student-ratios, I found no difference in reading test scores between third generation youth in new and traditional immigrant locations.

Effect of Settlement Location on Student Achievement for Each Immigrant Generation by Racial/Ethnic Group

Given that achievement patterns differ across racial/ethnic groups (Kao and Thompson 2003) and that racial/ethnic groups have differed in their rates of dispersion to new immigrant states (Massey, and Capoferro 2008), achievement among each immigrant generation may also vary across racial/ethnic groups. To assess how each immigrant generation of whites, blacks, Latinos, and Asians are fairing in new and traditional immigrant states, I added modified three-way interaction terms to the models. First, I created a dummy indicator for the different racial/ethnic groups among each immigrant generation (i.e. the two-way interactions: first-generation black, first-generation white, first generation Latino, first generation Asian and so forth for the other immigrant generations). I then interacted these dummy indicators with the new immigrant state dummy indicator (i.e. the three-way interaction) to compare each immigrant generation for each racial/ethnic group in new and traditional immigrant states (e.g., first generation Latino youth in new immigrant states vs. first generation Latino youth in traditional immigrant states). Due to the small sample sizes in other immigrant states, I did not include interactions with other immigrant states but instead included other immigrant states as a control variable. For ease of interpretation, I present the total marginal effects and only present the

racial/ethnic groups for which the modified three-way interactions were significant (Table 6; full model results available upon request).

<<Table 6 Here>>

Results indicate that first generation Latinos and Asians and second generation blacks in new immigrant states benefited from stronger family resources and protective school characteristics. Compared to their respective peers in traditional states, first generation Latinos and Asians and second generation blacks in new immigrant states attended schools with a lower proportion of students on free and reduced lunch and lower teacher-student ratios, while first generation Asians also reported higher levels of English language ability (results available upon request). Once I controlled for these protective familial (Model 3) and school (Model 4) characteristics, I found that first generation Latinos had lower reading test scores, first generation Asians had lower math test scores, and second generation blacks had lower reading and math test scores than their respective peers in traditional immigrant states. These results remained robust once I controlled for differences in neighborhood characteristics.

Lastly, I found that second generation Latinos in new immigrant states had higher levels of achievement in reading than their second generation Latino peers in traditional immigrant states. This reading advantage decreased slightly as I controlled for differences in demographic, family, school, and neighborhood characteristics but remained statistically significant (though only marginally significant in the school model). Thus, unlike their first generation ethnic peers, the academic advantage of second generation Latino youth in new immigrant states extended beyond the protective familial and school characteristics associated with residing in new immigrant states.

Sensitivity Analysis

Given that researchers have used a variety of different classification schemes to identify new and traditional immigrant destination areas, I ran several sensitivity checks to assess the robustness of my results. I re-classified settlement locations following a variety of different classification schemes at both the state and zip-code level and re-ran the analyses. At the state level, I modified Massey's classification by re-classifying the 5 "second tier" states as traditional immigrant states instead of new immigrant states. I also ran the analyses utilizing the state classification scheme outlined by Fortuny and her colleagues (2009) at the Urban Institute, which classifies 12 states as traditional, 22 states as new, and 16 as other.

For the zip-code level analysis, I ran three checks relying on the two main demographic characteristics typically used for geographic areas lower than the state-level: the percent change in the foreign-born population between the 1990 and 2000 US Censuses, and the initial percent of foreign-born residents in the 1990 US Census (Fischer 2010; Stamps and Bohon 2006). While the zip-code level classifications have measurement error due to boundary changes in zip-codes over time, this only attenuates the results and does not introduce bias. For the first two checks, I classified settlement locations using the definition outlined by Lichter and colleagues (2010)^{vii} and a modification of the definition outlined by Fischer (2010).^{viii} For the third check, I ran analyses using an indicator of the percent growth in the foreign-born population rather than the three tier classification scheme (Fischer 2010).

While the results from these different classification schemes varied (in part due to differences in cell sizes and power), there were some consistent themes. Youth in new immigrant states had higher levels of achievement until I controlled for demographic characteristics, and achievement was lower in new immigrant states (especially for Asians and Latinos) once I controlled for school characteristics. These results suggest that the results of this study are not

contingent on the classification scheme I used but instead reflect the educational experiences of immigrant youth residing in different settlement locations.

Discussion

This paper examines one of the most pressing challenges facing the educational system: the diaspora of immigrant families. To assess how this geographic dispersion of immigrants affects the education of immigrants' children, I evaluated how settlement location in new, traditional, and other immigrant states affected academic achievement in math and reading for a national sample of 10th grade youth and whether these effects differed for each immigrant generation and for each racial/ethnic sub-group of the immigrant generations. I also assessed how socio-demographic, family, school, and neighborhood characteristics affected the relationship between settlement location and achievement.

I found that overall achievement in math and reading was higher in new immigrant states than in traditional and other immigrant states, but that these achievement differences varied by immigrant generation and racial/ethnic groups. First generation youth had similar achievement rates in math and reading no matter whether they resided in a new or traditional immigrant state; whereas, second and third generation immigrant youth residing in new immigrant states had higher achievement in reading than their generational peers in traditional immigrant states. When comparing ethnic/racial groups, I found few differences in academic achievement by settlement location. Only white youth in new immigrant states outperformed (in reading) their racial peers in traditional immigrant states.

Demographic differences between settlement locations largely explained overall differences in student achievement. Proportionally more minority youth and first generation immigrants resided in traditional immigrant states, and these youth generally had lower levels of

achievement in math and reading than their respective white and third generation peers. Once I accounted for these demographic differences between settlement locations, the benefit of residing in a new immigrant state decreased substantially but remained positive and significant in reading. These demographic differences highlight the unique challenges new and traditional immigrant states face. While new immigrant states are challenged with meeting the needs of a growing immigrant and minority population, traditional immigrant states are still responsible for educating the majority of the US's immigrant youth population (Fortuny et al. 2009).

The remainder of the advantage in reading associated with residing in a new vs. traditional immigrant state was explained by differences in familial resources. Compared to youth living in traditional immigrant states, youth in new immigrant states came from families with higher levels of human capital as measured by socioeconomic status, family structure (i.e. living with both biological parents), and English language ability. These higher levels of human capital persisted when comparing across immigrant generations with first and second generation immigrant youth in new receiving states reporting higher levels of familial SES than their generational peers in traditional immigrant states (results not shown). These results fit with previous research that suggests more advantaged immigrant groups are migrating to new immigrant destinations (Kuk 2010; Lichter and Johnson 2009; Stamps and Bohon 2006). While other research suggests the opposite (i.e. more disadvantaged immigrants are migrating to new immigrant destinations) these studies do not make specific comparisons within immigrant generations (Donato et al. 2008; Parrado and Kandel 2008).

Most importantly, I found that youth in new immigrant states were protected by the economic composition (i.e. lower proportion on free and reduced lunch) and higher resources (i.e. lower teacher-student ratios) associated with schools in new immigrant states. Once I

accounted for variation in school characteristics between settlement locations, I found that achievement in new immigrant states was often lower than in traditional immigrant states. This was especially true for first and second generation immigrants and for first generation Asians and Latinos and second generation blacks in particular. These results fit with Fischer's (2010) study that finds high school dropouts were higher in new immigrant destinations once she controlled for individual, school, and community characteristics.

Because their growth in new immigrant states is relatively new, immigrant youth in new immigrant states may be more likely to be dispersed across schools rather than concentrated in disadvantaged urban centers, characteristics typical of schools in traditional immigrant states (Hernández-León and Zuñiga 2003; Orfield and Lee 2005; Park and Iceland 2011; Van Hook and Snyder 2007). This dispersion can both promote and hinder student achievement. On the one hand, dispersion promotes achievement by increasing overall school quality and exposing immigrant youth to the positive peer effects generated by white middle-class peers (Ryabov and Van Hook 2006). On the other, dispersion decreases economies of scale and reduces the school's ability and willingness to target their resources towards meeting the unique educational needs of immigrant youth (Potochnick and Handa, Forthcoming). The loss in economies of scale may explain why I found that school achievement was lower in new immigrant states, once I controlled for the beneficial effects of greater economic integration and school resources. As suggested by previous studies, schools in new immigrant states may lack the infrastructure and resources to meet the unique linguistic and cultural needs of immigrant youth (Gozdiak and Martin 2005; Massey 2008; Perreira, Chapman, and Livas-Stein 2006; Wainer 2006).

Lastly, while I found that the economic and racial composition of the neighborhoods where youth lived differed between new and traditional immigrant states, these neighborhood

characteristics explained little variation in achievement patterns by settlement location. Instead, as suggested by previous research, these neighborhood characteristics reinforced the familial and school influences associated with each settlement destination (Ginther, Haveman and Wolfe 2000; Pong and Hao 2007). I did, however, find evidence that living in neighborhoods with a larger immigrant population had a positive effect on student achievement, once I accounted for the higher poverty rates associated with these neighborhoods. As with dispersion in schools, dispersion across neighborhoods may be both beneficial and detrimental. Because immigrant youth in new immigrant states live in more economically integrated neighborhoods they may have more social opportunities and greater connections to the wider society (Ainsworth 2002; Crowder and South 2003; Wilson 1987), but they may also benefit less from co-ethnic monitoring and immigrant support systems (Pong and Hao 2007).

Strengths and Limitations

Though this study has many strengths—the sample is national and the data have more detail on family, school, and neighborhood characteristics than the US Census or Current Population Survey—the results of this study should be read with some caveats in mind. First, the analysis uses a cross-section of the panel data available in ELS. Thus, I identify important associations that need to be further evaluated using longitudinal data. Second, while I minimize migrant selection concerns by eliminating labor migrants (i.e. youth who never enroll in US schools) and controlling for individual and family characteristics, migrant selection remains an issue. Because families choose their settlement location, neighborhoods, and schools, it is possible that the effects I detect reflect these choices rather than the effects of social context. This paper, however, provides insight into the social context vs. migrant selection debate by providing a first assessment of how the characteristics of immigrant families, schools and

neighborhoods differ across settlement locations. Third, because the sample of ELS is drawn from youth enrolled in 10th grade, I exclude youth who have dropped out of high school before the 10th grade. This important subpopulation of youth may have a different schooling experience than youth who remain in school. Lastly, while I am able to examine broad ethnic/racial differences among each immigrant generation the sample sizes were not large enough to examine within ethnic/racial differences. Given that extant research finds significant pan-ethnic variation in student achievement for Asians and Latinos (Kao and Thompson 2003), future research should examine how settlement location affects the academic achievement of the different subgroups of Asians (e.g., Chinese, Filipino, etc.) and Latinos (e.g., Mexican, Cuban, etc.).

Conclusion

For educators and policymakers, this study demonstrates that schools in new and traditional immigrant destinations face unique educational challenges. Traditional immigrant states are challenged with educating a large immigrant population with relatively lower levels of human capital than their immigrant generational peers in new immigrant states. New immigrant states, on the other hand, are challenged with responding to the needs of a small but rapidly growing immigrant population. To promote the academic adaptation of this growing population, schools can rely on their relatively greater economic integration (i.e. low poverty rates) and higher overall resources, but these school resources alone are not sufficient to ensure the success of immigrant youth. As suggested by previous research, the academic adaptation of immigrant youth in new states may be constrained by the limited immigrant related resources, infrastructure, and support systems available. The challenge for schools in new immigrant states is determining how best to respond to the unique educational needs of immigrant youth, while still maintaining similar levels of school integration and overall resources. The path of

assimilation that immigrant youth in new immigrant states follow will largely depend on whether schools are able to meet this challenge.

Notes

ⁱ All sample sizes I report are rounded to the nearest 10 as required by NCES.

ⁱⁱ New immigrant states include: Arizona, Colorado, Connecticut, DC, Georgia, Hawaii, Indiana, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nevada, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Utah, Virginia, Washington, and Wisconsin.

ⁱⁱⁱ Other immigrant states include: Alaska, Alabama, Arkansas, Delaware, Idaho, Iowa, Kentucky, Maine, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Oklahoma, South Carolina, South Dakota, Vermont, West Virginia, and Wyoming.

^{iv} I also created indicators for the educational and occupational make-up of neighborhoods, which have been shown to affect student achievement (Foster and McLanahan 1996; Goldsmith 2003). I measured the proportion of residents 25 years or older who had not completed high school or the general education equivalent and the proportion of residents who were unemployed. Because both of these measures were strongly correlated with the poverty measure ($r=.79$ and $r=.78$, respectively), I excluded them from the analyses.

^v Because the within-school sample size was sufficiently small (over 75% of observations came from high schools with fewer than 25 students) and the intraclass correlations were low ($ICC_{\text{Reading}}=.23$; $ICC_{\text{Math}}=.23$) hierarchical linear models were not appropriate (Maas and Hox 2004). Instead, I used robust standard errors, which provide more consistent and more conservative estimates of the covariances of the regression coefficients (Maas and Hox 2004).

^{vi} For the general equation: $Y = \beta_0 + \beta_1 X + \beta_2 Z + \beta_3 XZ$:

$$\text{Total Marginal Effect} = \beta_1 + \beta_3 Z; \text{ Variance} = \text{var}(\beta_1) + Z^2 \text{var}(\beta_3) + 2Z \text{cov}(\beta_1, \beta_3)$$

^{vii}Traditional destinations included zip-codes where the base percent of the foreign-born population was more than double the national average; new destinations included zip-codes where the foreign-born population was less than the national average in the base period but growth exceeded 200 and the national average by one standard deviation; and other destinations included all remaining zip-codes.

^{viii}Traditional destinations included zip-codes in the top 25% of the base population; new included zip-codes where the base population was in the bottom 25th percentile but growth was in the top 50th percentile; and other included all remaining zip-codes.

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Table 1: Weighted Characteristics of High School Sophomores in 2002 for Full Sample and by State Settlement Type

	<u>Full Sample</u>	<u>Traditional State</u>	<u>New State</u>	<u>Other State</u>	Diff. ¹
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Achievement					
Reading test score	50.20 (.21)	48.85 (.34)	51.38 (.29)	49.41 (.43)	a,b
Math test score	50.26 (.21)	49.46 (.35)	51.13 (.30)	49.22 (.43)	a,b
Demographics					
Female	0.50 --	0.49 --	0.50 --	0.50 --	
Age	16.17 (.01)	16.14 (.02)	16.17 (.01)	16.22 (.02)	c
Race					
White (ref.)	0.64 --	0.46 --	0.73 --	0.74 --	a,c
Black	0.15 --	0.14 --	0.14 --	0.18 --	
Asian	0.04 --	0.07 --	0.04 --	0.01 --	a,b,c
Latino	0.17 --	0.33 --	0.09 --	0.07 --	a,c
Immigrant generation					
1st generation	0.07 --	0.11 --	0.05 --	0.02 --	a,b,c
2nd generation	0.12 --	0.21 --	0.08 --	0.04 --	a,b,c
3rd generation (ref.)	0.69 --	0.54 --	0.75 --	0.84 --	a,b,c
Gen missing	0.13 --	0.14 --	0.12 --	0.11 --	c
Family Characteristics					
SES	0.00 (.02)	-0.10 (.03)	0.08 (.02)	-0.03 (.04)	a,b
Family Structure					
Biological parent family (ref.)	0.58 --	0.56 --	0.60 --	0.55 --	a,b
Stepparent family	0.16 --	0.16 --	0.16 --	0.18 --	b,c
Single parent/other family	0.26 --	0.27 --	0.25 --	0.27 --	a
English language ability (range: 1-6)	5.68 (.02)	5.44 (.03)	5.78 (.02)	5.90 (.01)	a,b,c
School Characteristics					
Prop. free and reduced lunch	0.21 (.01)	0.27 (.02)	0.17 (.01)	0.24 (.02)	a,b
Prop. minority	0.34 (.01)	0.48 (.02)	0.26 (.02)	0.26 (.02)	a,c
Prop. LEP population--low (ref.)	0.34 --	0.24 --	0.35 --	0.51 --	a,b,c
Prop. LEP population--mid	0.50 --	0.43 --	0.57 --	0.45 --	a
Prop. LEP population--high	0.16 --	0.34 --	0.08 --	0.04 --	a,c
Student-teacher ratio	17.12 (.16)	18.62 (.29)	16.61 (.22)	15.44 (.33)	a,b,c
Urbanicity					
Urban (ref.)	0.30 --	0.38 --	0.26 --	0.26 --	a,c
Rural	0.20 --	0.13 --	0.21 --	0.29 --	a,c
Suburban	0.50 --	0.48 --	0.53 --	0.45 --	
Public (vs. private)	0.92 --	0.92 --	0.91 --	0.95 --	
Neighborhood Characteristics					
Prop. zipcode in poverty	0.12 (.00)	0.14 (.01)	0.10 (.00)	0.14 (.01)	a,b
Prop. zipcode is minority	0.30 (.01)	0.43 (.02)	0.23 (.01)	0.22 (.02)	a,c
Prop. zipcode is foreign-born	0.10 (.00)	0.17 (.01)	0.07 (.00)	0.03 (.00)	a,b,c
Zip-code data missing	0.04 --	0.04 --	0.03 --	0.06 --	b
N ² =	13780	4720	7040	2020	

¹Indicate statistical differences (p<.05) between the samples using chi-square tests for proportions and T-tests with satterwaite adjustment for means: a=traditional vs. new, b=new vs.other, and c=traditional vs. other.

²N's are rounded to the nearest 10 as required by NCES.

Table 2: 2002 High School Sophomores' Reading and Math Achievement by Race/Ethnicity and Generational Status for Each State Settlement Type (Data Weighted)

	<u>Traditional State</u>		<u>New State</u>		<u>Other State</u>		Diff. ²
	Mean (SD)	N ¹	Mean (SD)	N ¹	Mean (SD)	N ¹	
A. Reading							
Race/Ethnicity							
Black	45.77 (.56)	550	45.08 (.46)	1010	42.89 (.53)	340	b,c
White	52.36 (.32)	2070	53.34 (.25)	4810	51.29 (.45)	1510	a,b
Asian	50.40 (.75)	730	50.81 (.71)	640	51.80 (1.65)	50	
Latino	44.87 (.39)	1380	45.34 (.69)	590	45.97 (1.10)	120	
Generational status							
1st gen	44.55 (.56)	610	46.01 (.84)	410	48.23 (1.62)	50	c
2nd gen	47.52 (.56)	1120	51.07 (.58)	620	48.01 (1.55)	80	a
3rd gen	51.14 (.37)	2350	52.34 (.27)	5030	49.94 (.47)	1670	a,b,c
B. Math							
Race/Ethnicity							
Black	44.84 (.54)	550	43.88 (.52)	1010	42.26 (.58)	340	b,c
White	53.18 (.31)	2070	53.16 (.25)	4810	51.28 (.41)	1510	b,c
Asian	54.51 (.86)	730	53.10 (.83)	640	52.54 (2.67)	50	
Latino	45.09 (.39)	1380	45.02 (.58)	590	44.99 (.97)	120	
Generational status							
1st gen	46.22 (.71)	610	47.46 (.75)	410	48.44 (1.60)	50	
2nd gen	48.59 (.60)	1120	50.28 (.64)	620	48.79 (1.36)	80	
3rd gen	51.27 (.36)	2350	52.05 (.29)	5030	49.68 (.48)	1670	b,c

¹N's are rounded to the nearest 10 as required by NCES.

²Indicate statistical differences (p<.05) between the samples using chi-square tests for proportions and T-tests with satterwaite adjustment for means: a=traditional vs. new, b=new vs. other, and c=traditional vs.other.

	<u>Model 1</u>		<u>Model 2</u>		<u>Model 3</u>		<u>Model 4</u>		<u>Model 5</u>	
	<u>Baseline</u>		<u>Demog.</u>		<u>Family</u>		<u>School</u>		<u>Nghbd</u>	
	b (SE)		b (SE)		b (SE)		b (SE)		b (SE)	
Settlement Type										
New state vs. traditional state	2.53 (.45)	***	0.72 (.35)	*	0.56 (.29)	†	0.21 (.29)		0.32 (.29)	
Other state vs. traditional state	0.56 (.57)		-1.18 (.45)	**	-0.90 (.38)	*	-1.11 (.40)	***	-0.90 (.41)	*
Demographics										
Female			0.93 (.20)	***	1.12 (.18)	***	1.09 (.18)	***	1.08 (.18)	***
Age			-2.95 (.17)	***	-2.08 (.17)	***	-2.09 (.17)	***	-2.07 (.16)	***
Black vs. White			-7.01 (.33)	***	-5.03 (.31)	***	-4.72 (.33)	***	-4.48 (.35)	***
Asian vs. White			-0.89 (.52)	†	0.37 (.45)		0.39 (.46)		0.35 (.45)	
Latino vs. White			-6.43 (.40)	***	-2.85 (.34)	***	-2.43 (.34)	***	-2.37 (.34)	***
1st generation vs. 3rd generation			-3.34 (.44)	***	0.41 (.43)		0.49 (.44)		0.26 (.44)	
2nd generation vs. 3rd generation			-0.52 (.36)		0.58 (.35)	†	0.64 (.35)	†	0.46 (.34)	
Family Characteristics										
SES					4.02 (.15)	***	3.69 (.15)	***	3.67 (.15)	***
Stepparent family vs. biological family					-1.23 (.25)	***	-1.16 (.25)	***	-1.14 (.25)	***
Single parent/other family vs. biological family					-0.94 (.22)	***	-0.91 (.22)	***	-0.92 (.22)	***
English language ability (range: 1-6)					1.53 (.15)	***	1.42 (.16)	***	1.45 (.16)	***
School Characteristics										
Prop. free and reduced lunch							-3.11 (.93)	**	-3.05 (1.03)	**
Prop. minority							0.50 (.68)		0.59 (.89)	
Prop. LEP population--mid vs. low							0.10 (.29)		0.05 (.30)	
Prop. LEP population--high vs. low							-0.94 (.47)		-1.28 (.48)	**
Student-teacher ratio							-0.08 (.03)		-0.08 (.03)	*
Rural vs. urban							-0.60 (.39)		-0.61 (.40)	
Suburban vs. urban							-0.51 (.31)		-0.54 (.32)	†
public							-0.91 (.44)		-0.84 (.46)	†
Neighborhood Characteristics										
Prop. zipcode in poverty									0.51 (2.06)	
Prop. zipcode is minority									-1.22 (.90)	
Prop. zipcode is foreign-born									4.15 (1.51)	**
Constant	48.85 (.35)	***	100.09 (2.84)	***	76.51 (2.93)	***	80.48 (3.00)	***	79.97 2.96	***
† p<.10, * p<.05, **p<.01, ***p<.001										
N=13780 (rounded to the nearest 10 as required by NCES)										
Notes: Models include dummy variable indicators for missing data for the following: generational status, English language ability, and zip-code data.										

Table 4: Effect of Settlement Location on Math Test Scores for High School Sophomores in 2002 (Data Weighted)

	<u>Model 1</u>		<u>Model 2</u>		<u>Model 3</u>		<u>Model 4</u>		<u>Model 5</u>		
	<u>Baseline</u>		<u>Demog.</u>		<u>Family</u>		<u>School</u>		<u>Nghbd</u>		
	b (SE)		b (SE)		b (SE)		b (SE)		b (SE)		
Settlement Type											
New state vs. traditional state	1.67 (.47)	*	-0.09 (.33)		-0.23 (.28)		-0.61 (.29)	*	-0.55 (.29)	†	
Other state vs. traditional state	-0.23 (.58)		-1.72 (.43)	***	-1.41 (.36)	***	-1.50 (.38)	***	-1.35 (.38)	***	
Demographics											
Female			-1.55 (.19)	***	-1.35 (.17)	***	-1.37 (.17)	***	-1.38 (.17)	***	
Age			-3.49 (.16)	***	-2.67 (.16)	***	-2.63 (.16)	***	-2.62 (.16)	***	
Black vs. White			-8.17 (.35)	***	-6.19 (.34)	***	-5.39 (.35)	***	-5.17 (.36)	***	
Asian vs. White			1.43 (.61)	*	2.24 (.55)	***	2.40 (.55)	***	2.38 (.54)	***	
Latino vs. White			-7.08 (.36)	***	-3.95 (.32)	***	-3.33 (.34)	***	-3.26 (.34)	***	
1st generation vs. 3rd generation			-2.00 (.41)	***	0.74 (.42)	†	0.77 (.42)	†	0.59 (.42)		
2nd generation vs. 3rd generation			-0.39 (.36)		0.37 (.35)		0.40 (.35)		0.26 (.34)		
Family Characteristics											
SES					3.99 (.15)	***	3.65 (.15)	***	3.63 (.15)	***	
Stepparent family vs. biological family					-1.33 (.25)	***	-1.26 (.25)	***	-1.25 (.25)	***	
Single parent/other family vs. biological family					-1.14 (.21)	***	-1.06 (.21)	***	-1.06 (.21)	***	
English language ability (range: 1-6)					0.90 (.15)	***	0.79 (.15)	***	0.80 (.15)	***	
School Characteristics											
Prop. free and reduced lunch							-4.51 (.95)	***	-4.51 (1.05)	***	
Prop. minority							-0.07 (.70)		0.32 (.90)		
Prop. LEP population--mid vs. low							0.27 (.29)		0.23 (.29)		
Prop. LEP population--high vs. low							-0.04 (.50)		-0.30 (.53)		
Student-teacher ratio							-0.07 (.03)	*	-0.07 (.03)	*	
Rural vs. urban							-0.27 (.40)		-0.28 (.41)		
Suburban vs. urban							-0.03 (.32)		-0.04 (.33)		
public							-0.29 (.43)		-0.28 (.45)		
Neighborhood Characteristics											
Prop. zipcode in poverty									0.41 (1.92)		
Prop. zipcode is minority									-1.41 (.84)	†	
Prop. zipcode is foreign-born									3.18 (1.51)	*	
Constant	49.46 (.35)	***	110.62 (2.67)	***	91.62 (2.85)	***	94.07 (3.01)	***	93.79 (2.98)	***	
† p<.10, * p<.05, **p<.01, ***p<.001											
N=13780 (rounded to the nearest 10 as required by NCES)											
Notes : Models include dummy variable indicators for missing data for the following: generational status, English language ability, and zipcode data.											

Table 5: Marginal Effect of Settlement Location on Reading and Math Test Scores for Each Immigrant Generation of High School Sophomores in 2002 (Data Weighted)

	<u>Model 1</u> <u>Baseline</u>			<u>Model 2</u> <u>Demog.</u>			<u>Model 3</u> <u>Family</u>			<u>Model 4</u> <u>School</u>			<u>Model 5</u> <u>Nghbd</u>		
	ME	(95% CI)	Diff ¹	ME	(95% CI)	Diff	ME	(95% CI)	Diff	ME	(95% CI)	Diff	ME	(95% CI)	Diff
A. Reading															
1st generation															
New vs. trad.	1.46	(-.51 3.43)		0.19	(-1.52 1.90)		-0.88	(-2.25 .48)		-1.53	(-2.94 -.13)	*	-1.26	(-2.66 .13)	†
Other vs. trad.	3.69	(.37 6.99)	*	2.77	(.36 5.18)	*	0.84	(-1.48 3.15)		-0.07	(-2.54 2.40)		0.52	(-1.96 3.00)	
2nd generation															
New vs. trad.	3.55	(1.97 5.13)	***	1.78	(.48 3.08)	**	0.81	(-.37 2.00)		0.25	(-.97 1.47)		0.42	(-.79 1.64)	
Other vs. trad.	0.49	(-2.72 3.71)		-2.15	(-4.89 .60)		-3.64	(-6.43 -.85)	*	-4.17	(-6.98 -1.37)	**	-3.82	(-6.61 -1.03)	**
3rd generation															
New vs. trad.	1.21	(.31 2.10)	**	0.53	(-.23 1.29)		0.66	(.01 1.31)	*	0.41	(-.23 1.05)		0.46	(-.19 1.10)	
Other vs. trad.	-1.20	(-2.35 -.04)	*	-1.39	(-2.34 -.44)	**	-0.76	(-1.58 .07)	†	-0.87	(-1.73 -.01)	*	-0.73	(-1.60 .13)	†
B. Math															
1st generation															
New vs. trad.	1.25	(-.77 3.27)		-0.48	(-2.09 1.13)		-1.49	(-2.99 .01)	†	-2.34	(-3.99 -.68)	**	-2.19	(-3.82 -.57)	**
Other vs. trad.	2.22	(-1.16 5.61)		0.99	(-1.43 3.41)		-0.76	(-3.20 1.67)		-1.89	(-4.32 .53)		-1.48	(-3.87 .91)	
2nd generation															
New vs. trad.	1.69	(-.04 3.41)	†	-0.23	(-1.55 1.09)		-1.06	(-2.26 .15)	†	-1.78	(-3.05 -.50)	**	-1.70	(-2.99 -.41)	*
Other vs. trad.	0.20	(-2.70 3.09)		-2.65	(-.32 -4.98)	*	-3.87	(-6.18 -1.57)	**	-4.38	(-6.74 -2.02)	***	-4.16	(-6.51 -1.80)	***
3rd generation															
New vs. trad.	0.79	(-.13 1.70)	†	0.03	(-.69 .75)		0.12	(-.49 .74)		-0.14	(-.75 .48)		-0.12	(-.75 .50)	
Other vs. trad.	-1.59	(-2.76 -.42)	**	-1.74	(-2.64 -.84)	***	-1.14	(-1.90 -.38)	**	-1.11	(-1.89 -.33)	**	-1.02	(-1.81 -.23)	*

N=13780 (rounded to the nearest 10 as required by NCES)

Notes: ¹ Indicates marginal effect is statistically different from the marginal effect in traditional immigrant states: † p<.10, * p<.05, **p<.01, ***p<.001

Each model includes the same controls as the corresponding model in table 4 and the interaction effects for the dummy variable indicating missing generational status.

Table 6: Marginal Effects Containing Significant Interaction Terms between Immigrant Destination, Race, and Generation (Data Weighted)

	<u>Model 1</u>			<u>Model 2</u>			<u>Model 3</u>			<u>Model 4</u>			<u>Model 5</u>		
	<u>Baseline</u>			<u>Demog.</u>			<u>Family</u>			<u>School</u>			<u>Nghbd</u>		
	ME	(95% CI)	Diff ¹	ME	(95% CI)	Diff	ME	(95% CI)	Diff	ME	(95% CI)	Diff	ME	(95% CI)	Diff
A. Reading															
New vs. Traditional															
Black															
1st gen	0.81	(-4.12 5.73)		1.44	(-2.62 5.50)		1.59	(-1.77 4.96)		1.43	(-1.81 4.67)		1.69	(-1.49 4.86)	
2nd gen	-1.78	(-5.71 2.14)		-2.14	(-5.73 1.44)		-3.09	(-6.84 .66)		-3.79	(-7.55 -.03)	*	-3.57	(-7.38 .24)	†
3rd gen	0.09	(-1.26 1.43)		-0.01	(-1.33 1.31)		-0.34	(-1.61 .92)		-0.96	(2.24 .32)		-0.82	(-2.12 .47)	
Latino															
1st gen	-1.29	(-3.62 1.05)		-1.39	(-3.66 .88)		-1.98	(-3.96 -.01)	*	-2.57	(-4.58 -.57)	*	-2.38	(-4.40 -.37)	**
2nd gen	3.26	(1.19 5.33)	**	3.71	(1.77 5.65)	***	2.44	(.66 4.22)	**	1.80	(-.07 3.68)	†	1.92	(.09 3.76)	*
3rd gen	-0.77	(-2.88 1.35)		-0.59	(-2.63 1.45)		-0.93	(-2.77 .91)		-1.15	(-3.01 .71)		-1.16	(-3.05 .73)	
B. Math															
New vs. Traditional															
Black															
1st gen	-1.01	(-6.37 4.36)		-0.13	(-4.66 4.40)		-0.17	(-4.19 3.85)		-0.50	(-4.22 3.22)		-0.30	(-3.99 3.40)	
2nd gen	-5.63	(-11.06 -.21)	*	-5.80	(-10.83 -.75)	*	-6.68	(-11.96 -1.41)	*	-7.58	(-12.88 -2.28)	**	-7.43	(-12.81 -2.05)	**
3rd gen	-0.18	(-1.56 1.21)		-0.28	(-1.65 1.10)		-0.62	(-1.94 .70)		-1.18	(-2.48 .13)	†	-1.08	(-2.40 .25)	
Asian															
1st gen	-1.91	(-4.61 .80)		-1.67	(-4.36 1.02)		-2.63	(-5.16 -.10)	*	-3.37	(-5.83 .90)	**	-3.22	(-5.66 -.77)	*
2nd gen	-1.48	(-4.71 1.75)		-1.02	(-4.29 2.25)		-0.11	(-2.75 2.53)		-0.82	(-3.41 1.77)		-0.70	(-3.25 1.85)	
3rd gen	5.63	(-.65 11.91)	†	5.34	(-1.00 11.68)	†	4.60	(-2.01 11.20)		3.85	(-2.61 10.30)		4.08	(-2.44 10.60)	

N=13780 (rounded to the nearest 10 as required by NCES)

Notes: ¹ Indicates marginal effect is statistically different from the marginal effect in traditional immigrant states: † p<.10, * p<.05, **p<.01, ***p<.001

Each model includes all three-way interactions between each race, immigrant generation, and the new immigrant destination dummy. Due to the small sample in the other destination category, I did not interact other destination but instead include it as a control. Each model also includes the same controls as the corresponding model in table 4 and the interaction effects for the dummy variable indicating missing generational status.