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The Decade of Immigrant Dispersion and Growth: A Cohort Analysis of Children of Immigrants' Educational Experiences 1990-2002

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Abstract

The 1990s marked the beginning of a new era of immigration in terms of volume and dispersed settlement patterns but also witnessed significant changes in the political and economic contexts confronting new immigrants. Many of these changes could have significant repercussions for the academic adaptation of immigrant youth—a key indicator of long-term immigrant incorporation. Previous research suggests that children of immigrants are faring better in US schools, as evidenced by a decrease in the high school dropout rate. We examine whether the children of immigrants in US schools are actually performing better academically and whether schools are doing a better job at educating children of immigrants compared to previous cohorts. Using the National Educational Longitudinal Study conducted in 1988 (NELS: 88) and the Educational Longitudinal Study conducted in 2002 (ELS: 2002), we use multivariate analysis and school fixed effect models to examine how reading and math test scores of children of immigrants changed during the 1990s. We found that reading and math scores were lower for 1st and 2nd generation youth in 2002 than in 1990 in part because these youth were more likely to be of minority status and had fewer family and school resources. The school fixed effect models indicate that schools are struggling to educate a more geographically dispersed young immigrant population, but that the decline in achievement stems from broader social forces as well.

Keywords: Children of Immigrants, Education, Assimilation, Achievement

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Beginning in the 1990s, US immigration trends changed dramatically both in terms of size and geographic dispersion. Approximately 16 million immigrants entered the US during the 1990s, a significant increase from the previous two decades (10 million in 1980 and 7 million in 1970) and the highest in the nation's history (Capps et al. 2005). Changing the geography of immigrant settlement, many of these immigrants and their families moved to new metropolitan areas and rural locations throughout the West, Southeast, and Midwest (Fortuny et al. 2009; Massey 2008; Singer 2004). By 2006, more than one in five children across the nation had at least on foreign-born parent, and in 29 states more than 10% of the total child population had one-foreign born parent (Fortuny et al. 2009).

The extent to which these immigrant youth are able to succeed in the US school system will determine their future economic and social opportunities (Heckman, Stixrud and Urzua 2006) and shape the path of immigrant incorporation in the US for generations to come (Portes and Rumbaut 2001). Classical immigration theory (Gordon 1964) emphasized education as the key variable determining the upward trajectory of children of immigrants. The segmented assimilation framework (Portes and Rumbaut 2001) still sees education as crucial to assimilation, but argues that due to a combination of differences in government reception of immigrants, different family resources, and different school and neighborhood contexts, not all immigrant groups can be expected to have equal assimilation outcomes in areas such as education. Understanding how the children of immigrants are doing in school is thus crucial to inform heated policy debates on the desired size and type of immigrants entering the US as well as policies thought to affect educational attainment in general, such as neighborhood segregation and school funding.

Hence, in this paper, we focus on factors that help or hinder the educational attainment of recent immigrants, thereby contributing important descriptive data to ongoing debates about immigration policy and immigrant assimilation. We focus on changes during the 1990s because this decade marked the beginning of a new era of immigration in terms of volume and settlement patterns but also witnessed significant changes in the political and economic contexts confronting new arrivals. For example, how has geographical dispersion of new immigrants since 1990 to places in the Southeast and West that either have fewer resources in schools or simply are not used to dealing with immigrant children impacted the educational attainment of those children? Do more recent immigrant families, in particular the increasing number of Asian and Hispanic families, have fewer resources to pass on to their children to help their education than previous immigrants? Has the rise in immigration created segregated neighborhoods that negatively impact the educational attainment of children living in those neighborhoods? How has the increase in unauthorized immigrants since 1990 impacted educational attainment of children of immigrants? Did the economic upswing of the 1990s lift the children of immigrants through expanded economic resources in their families? How has the rise in anti-immigrant sentiment and the adoption of restrictive immigrant policies affected children of immigrants?

Part of the reason for the current impasse on immigration policy is due to debates about the relative importance of the quality of resources immigrants bring with them and the political and economic conditions shaping the outcomes and assimilation of children of immigrants. Like other important work, such as Fry (2007), Glick and White (2003) and Bean and Stevens (2003), that looked at population-level data to contribute to these heated debates, our paper analyzes national-level educational data at two time-points to try to establish more clearly what has happened with regards to the educational attainment of children of immigrants.

Our study thus advances beyond current research on children of immigrants in US schools, which has thus far produced mixed results. In his assessment of educational trends during the 1990s, Fry (2007) found that foreign-born teens had lower high school dropout rates in 2000 than 1990, but that they were also more likely to be classified as limited English proficient (LEP). Thus, while immigrant youth may be more likely to stay in school, they may not be acquiring the basic skills associated with improved educational prospects and labor market outcomes (Bleakley and Chin 2004). Other research on the Asian-White test score gap further suggests that immigrant youth are not faring better in US schools. Galindo and Pong (2011) found that between 1990 and 2002 the 10th grade math test scores of Asians, particularly those with foreign-born parents, decreased in comparison to the test scores of non-Latino white youth born in the US to US born parents (i.e. 3rd generation or higher). Consequently, by 2002 Asian youth who have been promoted as the "model minority" were no longer academically outperforming their non-Latino white counterparts.

This study builds on prior research by examining whether immigrant youth across all ethnic/racial groups enrolled in US schools are faring better than previous cohorts in terms of academic achievement in both reading and math. Moreover, by including school characteristics and school fixed effects, our study is the first to examine whether US schools are more effectively educating immigrant youth. Taking advantage of the coincidental timing of data collection for the National Educational Longitudinal Study conducted in 1988 (NELS: 88) and the Educational Longitudinal Study conducted in 2002 (ELS:2002), we address the following research questions: 1) How did the academic achievement of 1st, 2nd, and 3rd generation immigrants change during the 1990s? 2) How did changes in socio-demographic, family, school, and neighborhood characteristics contribute to differing cohort achievement patterns? To answer

these questions, we examine math and reading test scores of 10th grade youth because early high school performance is a strong determinant of high school completion (Driscoll 1999).

The Role of Selection and Context across Immigrant Cohorts

Studies that compare immigrants over time focus on two main factors to explain observed differences across cohorts. The first is change in immigrant selectivity that stems from the fact that later waves of immigrants are likely to have lower levels of education and job skills than earlier waves (Borjas 1995). According to network migration theories (Bean and Stevens 2003), this reduction in immigrant 'selectivity' reflects the dynamic nature of migration streams. In the beginning, migration streams are headed by the more ambitious, risk-taking immigrant pioneers who have the resolve to establish a new life for themselves in a foreign-land and by doing so establish support systems that reduce the costs (economic and psychological) of future migration. Once a critical mass of immigrants develops and social networks expand, the flow of migrants increases and the selectivity of migrants decreases.

While not negating the importance of immigrant selection, the second explanation focuses more on the context of reception and how economic and political conditions shape the opportunity structure once immigrants arrive to the US. According to this perspective, the economic and social barriers (particularly ethnic/racial discrimination) immigrants encounter in the US limit their ability to capitalize on their own resources and the support systems of their ethnic community (Portes and Rumbaut 2001).

The few studies that have examined cohort changes in the educational outcomes of children of immigrants provide support for both of these explanations. Examining baseline test scores and the trajectory of achievement of immigrant youth in 1980 and 1990, Glick and White (2003) found that while the starting point of immigrant youth may differ across points in time,

their trajectory of achievement is shaped more by structural measures, particularly ethnic/racial status, that reflect the broader social context they encounter. Thus, while variation in immigrant selectivity may create an initial advantage or disadvantage for different waves of immigrants, Glick and White's results suggest that these different waves will become more similar over time and reflect broader ethnic/racial trends in achievement rather than immigrant trends per se.

The work by Galindo and Pong (2011) on the Asian-White achievement gap, however, suggests that changes in immigrant selectivity during the 1990s may be markedly different from previous cohorts and result in new patterns of immigrant achievement. The authors caution that the decline in Asian immigrant achievement (compared to whites) they observed may worsen as the Asian immigrant population grows more diverse. Adding to this concern, Fry's (2007) research suggests that though immigrant youth were less likely to drop out of high school in 2000 than in 1990, they did not experience the same decline in the likelihood of dropping out as their native peers. Moreover, his results suggest that during this decade schools have been less effective at promoting English language proficiency among immigrant youth.

The unprecedented changes in both the social environment and background characteristics of immigrants that occurred during the 1990s could have significant repercussions for the academic adaptation of immigrant youth. While our paper will not be able to resolve the debate between immigrant context and selection, we provide evidence on how both of these factors have changed during the 1990s and the educational implications of these changes.

The 1990s: A Decade of Change

The economic boom of the 1990s and the accompanying growth and dispersion of the immigrant population have both positive and negative implications for the social environment shaping children of immigrant's educational experience. On the one hand, the economic gains

immigrant families made during the 1990s most likely advanced the academic achievement of children of immigrants. Examining poverty trends among children of immigrants, Van Hook, Brown and Kwenda (2004) found that while poverty rates had been increasing since the 1970s they peaked between 1997 and 1998 and by 2000 had declined to levels lower than in 1990. They also found that parental work effort was higher in 2000 than in 1990, a factor that likely contributed to observed gains in household median income among immigrant households. In fact, between 1994 and 2000 median family income grew faster among immigrant households than native households with a percent change of 26.3% compared to 13.1% (Chapman and Bernstein 2003). Extant research has shown that familial economic resources are strongly associated with children's academic well-being (Sirin 2005).

On the other hand, the growth and dispersion of immigrant families during the 1990s created significant challenges for the US educational system that may have hindered achievement. Between 1990 and 2000, the size of the children of immigrant population grew from 13% of all public school children to over 20% (Passel 2011). As a consequence, US schools have been overwhelmed by the dramatic influx of a minority population with limited English fluency, few economic resources, and varying educational backgrounds (Van Hook and Fix 2000). Moreover, extant research indicates that many schools and educational services, particularly those in new settlement states, lack the infrastructure, social resources, and institutional support systems that promote the academic adaptation of immigrant youth (Capps et al. 2005; Consentino de Cohen, Deterding, and Clewell 2005; Gozdziak and Martin 2005; Massey 2008; Perreira, Chapman and Levis-Stein 2006).

Adding to these educational challenges, the political backlash that arose in response to the extraordinary growth in immigration during the 1990s may have also hindered academic

achievement. Responding to anti-immigrant sentiment, federal, state and local policymakers have adopted exclusionary policies that limit immigrants' rights. Among the more notable policies, the Federal government in 1996 severely restricted the economic and educational resources of immigrant families by: 1) excluding legal noncitizen immigrants (i.e. green card holders) from receiving federally-funded safety net programs (under the Personal Responsibility and Work Opportunity Reconciliation Act; Fix and Passel 2002); and 2) prohibiting states from providing in-state resident tuition benefits to undocumented immigrants (under the Illegal Immigration Reform and Immigrant Responsibility Act; Rhymer 2005). Research suggests both of these provisions increased immigrant youths' risk for school failure by reducing familial resources (Kalil and Crosby 2010; Borjas 2004; Van Hook and Balistreri 2006) and discouraging post-secondary enrollment (Flores 2009; Kaushal 2008). Moreover, these studies suggest that the negative effects of these policies were not limited to undocumented and non-citizen immigrants but had spillover effects on all children of immigrants.

The Changing Characteristics of Immigrants

In addition to learning to adapt to a growing immigrant population, schools in the 1990s were also challenged with educating a changing immigrant citizenry. The composition of immigrants and familial resources of immigrant families in 2000 were distinct from that in 1990. Some of these changes are positively associated with achievement, but the majority of the changes create additional educational challenges.

On the positive side, immigrant youth in 2000 compared to the previous decade benefited from some higher socio-economic indicators, including improved English language ability, higher income, and smaller family size (Fry 2007; Van Hook, Brown, and Kwenda 2004). The strong influence families, both immigrant and nonimmigrant, have over their children's

educational aspirations and achievement is well documented (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). 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).

There is mixed evidence, however, as to whether parental education, a key aspect of SES was higher or lower in 2000. In his assessment of foreign-born teens (15-17 years old), Fry (2007) found that more foreign-born heads of households had a high school degree and had completed some college in 2000 than in 1990. When examining both foreign- and US-born children of immigrants, however, Van Hook, Brown and Kwenda (2004) found that parental education was lower in 2000 than 1990. Given the strong influence of parental education, lower levels of parental education in 2000 (if that occurred) may offset the other socio-economic gains immigrant families made since 1990. Moreover, the growth in single-parent households during the 1990s may further offset SES gains (Van Hook, Brown and Kwenda 2004; NCES 2006).

Another notable change during the 1990s was the growth of the minority population driven by immigrant youth who were more likely to be of minority status than non-immigrant youth (Passel 2011). This growth was especially pronounced among Latinos and Asians the vast majority of whom (60% and 85%, respectively) are children of immigrants (Passel 2011). Extant research has found significant variation in achievement patterns across racial/ethnic groups. Of

all ethnic groups, Asian American immigrants (with notable exceptions such as Cambodians and Laotians) perform the best academically on multiple educational outcomes (e.g., grades, test scores, high school completion rates, and college enrollment levels) while Latino immigrants, especially Mexicans and Puerto Ricans, perform the worst (Glick and White 2004; Kao and Thompson 2003; Kao and Tienda 1998; Keller and Tillman 2008; Perreira, Harris and Lee 2006; Rumbaut 1999) and white and black immigrant youth fall somewhere in between (Kao and Tienda 1998; Keller and Tillman 2008; Perreira, Harris and Lee 2006). Given Glick and White's (2003) findings that immigrant youth's educational achievement is shaped more by discrimination barriers associated with their ethnic/racial background than immigration status, this rise in the minority immigrant population may significantly influence cohort achievement patterns.

A particularly challenging (but often un-measurable) compositional change in immigration between 1990 and 2000 was the rise in the share of immigrants who were unauthorized. By the late 1990s, more unauthorized migrants entered the US each year than legal immigrants, which resulted in a larger share of unauthorized immigrant youth and youth living in mixed status families (Passel 2011; Passel and Suro 2005). By 2009, unauthorized youth and youth living in mixed status families made up about 6.9% of the total child population and 30% of the immigrant youth population (Passel 2011). Unauthorized children and children living in mixed status families face several significant educational challenges, including high rates of poverty (40% compared to 17% of US born children; Gonzales 2009), full or partial (i.e. only some family members qualify) exclusion from vital social services and education programs, and the potential deportation of family members (Suàrez-Orozco et al. 2011). The educational challenges associated with being unauthorized or living in a mixed status family should be most

apparent among Latinos, who make up approximately 80% of the unauthorized population (Passel 2011).

Changes in School and Neighborhood Context

As the national landscape and immigrant population have changed, so have the nation's schools and neighborhoods. In an era of both record high immigration flows and school re-segregation levels, there is significant concern that schools will be able to successfully foster the academic adaptation of immigrant 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; Murray, Batalova and Fix 2000; Van Hook and Fix 2000). Segregation literature indicates that the lower school quality—measured by poverty rates, school resources, and teacher characteristics—at segregated schools and their concentration of disadvantaged students and prevalence of negative teacher perceptions detracts from students' aspirations and achievement (Hanushek, Kain and Rivkin 2009; Mickleson 2006; Orfield and Lee 2005). Thus, to assess whether our nation's schools have made progress on educating children of immigrants, this paper examines how the composition and resources (measured by school quality proxies and school fixed effects) of the schools immigrant youth attend changed during the 1990s and the implications of these changes for test scores.

We also examine the educational implications of any changes that may have occurred in the types of neighborhoods where immigrant youth live. 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).

Study Design

Data and Sample

This analysis utilizes data from the first follow-up of the National Educational Longitudinal Study of 1988 (NELS:88) and from the base year of the Educational Longitudinal study of 2002 (ELS:2002) both of which are sponsored by the National Center for Education Statistics (NCES) of the US Department of Education. For the NELS:88 survey, data were collected on a cohort of approximately 25,000 eighth graders from a sample of 1,052 schools beginning in the spring of 1988 with follow-ups conducted in 1990, 1992, 1994, and 2000 (NCES 2002). In the 1990 follow-up, NCES freshened the sample by adding new respondents to ensure that the sample was nationally representative of all 10^{th} graders. To compare the sophomore cohorts of NELS:88 and ELS:2002, we follow the practice of other researchers by using the freshened sample of NELS:88 and eliminating base-year respondents who were no longer in school (or had no valid school id) or were not in 10^{th} grade in 1990 (Glick and White 2003; Goyette 2008).

For ELS:2002, which was designed to allow cross-cohort comparisons with NELS:88 (and other NCES datasets), data were collected on a cohort of over 15,000 tenth graders from a sample of 750 schools beginning in the spring of 2002 with follow-ups conducted in 2004 and 2006. Though there are differences across the two studies, NCES and other researchers have concluded that the similarities in the question wording and sampling strategies allow the two studies to be used for cross-cohort comparisons (Dumais 2009; Goyette 2008; NCES 2005). A main difference between the two datasets is that missing data have been statistically imputed in ELS:2002 for some variables (e.g., test scores, SES, and race/ethnicity) but not in NELS:88.

Providing rich contextual information, both datasets collected information from students, parents, teachers, and school administrators, and the restricted datasets (for which we have licensed access) can be connected to zip-code level census data (1990 for NELS:88 and 2000 for ELS:2002) to identify neighborhood characteristics. As with most national-level data, the NELS:88 and ELS: 2002 studies do not contain information on neighborhood boundaries. Instead, we 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 sizes and the over-sampling of minority students in both datasets make it possible to adequately assess the influences of ethnic/racial differences and immigrant status among youth in both cohorts.

We include all self-identified non-Latino white, non-Latino black, non-Latino Asian, Latino, and other race (i.e. Native Americans and multi-racial youth) students in the sample (N=16,590[1] in NELS:88; N=15,890 in ELS:2002). No students had missing values on the dependent variables in ELS:2002 because NCES imputed missing test scores as well as some (e.g., SES and race/ethnicity) but not all (e.g., generational status and school variables) of the independent variables used. In contrast, approximately 1,370 students had missing values on one or more of the dependent variables in NELS:88. Thus, to reduce missing observations in both ELS:2002 and NELS:88 and to better match NELS:88 test scores with the NCES imputed ELS:2002 test scores, we correct for missing data on the dependent and independent variables by imputing missing data using multiple imputation by multivariate normal regression (the MVN command in STATA).[2]

Measures

[1] All Ns are rounded to the nearest 10 as required by NCES.
[2] We also ran our final model using complete case analysis (i.e. list-wise deletion for those missing) to ensure consistency in our results with and without imputation and found similar results (available upon request).

Academic Achievement. We use reading and math test scores as our 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). Thus, these measures provide an indication of how schools are faring. Second, math and reading ability are key cognitive indicators that have been shown to affect future labor market outcomes (Farkas 2003). The written and oral communication skills associated with reading tests and the problem solving skills associated with math tests increase productivity in the labor force (Chiswick and Miller 2003; Farkas 2003). For children of immigrants, research has largely focused on reading skills under the assumption that English language ability is directly tied to performance in reading. Recent research, however, suggests that English language ability is as important for performance in math (Beal, Niall and Cohan 2010). Thus, reading and math are both important indicators of children of immigrants' cognitive ability and future labor market potential.

To allow for cross-cohort comparisons, we follow prior research (Glick and White 2003; Goyette 2008) and use standardized test scores.[3] Created by NCES, the standardized test score provides an indicator of achievement relative to the 10th grade population and has a mean value of 50 and standard deviation of 10. Thus, across cohorts we measure the relative performance of groups and not absolute cognitive gains. To interpret the effect sizes of coefficients (or mean differences) one simply divides the coefficient by 10 to calculate the difference as a proportion of a standard deviation. For instance, a coefficient size of three indicates about a quarter of a standard deviation difference in achievement and a coefficient of one indicates a tenth of a standard deviation difference.

[3] While in Math NCES has created a cross-cohort comparison Item Response Theory measure of cognitive achievement, no similar reading measure is available for the 10th grade sample.

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, we include 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, we create five mutually exclusive race/ethnic categories: non-Latino white (reference category), non-Latino black, non-Latino Asian, Latino, and other race. It is important to note that the make-up of the other race category differs slightly between ELS:2002 and NELS:88. Unlike NELS:88, ELS:2002 allowed students to identify as multi-racial. Thus, while the number of youth identifying as multi-racial is small, the other race category in ELS:2002 captures these youth as well as Native Americans. Lastly, we use a three-category classification of generational status: 1st generation (both child and parents were foreign-born), 2nd generation (child was US-born and at least one parent was foreign-born) and 3rd generation and higher (child and both parents were US born).[4]

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, we use the standardized scale of socioeconomic states (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, we measure the student's English language ability[5] by averaging the self-reported scores students gave about their reading,

[4] Due to the small sample size, we were not able to identify the 1.5 generation, which refers to youth who arrived before the age of 6 (Perreira, Harris, and Lee 2006).

[5] While we would have preferred to include an indicator for English is the dominant household language, for NELS this indicator is only reported in 8th grade. Given that household language use is time sensitive, this variable is not

writing, listening, and/or speaking ability on a scale from 1="very well" to 4="not very well." We reverse code the scale so a higher score indicates stronger English language ability and code native English language speakers as 6 (Goldsmith 2003).

To control for differences in family structure, we follow the work of Glick and White (2003) and create 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 size of single-parent fathers is small and because research suggests that single mothers and fathers face similar time constraints and parental pressures (Amato 2005), we combine single parent mothers and fathers into one category. Thus, we have four dummy indicators for family structure: biological parent family (reference group), stepparent family, single parent family, and other family.

School Context. To measure the social context in schools, we include information about the student body and school resources. We tease out the unique influence of class, racial, and linguistic composition in schools. First, we include 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, we include an indicator of the proportion of minority students in the school to assess the influence of racial composition. Lastly, we account for the proportion of students who are limited English proficient (LEP) to measure linguistic composition. Since proportion LEP is highly skewed, we classify 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.,

valid. However, results from ELS indicates that English language ability and household language use in 10th grade are strongly correlated (r=.95).

Common Core Data) provided by NCES.

To measure school quality we use several proxy measures commonly used in the research (Ainsworth 2002; Ferguson 1998; Goldsmith 2003; Krueger 2003). Since students are found to perform better in schools with a smaller student-teacher ratio (Ferguson 1998), we create a control for the number of students per teacher. Additionally, given the varying resources associated with school type, we control for whether the student attended a public or private school. Lastly, we control 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. We measure the social context of neighborhoods by including information on the economic and ethnic/racial make-up of the zip-code in which the student lived and by assessing the neighborhood's experience with immigrant populations.[6] To measure the neighborhood's economic well-being, we include an indicator of the proportion of households living below the poverty level. To measure the influence of ethnic/racial composition, we include 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, we include a measure of the proportion of zip-code residents that were foreign-born (Pong and Hao 2007).

Analytical Approach

To understand how the academic achievement of children of immigrants compared in

[6] We 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). We 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), we excluded them from the analyses.

1990 and 2002, we first estimate 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 between the 1990 and 2002 cohorts for each generation.

In order to examine the association between cohort and student achievement, we use several regression strategies. First, we estimate OLS regression models and include two-way interactions between two sets of dummy variables: immigrant status (1^{st}, 2^{nd}, and 3^{rd} generation) and cohort (1990 and 2002). These interactions allow us to compare how the achievement of 1^{st} generation (and 2^{nd} and 3^{rd} generation) differed between 1990 and 2002. A baseline model that includes only the main effects and interaction variables of the two-way interaction terms indicates the total difference in cohort achievement for each generation. We then subsequently add 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 contribute to the differing cohort achievement patterns. All models correct for design effects by using sample weights from each cohort and a correction for the clustering of students within their schools (Goyette 2008).[7]

Second, utilizing the final model from the OLS regressions, we use regression decomposition to assess the share of the cohort achievement gap that can be explained by each of the demographic, family, school, and neighborhood constructs. We run the regression decompositions separately for 1^{st} and 2^{nd} generation youth, since we are most interested in children of immigrants. Often referred to as the Oaxaca-Blinder decomposition, regression decomposition is a common technique used in the wage discrimination literature but has been

[7] Because the within-school sample size was sufficiently small (approximately 75% of observations came from high schools with fewer than 25 students) and the intraclass correlations were low ($ICC_{Reading}$=.20; ICC_{Math}=.23) hierarchical linear models were not appropriate (Maas and Hox 2004). Instead, we use robust standard errors, which provide more consistent and more conservative estimates of the covariances of the regression coefficients (Maas and Hox 2004).

applied by education and migration scholars as well. The decomposition technique separates achievement differences into two components: 1) the explained portion which reflects differences in the characteristics of each immigrant generation across cohorts (i.e. mean/level differences), and 2) the unexplained portion which reflects differences in the associations of these characteristics and achievement for each cohort (i.e. coefficient/return differences; Jann 2008). To run the analysis one must choose a set of coefficients to use (e.g. 1990 or 2002). Because there is no compelling argument to use one set of coefficients over another, we follow Elder, Goddeeris, and Haider's (2010) suggestion and use common coefficients estimated from a pooled regression of 1990 and 2002 cohorts with the inclusion of a group specific intercept:

$$\bar{y}^1 - \bar{y}^0 = (\bar{X}^1 - \bar{X}^0)\hat{\beta}^p + \bar{X}^1(\hat{\beta}^1 - \hat{\beta}^p) + \bar{X}^0(\hat{\beta}^p - \hat{\beta}^0)$$

$\hat{\beta}^p$ indicates the coefficient vector produced from the pooled regression. The first term on the right hand side is the explained component and the sum of the next two terms is the unexplained component.

Next, because some of the unexplained portion in the regression decomposition may reflect unobserved consequences of immigrant dispersion during the 1990s, we then use state and school fixed effect models to control for immigrant dispersion to new settlement states and for unobserved heterogeneity in schools. Lastly, we assess how cohort achievement patterns affect different racial/ethnic groups by running three way interactions between three sets of dummy variables: immigrant status, cohort, and racial/ethnic group.

Changes in the Academic Achievement and Educational Resources of Children of Immigrants

Reflecting the demographic shifts of the 1990s, the immigrant population increased from 5.4% to 9.3% for first generation youth (a 71% increase) and from 12.4% to 16.4% for second generation youth (a 32% increase) between the 1990 and 2002 cohorts (Table 1). As children of

immigrants are changing the face of the nation's youth, they appear to be faring worse in the US school system. We find that average test scores in reading and math were lower in 2002 than in 1990 for both 1st (M_{Read02}=44.91 vs. M_{Read90}=48.68; M_{Math02}=46.28 vs. M_{Math90}=50.81) and 2nd (M_{Read02}=48.42 vs. M_{Read90}=49.44; M_{Math02}=48.88 vs. M_{Math90}=50.23) generation youth, though the reduction in math for 2nd generation youth is only marginally significant. In comparison, test scores for 3rd generation youth remained relatively unchanged between 1990 and 2002.

<<Table 1>>

The lower achievement of 1st and 2nd generation youth may be explained by compositional changes of the immigrant population between the two cohorts. Many of these compositional changes, however, also affected 3rd generation youth. For example, all three generations experienced a significant increase in the share of their minority populations. For the 1st generation, the increase in the minority population was driven by growth in the Latino population, which made up about a third (32%) of the first generation population in 1990 but a majority (54%) in 2002. For the second generation, growth was driven by an increase in the share of the black and other race populations.

In terms of family characteristics, fewer youth, no matter their immigrant status, lived with both biological parents in 2002 than in 1990. By 2002, almost a quarter of youth from all generations lived in single-parent families, compared to about 15% in 1990. First generation youth in 2002 also lived in families with fewer economic, educational, and occupational resources than their counterparts in 1990. Familial SES levels declined between 1990 and 2002 for first generation youth (M_{SES90}=-0.24 vs. M_{SES02}=-0.42) but remained stagnant for 2nd generation youth and possibly increased slightly (marginally significant with a p-value of .11) for 3rd generation youth. Lastly, both 2nd and 3rd generation youth demonstrated a stronger English

language background in 2002 than in 1990 ($M_{EngAbil02}$=5.07 vs. $M_{EngAbil90}$=4.33 and $M_{EngAbil02}$=5.94 vs. $M_{EngAbil90}$=5.83, respectively), but there was no change in the English language abilities of first generation youth.

Cohort changes in the characteristics of the schools youth attended and the neighborhoods where they lived largely reflected demographic changes and were most apparent among 2nd and 3rd generation youth. Given the national rise in the minority population, 2nd and 3rd generation youth in 2002 compared to 1990 attended schools with a larger minority population (2nd generation: 54% vs. 48%; 3rd generation: 29% vs. 24%) and lived in neighborhoods with more minorities (2nd generation: 48% vs. 40%; 3rd generation: 25% vs. 20%). While no similar trend increase occurred for 1st generation youth, by 2002 1st generation youth were still more likely to attend schools and live in neighborhoods with a higher minority concentration than either 2nd or 3rd generation youth.

For all generations of youth, our results suggest that overall school quality may have declined between 1990 and 2002. We find that 1st and 3rd generation youth attended schools with a higher teacher-student ratio in 2002 than in 1990, and 2nd generation youth attended schools with a larger share of free and reduced lunch students. Moreover, private school enrollment declined among 1st and 2nd generation youth between 1990 and 2002.

Do Demographic Changes and Changes in Family, School, and Neighborhood Resources Explain the Decline in Student Achievement among Children of Immigrants?

We use multiple regression and two-way interactions to assess the extent to which differences in demographic, family, school and neighborhood characteristics account for observed differences in reading (Table 2) and math (Table 3) test scores between the 1990 and 2002 cohorts across the generations. To interpret the substantive meaning and statistical significance of the interaction terms, we follow Brambor, Clark, and Golder's (2005) guidelines

on multiplicative interaction models. We calculate the marginal effect of X (cohort) on Y (test score) by adding the main effect of X and the interactive effect between X and Z (generational status). We report these marginal effect estimates in Table 4.

<<Table 2, 3, and 4>>

Replicating the descriptive results, the baseline models in reading and math (Table 4; Model 1) indicate that reading and math test scores were lower in 2002 than in 1990 for both 1st (ME_{Read}=-3.54, p<.001; ME_{Math}=-4.13, p<.001) and 2nd (ME_{Read}=-1.08, p<.05; ME_{Math}=-1.50, p<.05) generation youth and no change for 3rd generation youth. Demographic changes (Model 2) across cohorts, particularly the rise in the minority population, account for the entire decline in reading and math achievement among 2nd generation youth and some of the decline among 1st generation youth. Once we control for the fact that black and other race youth (both of whom have lower achievement than white youth) made up a larger share of the 2nd generation population in 2002 than in 1990, the marginal effect of cohort for 2nd generation youth decreases and is no longer significant in reading and math. Similarly we find that demographic characteristics (particularly the rise in the Latino population) accounts for about 32% [(3.54-2.39)/3.54*100] and 46% [(4.13-2.23)/4.13*100] of the respective decline in reading and math among 1st generation youth.

Conversely, we find that the rise in the minority population masked achievement gains among the 3rd generation. Once we account for racial/ethnic composition differences across cohorts, achievement for the 3rd generation youth is slightly higher in 2002 than in 1990 (ME_{Read}=0.71, p<.01; ME_{Math}=.55, p<.05). This achievement advantage decreases but remains relatively robust once we control for cohort differences in family, school, and neighborhood characteristics (Models 3-5).

For 1st and 2nd generation youth we are unable to explain the remaining academic disadvantage (which reappears for 2nd generation youth) across cohorts. We find that changes in family and to lesser extent school characteristics contribute to the achievement gap across cohorts but do not fully explain the gap. For 1st generation youth, the greater familial hardships (e.g., lower SES and more single parent families) observed in 2002 than in 1990 partially contributed to the cohort achievement gap as seen by the decrease in the marginal effect (Model 2 to Model 3) from -2.39 to -2.07 (13%) in reading and -2.23 to -1.90 (15%) in math once we add family characteristics to the model. This cohort achievement gap, however, remains relatively unchanged with the addition of school (Model 4) and neighborhood (Model 5) characteristics.

For 2nd generation youth, we find that the cohort achievement decline reappears once we control for the stronger English language background observed in 2002 than in 1990. The marginal effect of cohort for 2nd generation youth is negative and significant (ME_{Read}=-1.34, $p<.01$; ME_{Math}=-1.29, $p<.05$) in the family model. Part of this decline in achievement reflects changes in the characteristics of the schools 2nd generation youth attended (particularly the increase in the free/reduced lunch composition and attendance at public schools) across the cohorts. Once we control for school characteristics, the cohort achievement gap declines by 21% [(1.34-1.11)/1.34*100] in reading and 29% [(1.29-1.00)/1.29*100] in math, but remains sizeable (about a tenth of a standard deviation) and robust to neighborhood controls.

Decomposing the Relative Role of Family, School, and Neighborhood Context

Now that we have examined which mediating factors contribute to the overall difference in achievement across cohorts, we use regression decomposition to identify the share of the gap explained by each of these factors. For this assessment, we focus on 1st and 2nd generation youth,

and provide the total share of the difference explained by each of the main constructs as well as the specific measures within these constructs.

<<Table 5 Here>>

For 1st generation youth, the results indicate that differences in demographics and family resources explain the largest share of the cohort achievement gap, but that the relative importance of each of these constructs differs for reading and math (Table 5). In reading, changes in family characteristics account for the largest share of the decline in test scores between 1990 and 2002, while changes in demographic characteristics account for the largest share of the decline in math. If 1st generation youth in 2002 had the same family resources as those in 1990 their test scores would have been 28.71% higher in reading and 18.12% higher in math. Similarly, if they had the same demographic characteristics in 2002 as in 1990 their test scores would have been 10.74% higher in reading and 33.17% higher in math.

For 2nd generation youth, there is no dominant compositional change that explains the decrease in achievement from 1990 to 2002. Overall, changes in the demographic composition between cohorts accounts for about a tenth of the decline in both reading and math. In math, however, changes in family and school composition each account for a similar share of the decline (about 10%) as well. For reading, changes in family composition between 1990 and 2002 have been both beneficial and detrimental. For example, if 2nd generation youth in 2002 had the same family structure as their peers in 1990, their test scores would have been 5.4% higher in reading, but if they had the same English language background, their test scores would have been 9.2% lower. Consequently, the overall net effect of family composition changes across the cohorts is small.

For both 1st and 2nd generation youth, a relatively large share of the achievement gap

across cohorts remains unexplained. Changes in mean characteristics explain about half (46% in reading and 59% in math) of total decline in achievement for 1st generation youth and between two-thirds and three-quarters (64% in reading and 75% in math) of the decline for 2nd generation youth. The remainder of the achievement gap (ranging from 54% to 11%) is unexplained and may reflect changes in the rates of return (i.e. coefficient effects) of these different resources.

Does Geographic Dispersion Across States and Schools Explain the Decline in Achievement among Children of Immigrants?

The unexplained portion of the achievement gap may also reflect unobserved differences in immigrant settlement patterns across cohorts. As noted, children of immigrants lived in different states in 2002 than in 1990 and the schools in newer areas of immigrant settlement were challenged with educating children of immigrants for the first time. To assess how this dispersion affected children of immigrants we add state and school fixed effects to the final model (Table 2 and 3 Model 5). The state fixed effect model controls for stagnant state-level resources and policies associated with immigrant education, while the school fixed effect model controls for unobserved resources at the school level and any district or state-level resources or policies affecting the school. Because school fixed effects are perfectly collinear with year (each school was observed once either in 1990 or 2002) we cannot estimate year, but we can interact year with variables that change within schools (e.g., immigrant status; Wooldridge 2003). Thus, while we cannot determine how overall achievement differed in 2002 and 1990 (i.e. the main effect of year), we can determine whether achievement for 1st and 2nd generation youth differed in 2002 and 1990 (i.e. the interactive effect). In other words, we can compare the partial effects of the interaction.

<<Table 6>>

The results (Table 6) indicate that dispersion to new growth states and schools explains

only a small portion of the remaining decrease in achievement observed among children of immigrants. For example, in reading the negative effect of the interaction term between cohort and 1st generation immigrant from Model 5 in Table 2 (b=-2.42, p<.001) remains significant and relatively unchanged with the addition of state fixed effects (Table 6 Model 6; b=-2.46, p<.001). With the addition of school fixed effects, however, the coefficient on this interaction term decreases slightly to -1.94 but remains significant (Table 6 Model 7). Similar results are found in math and for 2nd generation immigrants.

Is there Variation in Achievement Trends for Children of Immigrants across Ethnic/Racial Groups?

Lastly, we assess whether achievement trends among immigrant generations are heterogeneous across race/ethnicity by including three-way interactions between cohort, immigrant status, and race to the OLS regression models (Models 1-5). Because the cell sizes for some of the ethnic/racial groups were small we combined 1st and 2nd generation youth into one category for black and white youth. Thus, the three-way interaction for these groups compare 1st and 2nd generation youth (i.e. children of immigrants) to 3rd generation youth (i.e. children of natives). For the other race category we only included the main effect and did not examine interactive effects. For ease of interpretation, we present the marginal effects (not coefficients) using an adjusted version of the multiplicative interaction term equation noted above.

<<Table 7>>

The results (Table 7) provide some evidence that the decline in reading and math test scores is driven more by race/ethnicity than generational status. Both Latino and black youth, no matter their generational status, had lower reading and math scores in 2002 than in 1990 (though the decline for Blacks is often only marginally significant). For Asian and white youth, the test scores of 1st and 2nd generation youth remained stagnant over this time period, while test scores

for 3rd generation youth increased slightly. Thus, Asian and white children of immigrants experienced a relative (compared to children of natives) but not absolute decline in achievement.

Discussion

The unprecedented flow and dispersion of international migrants during the 1990s creates significant challenges for the US educational system learning to adapt to a changing student body. Given the growth and changes in the character of immigration, the educational experiences and resources of children of immigrants are likely to diverge from that of previous decades. While previous research on high school dropout behavior suggests that children of immigrants, particularly foreign-born teens, may be faring better in US schools (Fry 2007), our research suggests a less optimistic outlook.

Our study examined how the academic achievement of children of immigrants enrolled in US schools has changed since the 1990s. We found that 10th grade test scores in both reading and math were markedly lower among 1st and 2nd generation youth in 1990 than in 2002. This overall decline in achievement remained relatively robust to changes in demographics, family, school, and neighborhood characteristics. In contrast, test scores (particularly in reading) of 3rd generation youth increased slightly during this same time period once we adjusted for the rise in the minority population.

So why aren't children of immigrants faring better in US schools like their children of native (i.e. 3rd generation) counterparts? Part of the challenge is that schools are educating a different population in general. We found that the share of the minority population increased among all generations and that achievement among minority youth lagged behind their white peers, with the exception of Asian youth in math (but not reading). These results align with current research on the minority achievement gap (Kao and Thompson 2003) and highlight the

policy significance of closing the minority achievement gap, especially in an era when the minority will become the majority.

In addition to key demographic changes, the families of children of immigrants in 2002 had different resources than immigrant families in 1990. Some of these resource changes differed for 1st and 2nd generation youth. While the English language skills of 2nd generation youth were stronger in 2002 than in 1990, this human capital advancement was limited by other familial changes. Children of immigrants are known to benefit from a strong family structure and the support systems associated with living with both biological parents (Landale, Thomas and Van Hook 2011). This family support system, however, declined during the 1990s for all generations following national trends that witnessed a rise in single-parent families. For 1st generation youth, who also experienced a decline in familial socio-economic resources, the loss of family supports was even greater. Overall, these familial resources were important predictors of academic achievement, and cohort changes in these resources explained a portion (10%-30%) of the decline in reading and math for 1st and 2nd generation youth.

Changes in the composition and resources of schools and neighborhoods did not explain the achievement decline among 1st generation youth and had a small effect on 2nd generation youth (in math). While previous research suggests that minority and immigrant youth are increasingly attending more economically, linguistically, and racially/ethnically isolated schools (Orfield and Lee 2005), we found that these changes only affected 2nd generation youth. For all generations, we found evidence that school quality as measured by several proxy measures (student-teacher ratio and public vs. private) declined across the cohorts. Though troubling, these school quality and compositional changes only explained a small portion (about 10%) of the decline in math achievement for 2nd generation youth. In terms of neighborhood conditions, we

found little change in the composition of the neighborhoods where children of immigrants reside.

We found some evidence that the geographic dispersion of immigrants to new destinations, particularly new destination schools, may have hindered the achievement of children of immigrants during the 1990s. Our results from the school fixed effect models, which controlled for unobserved heterogeneity in schools, suggest that changes in the schools attended by children of immigrants explained a small portion of the observed decline in achievement. Thus, while dispersion to new states may not have had a direct effect on the achievement of children of immigrants (as suggested by the state fixed effect models which did not explain the achievement decline), the associated dispersion to new schools may have hindered achievement. Though our models cannot distinguish between unobserved school heterogeneity related to immigrant dispersion and differences in general, current research indicates that schools in new immigrant destinations lack the resources and expertise to support the needs of their first cohorts of children of immigrants (Gozdziak and Martin 2005; Massey 2008; Perreira, Chapman and Levis-Stein 2006; Wainer 2006). Our results are likely to reflect some of those challenges.

Nonetheless, despite controlling for key changes in demographic, family, school, and neighborhood characteristics, we still find that 1st and 2nd generation youth had lower test scores in math and reading in 2002 than in 1990. This decline in test scores, however, varied across ethnic/racial groups and was most notable among Latino and black youth. Test scores of Latino and black youth, no matter their generational status, declined across the cohorts, while test scores of white and Asian immigrant youth remained stagnant. It is important to note, however, that white and Asian immigrant youth experienced a relative decline in test scores because test scores of their 3rd generation ethnic peers increased during this time period.

These ethnic/racial results suggest that the rise of the unauthorized population and mixed

status families does not likely explain the decline (at least not all of the decline) in achievement among children of immigrants. While the decline was most notable among the group most likely to be undocumented or live in a mixed status family (i.e. 1st and 2nd generation Latinos), the observed decline for other groups (i.e. 3rd generation Latinos and black youth) suggests that other factors are at play.

Instead, the ethnic/racial results align with Glick and White's (2003) prior research that emphasizes the relative importance of ethnic/racial background over immigrant generational status. Their study suggests that declines in immigrant student achievement are tied more to ethnic background and the challenges of racial/ethnic inequality than to nativity status and the migration process. Our results re-emphasize the importance of ethnic/racial background and warrant concern that Latino and black youth, the two most 'racialized' disadvantaged minority groups (Bean and Stevens 2003), are becoming even more disadvantaged over time.

Despite these ethnic/racial differences, however, we still find evidence to suggest that achievement declined (relatively or absolutely) for children of immigrants in general. Declines were greater among 1st and 2nd generation black and Latino youth than their 3rd generation peers, and 1st and 2nd generation Asian and white youth experienced a relative decline in achievement compared to their 3rd generation peers. One possible explanation for the decline in achievement is that academic achievement may be more heterogeneous, given that more children of immigrants who would have dropped out of school in previous cohorts are now staying in school (Fry 2007). Thus, while there is optimism that children of immigrants are more likely to stay in school (as suggested by other research), schools may now need to develop better support systems to help those youth succeed academically.

The remaining decline in achievement may also stem from unobserved differences in

immigrant selectivity and context of reception. As suggested by Galindo and Pong (2011), the 'selectivity' of migrants in 2002 may be lower as migration streams expand and attract a more diverse group of immigrants. Upon arrival, though, research suggests that the broader economic and political context in the US in the 2000s compared to the previous decades may make it more difficult for these children of immigrants to succeed academically. Compared to previous decades, immigrant families in the 2000s must work longer hours, acquire more educational skills, and spend more time in the US in order to prevent their families from falling into poverty (Van Hook, Brown, and Kwenda 2004). At the same time, they have fewer state and federal safety net support systems to aid them in this effort (Massey and Bartley 2005). These added familial challenges are likely to limit the extent to which immigrant parents can invest in their child's education.

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—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:2002 and NELS:88. Thus, we identify important associations that need to be further evaluated using longitudinal data. Additionally, while we are able to examine broad ethnic/racial differences among children of immigrants 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 the growth and dispersion of immigrant youth in the 1990s affected the academic achievement of the different subgroups of Asians (e.g., Chinese, Filipino, etc.) and Latinos (e.g., Mexican, Cuban, etc.). Lastly, given that English language skills are strongly related to math and reading achievement (Beal, Niall and Cohan 2010), future research

should examine changes in immigrants' English language acquisition across cohorts. This research should focus on the role of schools given that schools (under No Child Left Behind) are now held directly accountable for immigrant youth's English language acquisition skills.

Overall, this study highlights that US schools are challenged with educating a growing minority immigrant population that faces more familial (i.e. growth in single parent families) and economic (i.e. lower SES) stressors today than in decades past. Moreover, these familial stressors are compounded by the economic and racial isolation of the schools some children of immigrants attend. In order to develop effective educational policies for immigrant youth, policymakers need to recognize that not only has the children of immigrant population grown and dispersed to new areas but that the characteristics of children of immigrants are changing as well. The past policy lessons and experiences from previous decades may be less applicable today because the background characteristics of immigrants as well as the social environment has changed.

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Table 1: Weighted Characteristics of High School Sophomore in 1990 and 2002 by Immigrant Status

	Full Sample			1st Generation			2nd Generation			3rd Generation		
	1990	2002	Diff[1]	1990	2002	Diff[1]	1990	2002	Diff[1]	1990	2002	Diff[1]
Test Score												
Reading	50.52	50.02	*	48.68	44.91	***	49.44	48.42	†	50.74	50.78	
	(9.89)	(10.00)		(10.19)	(10.01)		(10.25)	(9.92)		(9.82)	(9.84)	
Math	50.75	50.02	**	50.81	46.28	***	50.23	48.88	*	50.81	50.57	
	(9.92)	(10.00)		(10.62)	(10.63)		(10.31)	(10.14)		(9.84)	(9.82)	
Demographics												
Immigrant Status												
1st generation	0.04	0.07	***	--	--		--	--		--	--	
2nd generation	0.11	0.14	***	--	--		--	--		--	--	
3rd generation	0.86	0.79	***	--	--		--	--		--	--	
Female	0.50	0.50		0.50	0.53		0.50	0.47		0.50	0.50	
Age	16.12	16.18	***	16.29	16.28		16.09	16.11		16.12	16.18	***
	(.54)	(.57)		(.63)	(.80)		(.54)	(.58)		(.54)	(.54)	
Race												
White (ref.)	0.74	0.66	***	0.15	0.16		0.37	0.30	***	0.81	0.77	***
Black	0.12	0.14	*	0.06	0.07		0.05	0.08	**	0.13	0.16	**
Asian	0.04	0.04		0.47	0.23	***	0.15	0.14		0.01	0.01	†
Latino	0.10	0.16	***	0.32	0.54	****	0.43	0.48		0.05	0.07	*
Other race	0.02	0.05	***	0.01	0.03	**	0.02	0.07	***	0.02	0.05	***
Family Characteristics												
SES	0.00	-0.01		-0.24	-0.42	*	-0.17	-0.17		0.03	0.06	
	(.77)	(.72)		(.93)	(.82)		(.89)	(.78)		(.75)	(.68)	
Family Stucture												
Biological parent family (ref.)	0.69	0.57	***	0.76	0.60	***	0.78	0.59	***	0.67	0.56	***
Stepparent family	0.14	0.17	***	0.09	0.14	**	0.07	0.15	***	0.15	0.17	***
Single parent	0.17	0.24	***	0.15	0.22	**	0.15	0.22	**	0.17	0.24	***
Other family	0.01	0.03	***	0.01	0.04	***	0.00	0.03	***	0.01	0.03	***
English language ability	5.60	5.66	*	3.92	3.83		4.33	5.07	***	5.83	5.94	***
	(.88)	(.87)		(.95)	(1.11)		(1.08)	(1.16)		(.59)	(.39)	
School Characteristics												
Prop. free/reduced lunch	0.19	0.22	*	0.28	0.32		0.23	0.28	*	0.18	0.20	
	(.21)	(.20)		(.27)	(.24)		(.25)	(.22)		(.20)	(.18)	
Prop. minority	0.28	0.35	***	0.56	0.59		0.48	0.54	†	0.24	0.29	**
	(.31)	(.31)		(.34)	(.30)		(.36)	(.32)		(.29)	(.28)	
Prop. LEP population--low (ref.)	0.32	0.34		0.07	0.09		0.12	0.18	*	0.36	0.39	
Prop. LEP population--mid	0.52	0.49		0.39	0.42		0.47	0.44		0.53	0.51	
Prop. LEP population--high	0.16	0.17		0.53	0.49		0.41	0.38		0.12	0.10	
Student-teacher ratio	16.29	17.16	***	18.19	19.00	†	17.88	18.68		16.01	16.71	**
	(4.76)	(4.59)		(4.49)	(4.40)		(6.36)	(4.52)		(4.47)	(4.52)	
Urbanicity												
Urban	0.27	0.30		0.45	0.49		0.46	0.41		0.24	0.26	
Rural	0.32	0.20	***	0.12	0.07		0.15	0.09		0.35	0.23	***
Suburban	0.41	0.50	**	0.43	0.44		0.39	0.50	*	0.41	0.51	**
Public (vs. private)	0.91	0.92		0.90	0.95	*	0.86	0.93	**	0.91	0.92	
Neighborhood Characteristics												
Prop. zipcode in poverty	0.13	0.12	*	0.16	0.16		0.15	0.14		0.13	0.11	***
	(.10)	(.09)		(.13)	(.10)		(.11)	(.10)		(.10)	(.08)	
Prop. zipcode is minority	0.23	0.31	***	0.47	0.53		0.40	0.48	**	0.20	0.25	***
	(.27)	(.28)		(.31)	(.29)		(.32)	(.31)		(.24)	(.25)	
Prop. zipcode is foreign-born	0.07	0.10	***	0.23	0.25		0.19	0.21		0.05	0.07	***
	(.11)	(.12)		(.17)	(.17)		(.15)	(.15)		(.07)	(.08)	
N[2]=	16590	15890		900	1470		2060	2610		13630	11820	

[1] Chi-square tests for proportions and T-tests for means were used to calculate statistical significance of cohort differences: † p<.10, * p<.05, **p<.01, ***p<.001

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

Table 2. OLS Regression of Reading Test Scores for High School Sophomores by Immigrant Status, 1990 and 2002 (Data Weighted)

	Model 1 Baseline			Model 2 Demog.			Model 3 Family			Model 4 School			Model 5 Full		
	b	(SE)		b	(SE)		b	(SE)		b	(SE)		b	(SE)	
Main Effects															
2002	0.00	(.25)		0.71	(.22)	**	0.32	(.19)	†	0.36	(.19)	*	0.39	(.19)	*
1st generation	-2.35	(.65)	***	0.03	(.63)		2.16	(.55)	***	2.22	(.55)	***	2.06	(.55)	***
2nd generation	-1.22	(.51)	*	0.77	(.46)	†	1.99	(.39)	***	1.86	(.39)	***	1.74	(.40)	***
Two-Way Interaction															
1st generation*2002	-3.54	(.77)	***	-3.10	(.70)	***	-2.39	(.59)	***	-2.42	(.59)	***	-2.42	(.58)	***
2nd generation*2002	-1.09	(.63)	†	-1.09	(.52)	*	-1.66	(.45)	***	-1.46	(.44)	**	-1.46	(.44)	***
Demographics															
Female				1.25	(.14)	***	1.52	(.13)	***	1.51	(.13)	***	1.51	(.13)	***
Age				-3.71	(.14)	***	-2.76	(.13)	***	-2.73	(.13)	***	-2.72	(.13)	***
Black				-6.49	(.26)	***	-4.62	(.25)	***	-4.29	(.24)	***	-4.12	(.25)	***
Asian				-1.15	(.41)	**	-0.41	(.36)		-0.36	(.36)		-0.32	(.36)	
Latino				-6.14	(.30)	***	-2.71	(.27)	***	-2.22	(.27)	***	-2.20	(.28)	***
Other race				-4.26	(.43)	***	-2.81	(.37)	***	-2.58	(.36)	***	-2.51	(.36)	***
SES							4.12	(.10)	***	3.83	(.11)	***	3.84	(.11)	***
Stepparent family							-0.90	(.21)	***	-0.84	(.21)	***	-0.84	(.20)	***
Single parent							-0.63	(.19)	**	-0.60	(.18)	**	-0.61	(.18)	**
Other family							-1.85	(.45)	***	-1.78	(.45)	***	-1.78	(.45)	***
English language ability							1.21	(.12)	***	1.11	(.12)	***	1.12	(.12)	***
Prop. free/reduced lunch										-3.01	(.57)	***	-3.24	(.63)	***
Prop. minority										0.30	(.45)		0.64	(.57)	
Prop. LEP population--mid										-0.13	(.20)		-0.14	(.20)	
Prop. LEP population--high										-0.83	(.34)	***	-1.01	(.36)	**
Student-teacher ratio										-0.04	(.02)	*	-0.04	(.02)	*
Rural										-0.41	(.27)		-0.40	(.27)	
Suburban										-0.54	(.24)	*	-0.52	(.24)	*
Public										-0.97	(.31)	*	-0.95	(.32)	**
Prop. zipcode in poverty													1.88	(1.37)	
Prop. zipcode is minority													-1.28	(.69)	†
Prop. zipcode is foreign-born													2.60	(1.11)	*
Constant	50.77	(.16)	***	111.22	(2.23)	***	88.37	(2.22)	***	91.04	(2.20)	***	90.65	(2.21)	***

N=32480 **(**rounded to the nearest 10 as required by NCES); † p<.10, * p<.05, **p<.01, ***p<.001

Table 3. OLS Regression of Math Test Scores for High School Sophomores by Immigrant Status, 1990 and 2002 (Data Weighted)

	Model 1 Baseline			Model 2 Demog.			Model 3 Family			Model 4 School			Model 5 Full		
	b	(SE)		b	(SE)		b	(SE)		b	(SE)		b	(SE)	
Main Effects															
2002	-0.27	(.27)		0.55	(.22)	*	0.24	(.19)		0.33	(.18)	†	0.33	(.19)	†
1st generation	-0.45	(.70)		1.13	(.66)	†	2.56	(.56)	***	2.55	(.59)	***	2.35	(.59)	***
2nd generation	-0.44	(.56)		1.43	(.52)	**	2.06	(.48)	***	1.93	(.48)	***	1.79	(.48)	**
Two-Way Interaction															
1st generation*2002	-3.86	(.85)	***	-2.78	(.74)	***	-2.14	(.65)	**	-2.13	(.67)	**	-2.14	(.67)	**
2nd generation*2002	-1.23	(.68)	†	-1.32	(.54)	*	-1.53	(.52)	**	-1.33	(.52)	*	-1.34	(.52)	*
Demographics															
Female				-1.25	(.14)	***	-0.97	(.13)	***	-0.97	(.13)	***	-0.97	(.13)	***
Age				-4.25	(.13)	***	-3.29	(.12)	***	-3.24	(.12)	***	-3.23	(.12)	***
Black				-7.69	(.25)	***	-5.74	(.24)	***	-4.95	(.24)	***	-4.77	(.26)	***
Asian				1.02	(.47)	*	1.39	(.42)	**	1.61	(.41)	***	1.65	(.41)	***
Latino				-6.84	(.28)	***	-3.74	(.26)	***	-3.03	(.28)	***	-3.01	(.28)	***
Other race				-4.86	(.42)	***	-3.47	(.37)	***	-3.10	(.36)	***	-3.01	(.36)	***
SES							4.25	(.12)	***	3.95	(.12)	***	3.95	(.12)	***
Stepparent family							-1.28	(.20)	***	-1.25	(.20)	***	-1.24	(.20)	***
Single parent							-0.71	(.19)	***	-0.66	(.19)	**	-0.66	(.19)	**
Other family							-2.41	(.49)	***	-2.35	(.49)	***	-2.35	(.49)	***
English language ability							0.70	(.11)	***	0.58	(.11)	***	0.59	(.11)	***
Prop. free/reduced lunch										-3.88	(.58)		-3.88	(.66)	
Prop. minority										-0.25	(.46)		-0.07	(.53)	
Prop. LEP population--mid										0.23	(.20)		0.20	(.20)	
Prop. LEP population--high										0.07	(.32)		-0.16	(.34)	
Student-teacher ratio										-0.07	(.02)	**	-0.07	(.02)	***
Rural										0.01	(.28)		0.02	(.28)	
Suburban										-0.10	(.24)		-0.10	(.24)	
Public										-0.42	(.30)		-0.39	(.32)	
Prop. zipcode in poverty													0.87	(1.37)	
Prop. zipcode is minority													-1.06	(.69)	
Prop. zipcode is foreign-born													2.94	(1.10)	**
Constant	50.84	(.18)	***	121.32	(2.04)	***	101.44	(2.07)	***	103.48	(2.11)	***	103.09	(2.12)	***

N=32480 **(**rounded to the nearest 10 as required by NCES); † p<.10, * p<.05, **p<.01, ***p<.001

T4. Total Marginal Effect of Cohort on Reading and Math Test Scores by Immigrant Generation Based on Corresponding Models in Table 2 and 3 (Data Weighted)

	Model 1 Baseline			Model 2 Demog.			Model 3 Family			Model 4 School			Model 5 Full		
	ME	(SE)	Diff[1]	ME	(SE)	Diff	ME	(SE)	Diff	ME	(SE)	Dif	ME	(SE)	Diff
	A. Reading														
Cohort Difference: 2002 vs. 1990															
1st generation	-3.54	(.76)	***	-2.39	(.68)	**	-2.07	(.58)	***	-2.06	(.57)	***	-2.04	(.56)	***
2nd generation	-1.08	(.64)	*	-0.37	(.52)		-1.34	(.45)	**	-1.11	(.44)	*	-1.08	(.44)	*
3rd generation	0.00	(.25)		0.71	(.22)	**	0.32	(.19)	†	0.36	(.19)	*	0.39	(.19)	*
	A. Math														
Cohort Difference: 2002 vs. 1990															
1st generation	-4.13	(.86)	***	-2.23	(.73)	**	-1.90	(.64)	**	-1.81	(.66)	**	-1.81	(.66)	**
2nd generation	-1.50	(.68)	*	-0.77	(.53)		-1.29	(.50)	*	-1.00	(.50)	*	-1.00	(.49)	*
3rd generation	-0.27	(.27)		0.55	(.22)	*	0.24	(.19)		0.33	(.18)	†	0.33	(.19)	†

N=32480 in reading (rounded to the nearest 10 as required by NCES)

[1] Indicates marginal effect in 2002 is statistically different from the marginal effect in 1990: † p<.10, * p<.05, **p<.01, ***p<.001

Note: Models include the same control variables as the corresponding models in Table 2 and 3.

Table 5: Regression Decomposition Showing the Contributions of Demographic, Family, School, and Neighborhood Chacterstics to the 2002-1990 Test Score Achievement Gap for 1st and 2nd Generation Youth

	1st Generation				2nd Generation			
	Reading		Math		Reading		Math	
	Components of Change	% of Total Gap Explained	Components of Change	% of Total Gap Explained	Components of Change	% of Total Gap Explained	Components of Change	% of Total Gap Explained
Demographic Measures Total	**-0.44***	**10.72**	**-1.49*****	**33.17**	**-.51****	**12.35**	**-.45***	**10.00**
	(.22)		**(.33)**		**(.18)**		**(.20)**	
Gender	.01	-0.20	-0.01	0.30	-.08†	1.87	0.04	-0.90
	(.02)		(.04)		(.04)		(.03)	
Age	-.04	1.07	-0.04	0.88	-0.13	3.11	-0.15	3.32
	(.11)		(.10)		(.09)		(.10)	
Race/Ethnicity	-.40*	9.86	-1.44***	32.00	-.30*	7.36	-.34*	7.58
	(.18)		(.32)		(.14)		(.16)	
Family Measures Total	**-1.18****	**28.71**	**-.81****	**18.12**	**-0.06**	**1.46**	**-.53***	**11.91**
	(.34)		**(.27)**		**(.26)**		**(.26)**	
SES	-.60*	14.68	-.54*	12.02	-0.22	5.25	-0.23	5.16
	(.23)		(.21)		(.20)		(.21)	
Family structure	-.24*	5.90	-0.17	3.68	-.22*	5.41	-.34***	7.56
	(.11)		(.12)		(.09)		(.09)	
English language ability	-.33*	8.13	-0.11	2.41	.38**	-9.20	0.04	-0.81
	(.16)		(.07)		(.12)		(.11)	
School Measures Total	**-0.29**	**7.14**	**-0.35**	**7.85**	**-.38***	**9.24**	**-.50***	**11.09**
	(.25)		**(.28)**		**(.19)**		**(.22)**	
Prop. free and reduced lunch	-0.22	5.42	-0.38	8.56	-.21†	5.08	-0.17	3.80
	(.17)		(.25)		(.12)		(.11)	
Prop. minority	0.03	-0.72	0.00	-0.11	0.05	-1.21	-0.09	1.92
	(.09)		(.08)		(.10)		(.12)	
Prop. LEP	0.06	-1.38	0.01	-0.21	0.03	-0.63	0.00	-0.03
	(.10)		(.03)		(.08)		(.07)	
Student-teacher ratio	-0.15	3.74	-0.12	2.57	0.01	-0.18	-0.07	1.66
	(.10)		(.09)		(.06)		(.07)	
Urbanicity	0.00	-0.09	0.04	-0.93	-.13†	3.16	-0.09	2.04
	(.06)		(.06)		(.08)		(.07)	
Public	-0.01	0.17	0.09	-2.03	-.12†	3.02	-0.08	1.71
	(.07)		(.08)		(.07)		(.06)	
Neighborhood Measures Total	**0.02**	**-0.44**	**0.00**	**-0.08**	**-0.16**	**3.98**	**-0.01**	**0.12**
	(.14)		**(.17)**		**(.16)**		**(.16)**	
Prop. zipcode in poverty	0.02	-0.46	0.03	-0.70	-0.01	0.30	-0.01	0.12
	(.07)		(.10)		(.05)		(.02)	
Prop. zipcode is minority	-0.09	2.09	-0.16	3.66	-0.21	5.19	-0.07	1.46
	(.15)		(.16)		(.17)		(.16)	
Prop. zipcode is foreign-born	0.09	-2.07	0.14	-3.04	0.06	-1.52	0.07	-1.46
	(.09)		(.13)		(.06)		(.07)	
Total Explained	**-1.89****	**46.04**	**-2.65*****	**59.06**	**-1.11***	**64.42**	**-1.49****	**75.34**
	(.57)		**(.60)**		**(.48)**		**(.52)**	
Unexplained	-2.21***	53.84	-1.84**	40.94	-0.61	35.58	-0.49	24.66
	(.58)		(.60)		(.43)		(.42)	
Total Change	**-4.11*****		**-4.49*****		**-1.72*****		**-1.98****	
	(.78)		**(.78)**		**(.60)**		**(.62)**	

N=3450 (rounded to the nearest 10 as required by NCES)

Notes: Regression decompositions are based on pooled coefficients from a pooled regression (including a group-specific intercept) from both new and established states.

† p<.10, * p<.05, **p<.01, ***p<.001

Table 6. State and School Fixed Effect Models of Reading and Math Achievement for 10th Grade Children of Immigrants and Children of Natives, 1990 and 2002 (Data Weighted)

	Reading						Math					
	Model 6 State FE			Model 7 School FE			Model 6 State FE			Model 7 School FE		
	b	(SE)		b	(SE)		b	(SE)		b	(SE)	
Main Effects												
2002	0.33	(.19)	†	--	--		0.42	(.18)	*	--	--	
1st generation	2.04	(.54)	***	1.62	(.54)	**	2.37	(.60)	***	2.28	(.62)	***
2nd generation	1.67	(.37)	***	1.33	(.37)	***	1.79	(.47)	**	1.60	(.47)	**
Two-Way Interaction												
1st generation*2002	-2.46	(.58)	***	-1.94	(.62)	**	-2.22	(.66)	**	-2.08	(.71)	**
2nd generation*2002	-1.37	(.42)	**	-1.02	(.44)	*	-1.36	(.51)	*	-1.25	(.55)	*
Demographics												
Female	1.48	(.13)	***	1.36	(.13)	***	-0.98	(.13)	***	-1.12	(.13)	***
Age	-2.79	(.13)	***	-2.90	(.13)	***	-3.31	(.12)	***	-3.41	(.12)	***
Black	-4.16	(.25)	***	-4.26	(.25)	***	-4.80	(.25)	***	-4.95	(.26)	***
Asian	0.06	(.37)		-0.11	(.36)		1.98	(.41)	***	1.59	(.39)	***
Latino	-2.20	(.28)	***	-2.30	(.28)	***	-3.11	(.29)	***	-3.16	(.30)	***
Other race	-2.42	(.36)	***	-2.29	(.37)	***	-2.89	(.37)	***	-2.54	(.40)	***
SES	3.79	(.11)	***	3.33	(.11)	***	3.92	(.12)	***	3.33	(.11)	***
Stepparent family	-0.82	(.20)	***	-0.70	(.19)	***	-1.22	(.20)	***	-1.04	(.19)	***
Single parent	-0.60	(.18)	**	-0.52	(.17)	**	-0.64	(.19)	**	-0.57	(.17)	**
Other family	-1.80	(.45)	***	-1.51	(.47)	**	-2.32	(.48)	***	-1.85	(.50)	***
English language ability	1.14	(.11)	***	1.13	(.12)	***	0.60	(.11)	***	0.58	(.11)	***
Prop. free/reduced lunch	-3.27	(.63)	***	--	--		-3.88	(.65)	***	--	--	
Prop. minority	0.89	(.57)		--	--		0.22	(.54)		--	--	
Prop. LEP population--mid	-0.29	(.20)		--	--		0.09	(.20)		--	--	
Prop. LEP population--high	-0.98	(.35)	**	--	--		-0.17	(.33)		--	--	
Student-teacher ratio	0.01	(.02)		--	--		-0.03	(.02)		--	--	
Rural	-0.27	(.27)		--	--		0.11	(.27)		--	--	
Suburban	-0.42	(.24)	†	--	--		0.01	(.22)		--	--	
Public	-1.09	(.33)	**	--	--		-0.59	(.32)	†	--	--	
Prop. zipcode in poverty	0.49	(1.38)		-0.84	(1.76)		0.36	(1.29)		1.15	(1.66)	
Prop. zipcode is minority	-0.97	(.69)		-0.30	(.84)		-1.15	(.69)	†	-1.41	(.82)	†
Prop. zipcode is foreign-born	3.05	(1.12)	**	-0.75	(1.78)		2.93	(1.15)	†	-1.18	(1.57)	
Constant	90.12	(2.35)		91.37	(2.19)		103.38	(2.17)		104.39	(2.11)	

N=32480 (rounded to the nearest 10 as required by NCES); † p<.10, * p<.05, **p<.01, ***p<.001

Table 7: Total Marginal Effect of Cohort on Reading and Math Test Scores for High School Sophomores of Each Ethnic/Racial Group by Immigrant Status (Data Weighted)

	Model 1 Baseline			Model 2 Demog.			Model 3 Family			Model 4 School			Model 5 Full		
	ME	(SE)	Diff[1]	ME	(SE)	Diff	ME	(SE)	Diff	ME	(SE)	Diff	ME	(SE)	Diff
	A. Reading														
Latino															
1st gen. 2002 vs. 1990	-3.53	(.90)	***	-3.81	(.95)	***	-3.84	(.89)	***	-3.89	(.87)	***	-3.82	(.87)	***
2nd gen. 2002 vs. 1990	-0.90	(.65)		-0.92	(.67)		-2.43	(.62)	***	-2.22	(.61)	***	-2.16	(.60)	***
3rd gen. 2002 vs. 1990	-0.48	(.68)		-0.47	(.68)		-2.24	(.64)	**	-2.30	(.63)	***	-2.31	(.64)	***
Asian															
1st gen. 2002 vs. 1990	-0.96	(1.09)		-1.08	(.98)		-0.52	(.87)		-0.56	(.85)		-0.60	(.84)	
2nd gen. 2002 vs. 1990	-1.23	(1.09)		-1.25	(1.05)		-1.07	(.88)		-0.73	(.86)		-0.80	(.86)	
3rd gen. 2002 vs. 1990	3.08	(1.63)	†	3.17	(1.54)	*	3.43	(1.41)	*	3.56	(1.44)	*	3.49	(1.44)	*
Black[2]															
1st & 2nd gen. 2002 vs. 1990	-4.55	(2.26)	*	-4.14	(2.05)	*	-4.81	(1.69)	**	-4.27	(1.69)	*	-4.20	(1.69)	*
3rd gen. 2002 vs. 1990	-0.88	(.55)		-0.79	(.52)		-1.08	(.48)	*	-0.83	(.48)	†	-0.83	(.48)	†
White[2]															
1st & 2nd gen. 2002 vs. 1990	-0.82	(2.51)		-1.01	(2.37)		-1.66	(1.79)		-1.45	(1.79)		-1.52	(1.79)	
3rd gen. 2002 vs. 1990	0.82	(.24)	**	1.03	(.24)	***	0.70	(.20)	***	0.70	(.20)	**	0.72	(.20)	***
	A. Math														
Latino															
1st gen. 2002 vs. 1990	-3.32	(.91)	***	-3.41	(.92)	***	-3.42	(.91)	***	-3.38	(.90)	***	-3.33	(.90)	***
2nd gen. 2002 vs. 1990	-1.38	(.69)	*	-1.44	(.65)	*	-2.48	(.63)	***	-2.19	(.63)	**	-2.17	(.62)	**
3rd gen. 2002 vs. 1990	-0.01	(.68)		0.06	(.67)		-1.13	(.69)		-1.12	(.68)		-1.17	(.67)	†
Asian															
1st gen. 2002 vs. 1990	-0.41	(1.15)		-0.60	(1.12)		0.08	(1.05)		0.10	(1.07)		0.05	(1.06)	
2nd gen. 2002 vs. 1990	-1.51	(1.33)		-1.40	(1.31)		-0.81	(1.12)		-0.39	(1.11)		-0.49	(1.10)	
3rd gen. 2002 vs. 1990	3.07	(2.07)		2.98	(1.94)		3.27	(1.86)	†	3.45	(1.84)	†	3.34	(1.85)	†
Black[2]															
1st & 2nd gen. 2002 vs. 1990	-3.13	(2.30)		-3.11	(2.07)		-3.60	(1.77)	*	-3.07	(1.77)	†	-3.03	(1.78)	†
3rd gen. 2002 vs. 1990	-0.80	(.49)		-0.76	(.47)		-1.02	(.44)	*	-0.71	(.43)		-0.75	(.44)	†
White[2]															
1st & 2nd gen. 2002 vs. 1990	-1.62	(2.47)		-2.03	(2.38)		-2.34	(1.85)		-1.95	(1.84)		-2.05	(1.83)	
3rd gen. 2002 vs. 1990	0.54	(.25)	*	0.78	(.25)	**	0.50	(.20)	*	0.55	(.20)	**	0.56	(.20)	**

N=32480 **(**rounded to the nearest 10 as required by NCES)

[1] Indicates marginal effect in 2002 is statistically different from the marginal effect in 1990: † p<.10, * p<.05, **p<.01, ***p<.001

[2]Due to smaller sample sizes, 1st and 2nd generation white and black youth are combined into one category identifying children of

Notes: Models include the same control variables as the corresponding models in Table 3 and 4.