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A STRUCTURAL ANALYSIS OF NEIGHBORHOOD AND SCHOOL EFFECTS ON
IMMIGRANT CHILDREN'S ACADEMIC PERFORMANCE

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ABSTRACT OF THE DISSERTATION

A Structural Analysis of Neighborhood and School Effects on Immigrant Children's

Academic Performance

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Immigrant children are influenced by a variety of contexts, including their family, peer groups, neighborhood, and institutions such as school and the workplace. To gauge how immigrant children fare in education, it is extremely important to understand whether, and how, these contexts affect their academic performance. This dissertation's theoretical framework is heavily grounded in theories dealing with the impact of neighborhood and school on children's academic performance. Analyzing nationally representative data from The National Longitudinal Study of Adolescent Health (Add Health), this study investigates whether, and how, two of these contexts—neighborhood and school characteristics—influence non-Hispanic White, non-Hispanic Black, Hispanic, and Asian immigrant students' academic performance. Comparison analysis, hierarchical linear modeling, and fixed-effect modeling are used to test six hypotheses. The comparison analysis found that, generally speaking, neighborhood and school conditions are better for non-immigrant than for immigrant students. Specifically, neighborhood and school conditions are better for Asian immigrants than for Hispanic immigrants, and significantly better for immigrant non-Hispanic Whites than for immigrant non-Hispanic Blacks. Multilevel regression analysis found that both neighborhood and school

characteristics affect immigrant students' GPA, while neighborhood-school involvement characteristics do not (neither do they affect non-immigrant students' GPA).

Neighborhood SES and neighborhood immigrant composition affect immigrant students' GPA. Furthermore, the results show that school socioeconomic status (SES), school climate, and school location affect immigrant students' GPA. Large class size and school type are associated with non-immigrant students' GPA. The results of the study imply that both neighborhood and school characteristics influence academic performance of immigrant students more than that of non-immigrant students. Compared to the neighborhood, the school, as an institutional resource, plays a crucial role in immigrant students' academic performance and their assimilation processes.

I dedicate this work to my parents, who have unfailingly supported my education from the earliest days.

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CHAPTER 1

INTRODUCTION

Policy makers and researchers in major immigrant recipient countries, such as the United States, Canada, and Australia, are particularly interested in the social and economic assimilation of immigrants in their new countries. The assimilation process can be influenced by many factors, among which social contexts and education are two important ones. Education plays a critical role in immigrant children's subsequent success in terms of development, future employment, use of social assistance, and many other aspects of life. In analyzing the academic performance of immigrant children, it is important to recognize that immigrant children's social assimilation may be determined in part by characteristics of their neighborhoods.

Neighborhoods have been conceptualized in various ways. In general, the neighborhood is conceptualized as people living in the same geographic area. Most of social science researchers, in studying the neighborhood, have relied on geographic boundaries as defined by the Census Bureau or other administrative agencies (e.g., school districts). As early as 1916, the Chicago School sociologist Robert E. Park considered local communities as "natural areas" that developed as a result of competition between businesses for land use and between population groups for affordable housing. Based on this view, he defined a neighborhood as a subsection of a larger community—"a collection of both people and institutions occupying a spatially defined area influenced by ecological, cultural, and sometimes" political forces (p.147). In this sense, early social scientists considered neighborhoods as ecological units nested within larger communities.

Moreover, researchers have expanded the previous geographic and ecologically based neighborhood concepts by thinking of neighborhood as a system of social interactions. For example, Chaskin (1998) defined neighborhood “as a social unit, neighborhood as a spatial unit, and the neighborhood as networks of relationships, associations, and patterns of use” (p. 1). Based on this relatively broad definition, the neighborhood discussed in this study refers to a locus of personal interaction, social support, information and guidance, social norms, and geographical area as defined by U.S. Census tracts. Understanding the characteristics and dynamics of the neighborhood and its impact on immigrant children’s academic performance is a complex undertaking. The complicated, interwoven factors that define the neighborhood, combined with the impact of the larger social context—families, peer groups, school interactions for immigrant children—make it difficult to isolate the neighborhood’s effect on educational achievement. Nevertheless, it is important to understand how neighborhood characteristics affect immigrant children’s academic performance.

Background of Immigration

The United States has been historically largely a country of immigrants. Between the 1860s and 1920s, the foreign-born population as a proportion of the total U.S. population fluctuated between 13 and 15 percent (Schmidley, 2001). For several reasons—including World War I, more restrictive immigration laws, the Great Depression, and World War II—immigration to the United States first slowed down and then declined between the 1910s and 1940s. Although there was a slight increase in the number of immigrants in the 1950s and 1960s, the level still remained low compared to

previous U.S. decades. In the 1970s, the foreign-born population dropped to a record low of 4.7 percent of the total U.S. population.

Following the passage of the landmark 1965 Immigration Act, the country once again experienced a period of mass immigration. The foreign-born population as a proportion of the total U.S. population increased to 6.2 percent in 1980, to 7.9 percent in 1990, and to 10.4 percent in 2000 (Shmidley, 2001). Today, waves of immigrants continue to arrive. The foreign-born population proportion further increased to 13.1 percent in 2007 (Camarota, 2007). Unlike the foreign-born population prior to 1970, which came primarily from European countries, the contemporary foreign-born population emigrated from very different regions of the world. In 2003, 53.3 percent of them were born in Latin America, 25.0 percent in Asia, 13.7 percent in Europe, and the remaining 8.0 percent in other regions (Camarota, 2007). The economic, social, and cultural impact of these “new” immigrants on American society has been widely debated.

Statement of the Problem

Immigrant children inhabit many different social contexts. The educational achievement gap among immigrant groups often reflects the social contexts in which these groups are embedded (Portes & Zhou, 1993). The two most studied social contexts that influence immigrant children’s academic performance have been the family and the school. A number of family factors have been broadly investigated with respect to immigrant children’s educational achievement: parents’ educational background, parental expectations, parenting style, length of residence in the U.S., family structure, and **sibship** size (Kao & Tienda, 1995; Rumbaut & Cornelius, 1995; Fuligni, 1997; Suárez-

Orozco & Suárez-Orozco, 2001; Kao & Thompson, 2003; Lew, 2006; Portes and Rumbaut, 2006; Saperstein, 2008).

In addition, the varied socioeconomic status of immigrant families affects the children's opportunities and experiences in a different way (Suárez-Orozco & Suárez-Orozco, 2001; Lew, 2006; Portes & Rumbaut, 2006; Saperstein, 2008). Immigrants today are living overwhelmingly in urban areas, and immigrant children have been residentially isolated from their wealthier non-immigrant and immigrant counterparts (Massey & Denton, 1993; Wilson, 1996; Anyon, 2005). This isolation causes highly segregated schools. Therefore, the school context can be considered a source of educational inequality among immigrant groups, and between immigrant and nonimmigrant groups. Taking into account various family and school contexts, achievement gaps continue to be found among different immigrant groups, especially between Asians and children of other immigrants (Rong & Grant, 1992; Portes & MacLeod, 1996; Hao & Bonstead-Bruns, 1998; Fuligni & Witkow, 2004).

Although research has traditionally focused on family and school effects on academic performance, some research shows that neighborhood characteristics can predict educational outcomes to the same degree as school and family variables (Ainsworth, 2002; Kauppinen, 2006). However, most "neighborhood effects" research has been in the form of qualitative studies with small and localized samples. As a result of this methodological limitation, findings from these studies are far from generalizable. As Leventhal & Brooks-Gunn (2004) point out, research on neighborhood effects on the achievement of immigrant children is still in its infancy. They further point out that

previous neighborhood effects studies have largely ignored the mediating role of the school.

This study investigates neighborhood effects on the academic performance of immigrant adolescent children in the United States. The influence of the school as a neighborhood institution is also investigated. In addition, the influence of the neighborhood-school involvement variable is considered a social capital resource when studying this subject. Neighborhood and school effects are likely to be most salient during adolescence, when social contexts beyond the home become increasingly important and children are most susceptible to influences outside their families. These changes include a shift in autonomy away from family-centered relationships and toward institutional and peer group interactions (Boardman, Sanit & Onge, 2005). To make a successful transition into adulthood, adolescent children have to learn how to meet responsibilities that occur both within and among these interrelated social contexts (Bronfenbrenner, 1989; Duncan & Raudenbush, 1999).

Research Questions

If immigrant children live in poor neighborhoods, attend poor schools, associate with low-performance peers, lack adult role models, and lack basic social resources, then it is reasonable to expect that neighborhood and school conditions account for some of the observed academic performance gaps between immigrant and non-immigrant groups. The same can be said about differential academic performance among/between ethnic groups who are immigrants. Specifically, the following research questions are addressed:

Question 1: Do neighborhood conditions affect immigrant children's academic performance? If they do, which neighborhood-level factors (such as SES, educational

background, peer influence, employment, social cohesion, etc.) contribute to these effects?

Question 2: Do school conditions affect immigrant children's academic performance?

If they do, which school-level factors (such as school SES, school climate, teacher quality, school location, etc.) contribute to these effects?

Question 3: Do neighborhood-school involvement conditions affect immigrant children's academic performance? If they do, which interactive factors (parent involvement and intergenerational closure) contribute to these effects?

CHAPTER 2

CONCEPTUAL FRAMEWORK, LITERATURE REVIEW, AND HYPOTHESES

Conceptual Framework of Study

Since Wilson's (1987) significant work on the social disorganization of the inner city and its consequences for creating a "truly disadvantaged" population, studies of the neighborhood have proliferated. Wilson's contribution resulted in a number of theoretical and methodological advances (Leventhal & Brooks-Gunn, 2000; Harding, 2003). Therefore, discussions of neighborhood disadvantages are often rooted in social disorganization theory (Wilson, 1987) or epidemic theory (Crane, 1991). By contrast, explanations for the advantages of living in higher-status neighborhoods usually derive from social capital theory (Coleman, 1988; Sampson, Morenoff & Earls, 1999) and research on concentrated wealth (Massey and Denton, 1993). When it comes to the mechanisms through which the neighborhood exerts an effect on individuals, researchers can resort to the comprehensive theoretical framework advanced by Jencks and Mayer (1990), which identified five socioeconomic models linking neighborhood characteristics to individual residents' behaviors. These three theories guide the selection of variables for this study.

Segmented assimilation theory (Portes & Zhou, 1993) argues that there are many possible pathways of assimilation for immigrants to follow. In this study, I'm using segmented assimilation theory to explain that the degree of assimilation and its consequences should differ according to social context. More specifically, the degree of immigrant children's assimilation will vary systematically according to neighborhood and school contexts, as will their academic performance.

Figure 1 graphically depicts the conceptual framework of the proposed study. According to neighborhood effects and segmented assimilation theory, advantaged neighborhood and school characteristics will positively affect children's assimilation processes and result in better academic performance, while disadvantaged neighborhood and school characteristics will negatively affect children's assimilation processes and result in poor academic performance. It is expected that these processes will differ across racial/ethnic groups.

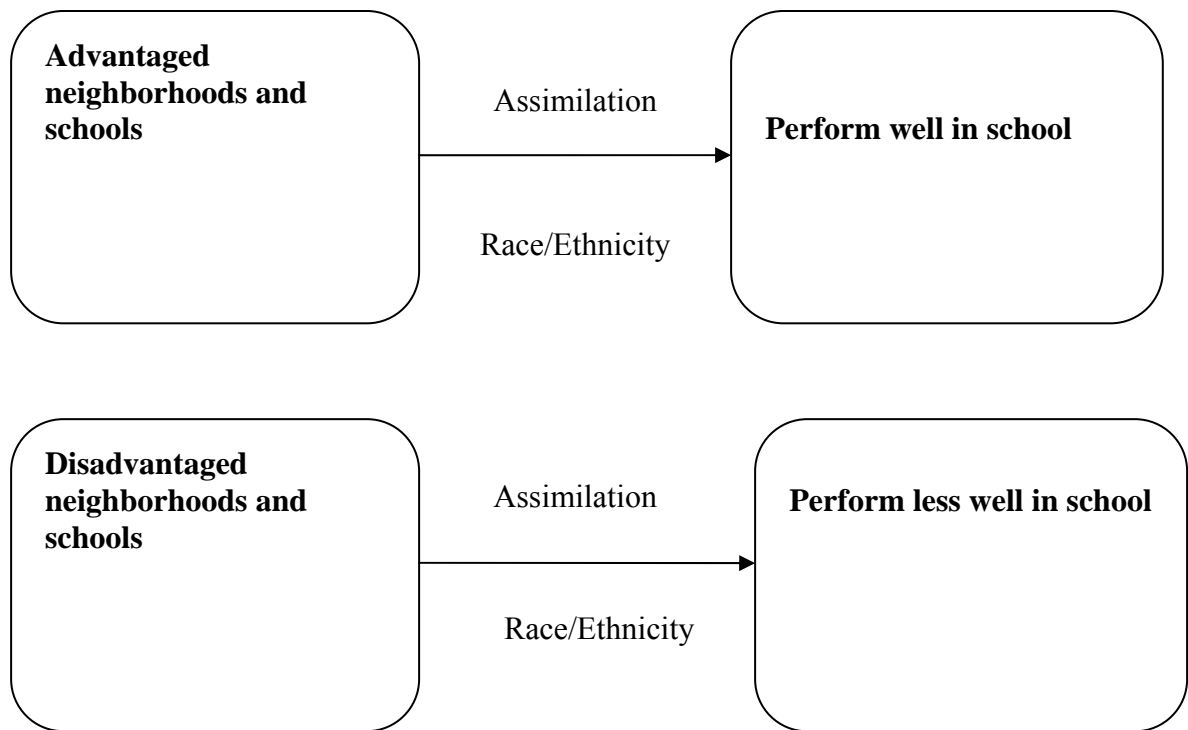


Figure 1 The Conceptual Framework for Neighborhood and School Effects on Immigrant Students' Academic Performance

Why Neighborhood Conditions Might Matter - Theoretical Orientations and Research Findings

The neighborhood varies to the extent in which resources and infrastructure meet the needs of their members and residents. Scholars, parents, and others generally agree that the quality of life in the neighborhood impacts and shapes children's lives in many ways. Research shows that children's development and academic performance can be influenced by the degree of stability and social cohesion; the quality of relationships with adults; and the availability of interesting activities and amenities like parks, libraries and high-quality schools. According to Massey and Denton (1993), children who grow up in disadvantaged neighborhoods are more likely to become teenage mothers, drop out of school, achieve only low levels of education, and earn lower adult incomes, no matter what their personal traits or characteristics.

Theories have been developed to help U.S. understand neighborhood effects on children's development. The following is a brief summary of three major theories that have guided empirical studies—and this study—to explain the effects of social environment in the neighborhood.

Social Disorganization Theory

Theoretical work on the effect of neighborhood contexts on psychological outcomes has its origins in the work of the Chicago School of Sociology's social disorganization theory. The theory of social disorganization was first introduced by Chicago School sociologists Clifford Shaw and Henry McKay (1942), and then studied in detail by others (e.g., Sampson & Groves, 1989). This theory states that structural factors lead to social disorganization, which, in turn, increases rates of delinquency, crime, and

other problem behaviors. This theory is stated in terms of the absence or breakdown of certain types of relationships among people, and is intimately tied to conceptions of those properties of relationships that are indicative of social or collective “organization.” Relationships among people in a given territory are supposed to be well-“organized” when high levels of involvement occur across age levels in activities coordinated by representatives of collective institutions (e.g., family heads, school organizations, and local officials). Such organized interaction is supposed to be closely and reciprocally associated with the development of a sense of neighborhood or collective bonds among people in close geographic proximity to one another. This theory was developed to explain the absence of organization among people in relatively small ecological units (neighborhoods, communities), but has also been used to explain variations in crime among larger units (e.g., counties, states, and nations) as well as variations over time. To put it simply, social disorganization theory suggests that neighborhood environment depends on weak and limited ties among neighbors who share a minimum level of trust, agreement on basic standards, and willingness to live by and enforce those standards (Sampson, Morenoff & Earls, 1999).

Using social disorganization theory, Wilson (1987, 1996) focused on the impact of disadvantaged neighborhoods on inner-city children. He argues that the social isolation and disorganization experienced by inner-city residents results in several major social problems, including a prevalence of delinquent subcultures, the weakening of basic institutions, and the lack of social control, all of which contribute to the high rate of educational failure in inner-city neighborhoods. Specifically, he believes that living in impoverished neighborhoods, where families have few economic resources, high rates of

unemployment, and high rates of single parenthood, is associated with “social isolation,” which may have damaging psychological and behavioral consequences on children and families. Families living in these circumstances may not emphasize socialization practices and family routines that reinforce behaviors and lifestyles associated with competencies that are rewarded in present-day society. By contrast, families living in affluent neighborhoods are more likely to be associated with more positive role models and increased access to jobs, which may reinforce behaviors conducive to future success. Wilson’s theory provides a basis for discussing disadvantage neighborhood effects.

Using Wilson’s theory, Crane (1991) develops “epidemic theory” of the ghetto, which implies that there are very strong neighborhood effects, at least near the bottom of the distribution of neighborhood quality. Crane finds an enormous increase in established drop-out probabilities for black males in ghettos, and evidence of epidemics of teenage childbearing as well. Neighborhood effects on both dropping out and teenage childbearing were much larger in urban areas than anywhere else (Crane, 1991). His research result shows that high-school drop-out rates of both Blacks and Whites are higher among individuals living in neighborhoods where fewer than 5 percent of the workers have professional or managerial jobs. He also estimates the effects for Black and White boys and Black and White girls separately. Effects were significant for Black boys but not for Black girls residing in the largest cities. However, neighborhood effects in the worst neighborhoods in the largest cities were significant for teenage childbearing in black girls (also see Hogan & Kitagawa, 1985).

Anderson (1991) claims that many adolescents, simply by growing up in an underclass neighborhood, are at special risk. A sense of a limited future, and ignorance

mixed with indifference about reproductive and sexual activity, bring on pregnancies and babies. This is also reinforced by limited employment prospects.

For immigrant children, Fix, Zimmermann, and Passel (2001) identified significant influences of living in a poor neighborhood: immigrant children have poorer health and lower school performance. They found that immigrant children who lived in poor neighborhoods were more likely to skip school than native children who live in the same neighborhood (19 percent versus 15 percent). Therefore, behaviors and attitudes that discourage success in school may be prevalent in disadvantaged neighborhoods (Wilson, 1996). With fewer positive role models in their neighborhood, children may be less likely to learn appropriate behaviors and attitudes that lead to success in school.

Social Capital Theory

Social capital is a broad and ambiguous concept, whose contemporary analysis can be traced to the French sociologist Pierre Bourdieu. According to Bourdieu, social capital is “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” (Bourdieu, 1986, p. 242). Bourdieu’s perspective focuses on the benefit accruing to individuals from personal relations or participation in social groups. Sociologist James S. Coleman (1988) defined social capital as consisting of closed systems of social networks inherent in the structure of relations between persons and among persons within a group. For Coleman, the essence is a “dense set of associations” within a social group promoting cooperative behavior that is advantageous to group members. Sociologists Alejandro Portes and Julia Sensenbrenner (1993) have defined social capital as “expectations for action within a collectivity that affect the

economic goals and goal-seeking behavior of its members,” even if these expectations are not oriented toward the economic sphere. Political scientist Robert Putnam (2002) defines social capital in a more expansive fashion, as “features of social organization, such as network, norms, and trust that facilitate coordination and cooperation for mutual benefit” (p.36).

Despite variations in definition, there is agreement among scholars that social capital is not lodged in the individual but in the structure of social organizations, patterns of social relations, or processes of interactions among individuals and organizations. More specifically, social capital does not consist of resources that are held by individuals or by groups, but of processes of goal-directed social relations that are embedded in particular social structures (Bourdieu, 1986). Thus, social capital is a resource that is realized through relationships (Coleman, 1990).

Furstenberg (1993) argued for the importance of understanding the role of family process in assessing neighborhood effects. Basing his work on ethnographic studies, he pointed out that families formulate different strategies for raising children in high-risk neighborhoods, ranging from extreme protection and insulation to playing an active role in developing community-based “social capital” networks that can help children at key points in their academic or labor-market careers.

Sampson, Raudenbush, and Earls (1997) and Sampson, Morenoff, and Earls (1999) proposed an ecological model of how neighborhood contexts are caused and the consequences they have for people and families, focusing particularly on the mechanisms that mediate between neighborhood characteristics and individual- or family-level outcomes. Sampson’s theory concentrates on neighborhood social organization—that is,

the ability of a neighborhood structure to realize the common values of its residents and maintain effective social controls. Sampson et al. (1997, 1999) identify several characteristics of neighborhood social organization which link neighborhood-level structural characteristics with associated individual-level outcomes. The most important of these are social capital and social disorganization. Neighborhood-level structural characteristics have no hypothesized direct link to individual outcomes. Rather, neighborhoods with disadvantaged social composition are more likely than advantaged neighborhoods to lack environments conducive to the development of social organization and social capital. The presence of social disorganization and lack of social capital will help explain the statistical link between social composition and individual outcomes.

According to Zhou's (1992) review, social capital inheres in the social relations among individuals that are often determined and constrained by ethnicity; it is also embedded in the formal organizations and institutions within a definable ethnic community that structure and guide these social relations. Immigrant neighborhoods may have closer-knit networks of families and neighbors and, thus, have more effective or pervasive levels of social capital that affect immigrant children (Portes, 1997; Zhou, 1997).

It follows from social capital theory's explanation of neighborhood effects that the amount and quality of social capital or social networks that exist in a given community or neighborhood can influence immigrant children's educational outcomes, as a number of researchers have pointed out. Stanton-Salazar & Dornbusch (1995) have described how immigrant high-school students with more social capital have better overall educational outcomes. According to social capital theory, immigrant children may

be isolated because of the barriers that they face in establishing social networks with individuals from the dominant culture or from advantaged neighborhoods. Stanton-Salazar (1997) argues that immigrant children who live in advantaged neighborhoods are more likely to be exposed to helpful social networks or adults who can provide positive resources, information, and opportunities that may be educationally beneficial (e.g., access to the use of personal computers, job opportunities). On the contrary, individuals in impoverished neighborhoods may be disadvantaged not only by smaller social networks (Wacquant & Wilson, 1989) but also by networks that are less beneficial than those in more advantaged neighborhoods as a result of the social position of partners, parents, siblings, and friends (Sampson, Morenoff & Earls, 1999). Gibson and Ogbu (1991), conducting research with immigrants and involuntary minorities, found support for this assertion. They identified language and cultural differences, as well as discrimination, as barriers to the creation of social capital or social networks. Several researchers have considered barriers that specifically influence immigrant children's success in networking with other students'. Under these conditions, ties to groups or individuals with few resources or lack of social capital could prove to be negative, because those ties represent obligations rather than the ability to draw upon each other's useful information and resources (Portes, 1998; Van Haitsma, 1989). Lew (2006) contradicts a popular contemporary theory of Asian American achievement by underscoring the importance of social capital and co-ethnic networks of immigrant neighborhoods in determining immigrant children's educational achievements (Portes & Rumbaut, 2006). According to Lew, social capital and ties to co-ethnic networks are significant factors that affect post-1965 Asian immigrants and their children's educational

and economic success. The importance of social capital is also supported by Wilson's (1996) argument that, in impoverished neighborhoods, "children are disadvantaged because the social interaction among neighbors tends to be confined to those whose skills, styles, orientations, and habits are not as conducive to promoting positive social outcomes as are those in more stable neighborhoods" (p.63).

Jencks and Mayer's Socioeconomic Model

In 1990, Jencks and Mayer offered an important theoretical framework to explain the socioeconomic effects of the neighborhood on disadvantaged children, identifying two sets of theoretical models by which neighborhood characteristics might influence their development and behavior. The first set of mechanisms, including epidemic models, collective socialization models, and institutional models, emphasize the advantages of affluent neighborhoods. In general, these three models predict that living among affluent neighbors has a positive effect on children. Affluent neighbors would encourage child competence, achievement in school, and avoidance of problem behaviors.

Epidemic models of deviant peer contagion are one of many theorized causal mechanisms linking neighborhood characteristics and child outcomes (Gephart, 1997). Jencks and Mayer's epidemic model extends the epidemic model of deviant peer contagion and focuses on the power of peer behaviors, including imitation and pressure, to influence other children to exhibit problem behaviors. This model is supported by research showing that the neighborhood peer influence is most relevant on immigrant children interacting with neighborhood peers who are foreign-born and have limited English proficiency (LEP) (Lazear, 1999). According to Lazear (1999), children develop their language skills through communicating with peers. Immigrant children who live in a

neighborhood with many foreign-born and LEP peers lack opportunities to become proficient in the English language. Although not a problem behavior, and certainly not an “epidemic,” the prevalence of limited English proficiency is likely to have negative consequences for immigrant children’s school performance.

Collective socialization models focus on the presence of successful adult role models in the neighborhood other than a child’s own parents. These adult role models can monitor, supervise, motivate, and enforce children to learn social norms, work hard, and behave consciously to maintain public order (Jencks & Mayer, 1990). According to Wilson (1996), neighborhood characteristics influence collective socialization processes by shaping the type of role models that are seen outside of the home. He claims that neighborhoods where most adults have steady jobs foster behaviors and attitudes that are conducive to success in both school and work. Therefore, children in advantaged neighborhoods are more likely to value education, adhere to school norms, and work hard because that is what they see modeled for them by neighborhood adults. By contrast, for disadvantaged neighborhoods, in which many adults do not have jobs, life can become “incoherent” for children because of the lack of structuring norms modeled by working adults. Moreover, the school-related behaviors and attitudes of children in disadvantaged neighborhoods are likely to be conflicted because of the competing influence of mainstream ideological imperatives and structural constraints resulting from a lack of opportunity that prevents children from reaching their goals or even having them (Anderson, 1999).

Adult role models and their monitoring must long-lasting to have an effect. Billy et al. (2001) argued that collective socialization corresponds to social cohesion. One

indicator of social cohesion is residential stability. Neighbors have strong relationships when they have known each other in the same neighborhood for a long time. In contrast, when neighbors move frequently, interpersonal relationships in the neighborhood tend to be transitory and the level of social cohesion tends to be low.

Both adult monitoring and social cohesion belong to the theoretical concept of “social capital” (Sampson, Morenoff & Earls, 1999). Social capital is manifested in obligations, expectations, and social norms (Kao, 2004). According to Sampson, Squires, and Zhou (2001), ethnicity itself can be considered as a form of social capital. They argue that the co-racial/ethnic community may serve as a powerful form of social control that promotes children’s education. Immigrant children may feel more comfortable becoming friends with those who can share their culture and thus seek co-racial/ethnic peers in the neighborhood. They may also be more likely to follow good examples set by co-racial/ethnic adult role models than by role models of other racial/ethnic groups (Portes & Zhou, 1993). Co-racial/ethnic monitoring may be also more effective than cross-racial/ethnic monitoring because the adult-child relationship may be culturally prescribed.

Institution models emphasize the role of community-level infrastructure and institutional resources. This model highlights the importance and quality of neighborhood resources such as childcare, schools, parks, libraries, health centers, and police departments that support healthy and safe development. Jencks and Mayer (1990) argue that, for example, the quality of schools (e.g., better teachers, child-to-staff ratio) is higher in affluent neighborhoods than in low socioeconomic-status neighborhoods. The existence of adults (e.g., teachers) from outside the community who work in the above-mentioned neighborhood institutions and their influence on children are also emphasized

in institutional models (Jencks & Mayer 1990). In support of this model, Wilson (1996) notes that inner-city residents are more likely to complain about uncaring and unqualified teachers and the lack of school resources. Similarly, Simcha-Fagan and Schwartz (1986) argue that neighborhood effects on an individual's association with delinquent peers are primarily indirect and mediated through weak attachment to school.

The second set of models—competition, relative deprivation for scarce resources, and cultural conflict—described by Jencks and Mayer (1990) assume that the presence of affluent neighbors affects children's development and behavior negatively. Competition models are based on a concept of limited resources in which neighbors, peers, and/or classmates compete for scarce resources, suggesting that a large proportion of affluent neighbors may be a disadvantage. When there are scarce resources, such as grades in school or jobs in the workforce, affluent neighbors can be seen as increasing competition. Moreover, competition with high socioeconomic-status peers in school could lead to low grades, low class rank, and low self-esteem, potentially translating into social isolation, depression, anxiety, and/or delinquency, such as occurred at Columbine High School in Colorado (Marsh & Parker, 1984; Wood, 1989; Collins, 1996).

Relative deprivation models imply that people evaluate their own position in the community by comparing themselves with their more affluent neighbors, peers, or schoolmates. Canache (1996) compared a person's individual status with that of his or her own neighborhood as opposed to that of other neighborhoods and found that poor persons living in wealthy neighborhoods (especially homogeneous neighborhoods) stated that they experienced greater frustration and discontent and supported political violence more than poor persons living in poor neighborhoods. Vartanian (1997) found that people

stay on welfare longer when they live in neighborhoods that are economically worse off than other neighborhoods. These studies adequately address the subjective conditions that the relative deprivation model explores. Moreover, children in low-income families fare better in low-income neighborhoods than in high-income neighborhoods. Living with advantaged or affluent neighbors could provoke resentment among poor children, and children may face discrimination from being a racial or ethnic minority. Immigrant children from low socioeconomic-status families, for instance, who make unfavorable judgments of their school performance and economic standards by comparing themselves with their more affluent counterparts, may reduce their effort and drop out of school instead of trying harder to get good grades and be successful at school.

Finally, models of cultural conflict suggest that individuals who are not able to meet the expectations of society may form a “common culture” as a reaction to the unequal living conditions, opportunities, and successful individuals in the society (Jencks & Mayer, 1990). In these models, poor children have limited ability to tap into the resources of the advantaged community and may, in fact, be able to obtain more resources in a disadvantaged neighborhood in which they are able to build stronger social ties. Also, the particular children in advantaged or affluent neighborhoods with whom poor children associate could be those with the lowest incomes, and also could be engaging in more risky and delinquent behaviors than the peers that the poor children would have spent time with if they had remained in a disadvantaged neighborhood.

However, there is another possibility for immigrant children: poor immigrant children going to school with affluent neighbors, particularly co-ethnic neighbors, may not feel deprived but instead may feel competitive and try to perform better. This may be

especially relevant for immigrant adults and their children because many of them want to realize their “American Dream.” They may work harder in order to keep up with their advantaged neighbors.

Leventhal and Brooks-Gunn (2000) identified three potential mechanisms that capture ways to estimate neighborhood effects on children’s development and behavior by recomposing the previous approaches explained by Jencks and Mayer. These three mechanisms are institutional resources, relationships, and norms/collective efficacy. The institutional resources construct focuses on the availability, accessibility, affordability, and quality of institutions in the community that provide and promote stimulating learning and social opportunities, such as childcare, schools, recreational centers, health centers, and employment opportunities. The relationships construct emphasizes family-level processes, including parental characteristics (e.g., mental and physical health, coping strategies), parenting styles and behavior (e.g., warmth, responsiveness and sensitivity of the caregivers to the child’s needs, harshness, supervision), and characteristics of the home environment (housing quality and structure). The norms/collective efficacy construct emphasizes that the neighborhood may influence children by means of community-level formal and informal processes that facilitate monitoring and supervising children and youth, and prevent problem behaviors in the community.

Empirical Studies of Neighborhood Effects

Empirical studies of neighborhood effects have employed both objective and subjective means (Gephart, 1997). Objective indicators are derived from census data, police department statistics, direct observation, and other administrative or public health

records (Raudenbush & Sampson, 1999; Shonkoff & Phillips, 2000; Krieger et al., 2003). Specifically, these studies analyzing the neighborhood effects on social and developmental outcomes have employed non-experimental methods, used objective cross-sectional data, and focused on adolescents (Gephart, 1997). Most of them have examined socioeconomic status as the main dimension of neighborhoods (Leventhal & Brooks-Gunn, 2003). Subjective indicators in neighborhood effects research are based on primary data collected from residents to gauge their perceptions of neighborhood safety, social interactions, and physical disorder (Sampson, Raudenbush & Earl, 1997; Coulton, Korbin & Su, 1996).

In one of the few studies investigating the effects of neighborhood characteristics such as SES, male joblessness, family concentration, or ethnic diversity on preschool (3-4 year olds) and early school-age (5-6 year olds) children, Chase-Lansdale et al. (1997) assessed children in two developmental domains: cognitive and behavioral functioning. Researches derived data from two different data sets: a) The Infant Health and Development Program (IHDP, 1990), and b) The Children of the National Longitudinal Survey of Youth (NLSY, see Chase-Lansdale, Mott, Brooks-Gunn & Phillips, 1991). The IHDP produced a longitudinal data set in which a total of 793 subjects were examined at age three and then at age five. In the IHDP, children's verbal ability was assessed using the Peabody Picture Vocabulary Test-Revised (PPVT-R) at both ages. Children's cognitive functioning was measured using the Stanford-Binet Intelligence Scale Form L-M (third edition; Terman & Merrill, 1973) at age three, and the Wechsler Pre-school and Primary Scale of Intelligence (WPPSI) (Wechsler, 1987) at age five. Finally, children's behavioral functioning was assessed using the Child Behavior Checklist for Ages 2-3

(CBCL/2-3) (Achenbach, Edelbrock & Howell, 1987) at age three, and the Revised Child Behavior Profile for ages 4-5 (CBP/4-5) (Achenbach & Edelbrock, 1984) at age five.

The NLSY, on the other hand, was a cross-sectional data set and included a total of 882 preschool and 697 early school-age children. Similar to the IHDP, all children in the NLSY were assessed for their verbal ability using the PPVT-R. In addition, early school-age children were examined for their intellectual functioning using the Peabody Individual Achievement Tests (PIAT) of Reading Recognition and Mathematics (Dunn & Markwardt, 1970). Children's behavioral functioning was tested with Behavior Problems Index (BPI) (Peterson & Zill, 1986) at all ages except at age three. Analyses indicated that the absence of affluent families but not the presence of low-income families was strongly related with young children's IQ scores. The presence of affluent neighbors was also associated significantly with better early school-age children's verbal ability, reading recognition scores, and academic performance. Further, male joblessness positively predicted internalizing behavior problems. Finally, ethnic diversity of the neighborhood was associated with lower verbal IQ levels and PPVT scores in both samples. Neighborhood influence was smaller for preschoolers than for early school-age children (Chase-Lansdale et al., 1997). One of the limitations of this study is the possibility that families' own preferences to live in certain neighborhoods led to selection bias.

Brooks-Gunn et al. (1993) also used IHDP and Panel Study of Income Dynamics (PSID) to examine the impact of census-based neighborhood data, in concert with family-level variables on early-childhood IQ, behavior problems, adolescent school-leaving, and out-of-wedlock childbearing. They found that lacking affluent neighbors was much more important than the presence of low-income neighbors. Their findings support models of

beneficial institutions and collective socialization. Brooks-Gunn, Duncan, and Aber (1997) matched a number of developmental data sets to census-based neighborhood data. They found that (a) although there was some evidence of neighborhood effects in the preschool years, the most consistent evidence showed up among school-age children; (b) cognitive and achievement measures appear somewhat more sensitive to neighborhood influences than do behavioral and mental-health measures; (c) among the five neighborhood factors used (low SES, high SES, ethnic diversity, male joblessness, and the concentration of families in the neighborhood), the high-SES factor had the most consistently powerful effects; and (d) Blacks were somewhat less affected by the neighborhood measures than Whites.

Garner and Raudenbush (1991) focused on neighborhood social deprivation as a predictor of overall educational attainment in Scotland. Key to their work was that any neighborhood effect prior to secondary schooling was effectively controlled by including measures of Primary 7 achievement (verbal IQ and reading proficiency at Primary Grade 7). Thus, the test of the neighborhood effect was a stringent one. Additional control variables included SES (parental education and occupation, unemployment, family size) and the school attended. The model accounted for essentially all of the variation between neighborhoods (enumeration districts, which are similar to U.S. Census tracts) and between schools, as well as for over half of the variation within schools. Neighborhood social deprivation (a composite index from the British census) was strongly negatively related to overall attainment, after controlling for the above factors.

In a study of the delinquent behavior of youth in a sample of Chicago neighborhoods, Sampson, Raudenbush, and Earls (1997) measured the “collective

efficacy” of neighborhoods by conducting a survey of adult residents in sampled neighborhoods, rather than by relying exclusively on some collection of decennial census measures. It is important to note that their study examined youths’ delinquent behavior within their neighborhood and was not an aggregation of other characteristics. Collective efficacy combines social cohesion (the extent to which neighbors trust each other and share common values) with informal social control (the extent to which neighbors can count on each other to monitor and supervise youth and protect public order). It is thus a capacity for collective action shared by neighbors. Sampson et al. (1997) found that greater collective efficacy predicted lower neighborhood levels of violence, personal victimization, and homicide in Chicago, after controlling for social composition (as indicated by census variables) and prior crime.

Sampson et al. (1997, 2001) also found that collective efficacy substantially mediates associations of concentrated disadvantage, residential instability, and immigrant concentration with violence and crime. Then, it is not so much the criminal genetic character of neighborhoods but rather the capacity of adults to informally regulate social behavior, particularly for young people. Thus, collective efficacy exists relative to a particular task (in this case, protecting public order), and its consequences ought to be specific to the outcome of interest (curbing antisocial behavior, especially of young people).

All of the previously cited studies relied on objective non-experimental data, and none of them fully controlled for the possible biases caused by the unmeasured characteristics of parents that lead them to choose to live in one neighborhood over another (Duncan, Connell & Klebanov, 1997). Rosenbaum (1991) was able to circumvent

these problems by using data from an experiment involving low-income Black families from the Gautreaux Program in Chicago. The Gautreaux Program (Kaufman & Rosenbaum, 1992) is noteworthy because of its quasi-experimental way of investigating neighborhood effects on children and adolescents. The purpose of the Gautreaux Program, which was mandated by a court ruling in 1976, is to eliminate racial discrimination by the Chicago Housing Authority and the Department of Housing and Urban Development in Chicago's public housing program. Within the context of the Gautreaux Program, nearly 4,000 families who resided in public housing have been assigned to private-sector apartments in either the city or the suburbs based on the availability of the housing at the time. In a follow up study including a total of 162 Black low-income families, Rosenbaum, Kulieke, and Rubinowitz (1987) examined the schooling outcomes and school environment of the Gautreaux children with an age range from 6 to 18 years. Of the 162 families, 114 of them moved to white suburbs and rest of the 48 families moved to urban areas in Chicago. Measures of schooling outcomes and the school environment were obtained from mothers and children by interviews. Analyses focused on comparisons between the groups who moved to suburban and urban areas. Children's before- and after-the-move experiences were also compared in the suburban group. Rosenbaum et al. (1987) found that children who moved to suburban areas had higher educational quality (e.g., small classes, satisfaction with the teachers and courses) and demonstrated relatively higher academic performance compared to children who moved within the city.

Most recently, Leventhal and Brooks-Gunn (2004) used experimental data from the Moving to Opportunity (MTO) program, a housing project funded by the U.S.

Department of Housing and Urban Development (HUD) in five cities (Baltimore, Boston, Chicago, Los Angeles, and New York City), to evaluate the effects of moving from low-SES neighborhoods to higher-SES neighborhoods on the schooling outcomes of children. Families who resided in public housing in low-SES neighborhoods were randomly assigned housing subsidies a) to move into private housing in higher-SES neighborhoods, or b) to move into private housing without any constraints in their location of choice. Some of the families did not receive any assistance and remained in public housing. In this 3-year follow-up study, Leventhal and Brooks-Gunn collected data on New York City children's educational outcomes—grade repetition, suspensions or expulsions from school, achievement test scores, family characteristics, and school characteristics including school composition, safety, and quality. In total, 583 children with an average age of 11.79 years and their parents participated in the study.

Children's educational outcomes were assessed with standardized tests, administrative records provided by the National Center for Educational Statistics (NCES), and information obtained from interviews conducted with children and families. Data on family characteristics were acquired from families by interviews. Finally, school safety and school quality were measured based on parents' reports. Analyses compared families who received vouchers to move to high-SES neighborhoods with families who remained in the same neighborhoods, and also families who received vouchers to move into neighborhoods of their choice with families who remained in the same neighborhoods. The results indicated that adolescents who moved to higher-SES neighborhoods had higher achievement scores compared with the other two groups. Further, these children and their families were more satisfied with the quality of schools than their peers who

remained in low-SES neighborhoods. However, neither of these school characteristics played a mediating role between the program effects and elementary school children's educational outcomes. The MTO program is important for its quasi-experimental nature, which eliminates many complications of selection bias. However, as a result of voluntary participation, results could be generalized only for families who agreed to be a part of the MTO program in New York City.

Overall, models of neighborhood effects and empirical studies suggest that neighborhood characteristics play an important role in children's developmental and educational outcomes. All these theories and models emphasize two major characteristics: the socioeconomic constitution of the population and the social organization of the neighborhood. What seems to be neglected in these discussions is identifying and then preventing the negative influence of neighborhoods and the processes that may mediate neighborhood effects. Also, as mentioned at the beginning of the proposal, immigrant children do experience divergent outcomes depending on various social contexts; they may anticipate these consequences and adjusted their assimilation behavior accordingly.

School Effects on Children's Academic Performance

The impact of schools on student achievement has been of great interest in the last four decades. The question of whether different school characteristics significantly impact students' academic achievement is essential in education. Hence, identifying school characteristics that make schools more effective is crucial. Coleman (1966) was the first scholar to study the relationship between school characteristics and student achievement using national probability samples of elementary and secondary students. In his pioneering study, Coleman estimated education production functions in order to

quantify the relationship between students' academic outcomes in standardized tests and school and family characteristics measures. One of the major findings of the Coleman report was that when the socioeconomic background of the students was held fixed, the differences among schools accounted "for only a small fraction of differences in pupil achievement" (Coleman et al., p. 21). In other words, variations in school characteristics were not closely associated with, and had hardly any effect on, variations in student achievement.

The Coleman report generated a series of studies that were conducted to assess further the effects of school resources on academic performance. It is noteworthy that for the last three decades, there have been disagreements among educational researchers, practitioners, and policy makers about the relative impact and importance of school characteristics on students' academic performance. The findings of numerous studies are mixed and inconclusive. Some researchers have concluded that there is little or no evidence of a relationship between school characteristics and student academic performance (Hanushek, 1986; 1989), whereas others reported that the impact of school characteristics on test scores may be substantial (Greenwald, Hedges & Laine, 1996).

The characteristics of schools determine the resources and opportunities that are available to the adolescents and may affect how they perceive the role of education in their lives. School characteristics have an effect on students' school performance that is separate from the effect of their individual traits, family, and neighborhood background. In school effects research, academic performance is modeled as a function of school characteristics, controlling appropriately for student background. The school effects are estimated at the school level, where they are adjusted for student background in average

school achievement and are modeled as a function of school characteristics (Lee, 2000).

The social composition of students in a school influences its performance. For example, school composition measured as a percent of minority or disadvantaged students in the school is negatively associated with performance and accounts for a substantial amount of variability in achievement (Bryk & Raudenbush, 1988). In particular, schools with higher proportions of minority and disadvantaged students have lower average achievement than other schools.

Studies show that higher average family SES aggregated at the school level positively affects students' academic performance (Pong, 1998; Rumberger & Palardy, 2005). Other studies indicate that inequality still exists between schools of predominantly white populations and schools of predominantly minority populations despite the great progress made in desegregation (Gamoran, 2001). In her study of the transformation of minority schools in California, Hook (2002) found that immigrant students tend to concentrate in schools attended by African American students. Based on this finding, she reported that a pattern of segregation emerged between non-Hispanic White students, on the one hand, and immigrant and African American students on the other. Hook's and earlier studies demonstrated that there is an association between a school's ethnic and socioeconomic composition and individual students' academic success. Even after controlling for family background and the SES of the school, children who attended high-minority schools still show signs of less academic success (Caldas & Bankston, 1998; Portes & MacLeod, 1999).

The impact of school structure has also been demonstrated. School structure variables, such as school location or urbanization and school sector, are significantly

related to student achievement. For example, Coleman and Hoffer (1987) found that, on average, students' verbal and mathematics achievement growth in Catholic schools was higher than that in public schools. This sector effect holds even when student characteristics such as academic background, minority status, and SES were held constant (Bryk, Lee & Holland, 1993; Raudenbush & Bryk, 1989).

Other school composition variables such as school SES are also significantly associated with student achievement (Lee & Bryk, 1989). Higher SES schools have typically higher average achievement than lower SES schools. In addition, the effect of another potential compositional variable, such as the length of the school year, on achievement has also been studied. Specifically, the length of school year positively predicts learning results (D'Agostino, 2000) and provides positive returns in education (Card & Krueger, 1992). In addition, Raudenbush and Wilms (1995) found Type A school effects in their study. The Type A effects incorporate a variety of school characteristics that are not necessarily restricted to the practice of the school staff. For example, school SES and school composition are attributes of a school. In contrast, student-teacher ratio or college-prep classes may be viewed as school-specific treatment effects for students' performance (Raudenbush & Wilms, 1995).

There is a debate in the school effects literature about whether school resources are consistently important predictors of achievement. There is some evidence, however, that class size has a significant effect on student performance and student dropout rates (Nye, Hedges, & Konstantopoulos, 2000; Rumberger & Thomas, 2000). For example, a recent study on allocation of education resources such as class size demonstrated a positive relationship between small classes and academic performance (Nye, Hedges, &

Konstantopoulos, 2000). In addition, student-teacher ratio, a proxy of class size, has been an important factor of successful preschool and school programs (Zigler & Styfco, 1994).

School characteristics are also used to account for academic performance of immigrant students. The major argument is that school experiences are not conducive to immigrant students' learning, "leading to class and ethnic separation in opportunities to learn and to limited education futures" (Oakes, 1990, cited in Portes, 1999, p.491). Portes and Macleod (1996) found that attendance of immigrant students in high SES schools increases academic performance and reinforces the positive effect of parental SES, whereas attendance at inner-city schools flattens the negative effects of ethnic disadvantage. Immigrant students in the U.S., especially those with limited English proficiency, perform less well than non-immigrant students because they are often channeled by schools into less demanding courses, thus reducing their opportunity to master core subjects in the curriculum (Wang & Goldschmid, 1999). These researchers found that reduced opportunity to learn leads to serious performance shortfalls, and advocated a relatively inexpensive approach that directs immigrant and LEP students into more demanding curricula pathways to improve their academic performance.

Portes (1999) indicated characteristics that influenced academic performance of immigrant students in the U.S., and reported that school effects differ systematically across immigrant group, especially Hispanic and Asian immigrants. Hispanic immigrants are more likely to attend low SES schools and schools where students are exhibiting problem behaviors, and less likely to attend private schools than are Asian immigrants (Portes, 1998). All schools attended by immigrant children have larger average class size than do schools attended by native children (Gunn et al, 1993). Similar ethnic gaps also

exist between private school enrollments. In a study using NELS: 88 data, Portes and MacLeod (1999) indicated that only six percent of Mexican-Americans attend private schools, as opposed to 15 percent of Asian-American students and 30 percent for the rest of the second-generation immigrant students. Since public schools are open to everyone of eligible age and parents have to pay to enroll their children in private school, private school enrollment obviously indicates added motivation of the parents to have their children succeed. Portes and MacLeod (1999) also found that students in private schools have higher achievement test scores after controlling for individual level variables.

Other school characteristics such as prior school history in Mexico, current academic track, and bilingual assistance cause Mexican immigrant students in the U.S. to perform better academically than non-immigrant Mexican students (Padilla & Gonzalez, 2001). Herman and Tucker (2000) studied three groups of at-risk Latino students in the U.S. (Nicaraguan-born immigrants, Cuban-born immigrants, and their U.S.-born counterparts) and found that engagement (often a result of both school and family efforts) is a significant predictor of overall GPA and teacher-rated achievement, even after controlling for demographics and teacher-rated problem behaviors.

Neighborhood and School Involvement Effects

In this study, neighborhood-school involvement effects are guided by Coleman's social capital theory. Coleman (1988) identified three forms of social capital: obligations and expectations, information channels, and social norms. As an example, Coleman examined the effects of social capital within the family and in the neighborhood outside the family. Social capital in the family: Coleman pointed out that in the examination of

the effects of various factors on academic performance; the ordinary approach considers “family background as one entity, distinguished from schooling in its effects.” To Coleman, however, “family background” consists of at least three analytically separable components: financial capital, human capital, and social capital. “The social capital of the family is the relations between children and their parents (and, when families include other members, relationships with them as well).” (Coleman, 1988, p.110). Financial capital and human capital in the family do not necessarily translate into social capital. Social capital within the family depends both on the physical presence of adults in the family and on the attention given by the adults to the child. His analysis led him to conclude that “social capital in the family is a resource for education of the family’s children, just as is financial and human capital.” (p.113).

Social capital outside the family: The social capital for children’s development can also be found outside the family “in the community consisting of relationships that exist among parents, in the closure exhibited by this structure of relations and the parents’ relations with the institutions of the community.” Coleman used the frequency that the families move and the type of schools children go to as approximate measures of the extent of the social capital outside the family. His analysis of the High School and Beyond data confirmed the importance of this form of social capital for the education of children.

Coleman believes that trust is central to the concept of social capital. Coleman (1988) explicitly stated that social capital depends on trustworthiness. A high degree of trustworthiness implies strong obligations. A high level of trust between parents and their children is likely to foster a sense of obligation in children to fulfill parents’ expectations.

In addition, social capital in the school and neighborhood for a child can be facilitated by what Coleman (1988) called intergenerational closure, a type of social structure within a community that binds children and their parents together in an enclosed network. When a parent becomes acquainted with the parents of his or her child's friends, the parent is likely to receive feedback about the child's behavior outside the home. The child will then be subject to the shared norms set by the neighborhood. Some forms of social capital are commonly referred to by educators as types of "parental involvement," which typically includes parents' communication, participation, and collaboration with the school and the neighborhood, as well as guidance directed toward their children's learning outcomes (Epstein, 2001).

Research on children's academic performance concentrates on several types of social capital. Parent-children interaction and neighborhood are home-based social capital. Parents' involvement in school, such as the parent teacher organization (PTO), facilitates parents' relationships with teachers and other adults in the school. These organizations formed by parents involve parents in governance and advocacy in school and the larger community. These social relationships in the family and school increase the social capital available to a child.

Social capital differs by racial/ethnic groups (Muller & Kerbow, 1993). Compared with native parents, Asian parents are less likely to talk about school matters or school plans, or to help with the child's homework (Lew, 2006). However, Asian parents have higher educational expectations for their children than do native parents, and are more likely to have rules about maintaining grades (Kao, 1995). East-Asian families tend to invest more aggressively in financial, human, and within-family social capital than

families from other racial groups (Sun, 1998). Social capital differs by immigrant status as well. Immigrant parents are found to score higher than native parents on two measures: parents' knowledge of the adolescent's whereabouts and the number of times parents monitor schoolwork (White and Glick, 2000).

Hao and Bonstead-Bruns (1998) used Coleman's framework of within-family social capital and between-family social capital in their analysis of parent-children differences in educational expectations and the academic performance of immigrant and native students. Using the NELS: 88 data and focusing on four immigrant groups (Filipino, Chinese, Korean, and Mexican) and three native groups (Mexican, Black, and White), their analysis indicated that "high levels of parent-children interactions increase parents' and children's expectations and that higher shared family expectations enhance achievement and greater differences suppress achievement. Immigrant status increases expectations, for Chinese and Korean families more than for Mexican families."

The popularity of the social capital concept in the social sciences is counterbalanced by debate about its definition and actual effect. Portes (2001), for example, contends that much of the alleged effect of social capital on immigrant children's educational achievement is spurious. He used the same data set (NELS) that Hao and Bonstead-Bruns (1998) had used and concluded that the apparent strong effects of social capital could be largely explained by students' age and gender, parental socioeconomic status (SES), and length of U.S. residence. This study extends these previous efforts and tests whether parental involvement and social capital can explain differences in academic performance among/between ethnic groups.

Assimilation Experiences for Immigrant Children

Of the demographic changes with greatest implications for U.S. schools, few transformations are more profound than the increasing attendance by first- and second-generation immigrant children. In 1990, about 15 percent of all children in the U.S. were either foreign-born or the children of immigrants (Zhou, 1997). By 1997, this figure increased to 20 percent, totaling 14 million children (Hernandez & Charney, 1998). The transformation does not derive only from increased numbers of immigrants compared with the recent past. Since 1965, when Congress liberalized immigration policy, the number of foreign-born immigrants has quadrupled, and countries of origin have shifted from Europe to Latin America and Asian countries (Martin & Midgley, 1994). In 2000, over half of the foreign-born population came from Latin America, while more than a quarter came from Asia (Kent & Mather, 2002). Increasing proportions of school children have Latino or Asian roots, particularly in the western states. Today's newcomers also arrive from poorer parts of the world, thus increasing their distinctiveness from the majority of native-born children.

The U.S. public school system has generated a great deal of concern about its school success and adaptation. School success, often measured by academic achievement and school persistence, has been used as a marker of immigrant assimilation and adaptation in the immigrant literature. Three paradigms have emerged from studies of immigrant assimilation and adaptation. One is the classic *straight-line assimilation model*, which describes immigrants as becoming more "American" over the generations, or with increasing length of residence in the U.S. Compared to U.S.-born children, many immigrant children are at great disadvantage. Many bear the scars of war. Many face

risks associated with poverty, low levels of parental education, deficiencies in English, acculturation stress, and lack of health insurance (McDonnell & Hill, 1993; Caplan, Whitmore & Choy, 1989; Duran & Weffer, 1992; Kao, 1999; Hernandez & Charney, 1998). As immigrants assimilate into America's mainstream society, the straight-line assimilation model suggests, they overcome their cultural and socioeconomic disadvantage, but without assimilation, immigrants remain confined to immigrant enclaves (Park, 1928).

Recent evidence on immigrant children's academic achievement has rejected the straight-line assimilation model (Gans, 1992). Gans (1992) outlines several distinct trajectories that the children of the new immigrants, or the "new second generation," can follow. These trajectories include downward as well as upward mobility among the possible outcomes. Portes and Zhou (1992, 1993), through their study of second-generation immigration children, suggested an alternative "segmented assimilation model," which posits that the patterns of assimilation vary by immigrant group. Different groups assimilate into different sectors of American society. Some groups follow a linear assimilation process and eventually escape poverty and achieve socioeconomic advancement, just as European immigrants did in the past. Other groups may experience deterioration in socioeconomic status over the generations, and become susceptible to long-term poverty and discrimination. Still others may achieve socioeconomic mobility that matches middle-class White Americans, but with preservation of the culture from their place of origin. The "acculturation without accommodation" strategy could enhance academic success among immigrant youths. According to Portes and Zhou (1993), these three discrete paths of becoming American depend on the "modes of incorporation."

They identify the “traditional” type of assimilation as only one possible assimilation trajectory for contemporary families—henceforth referred to as “Path 1.” Alternatively, an immigrant family may settle in an impoverished inner-city area. If it assimilates in this context, it may experience downward assimilation into the urban underclass (“Path 2”). Finally, an immigrant family may choose not to assimilate fully. This third possible assimilation trajectory (“Path 3”) involves deliberate preservation of the immigrant group’s culture and values, accompanied by forms of assimilation necessary in order to achieve economic integration.

The segmented assimilation perspective suggests that this third path may be the most beneficial for immigrants living in disadvantaged contexts. This is a function of policies and prejudices existing in the host country. The relevant parameters of the favorable or unfavorable incorporation include skin color, location, and occupational opportunities. Overall, the segmented assimilation perspective places the assimilation process in the context of a larger society consisting of segregated and unequal segments. Therefore, there is no single path every immigrant group follows into the “mainstream.” Race and ethnicity may affect the societal segment into which immigrant youth are assimilated.

In recent years, many researches connected the segmented assimilation model with immigrant children’s academic performance. This research shows that immigrant children from Asia often have a distinctive educational advantage, and more often fare better in school than do U.S.-born White children. In contrast, Hispanic immigrant children do worse than their native counterparts (Kao & Tienda, 1995; Rumbaut, 1995; Kaufman, Chavez & Lauen, 1998; Pong, Hao & Gardner, 2005). Within the pan-ethnic

categories of immigrant children, there are further variations by country-of-origin. Chinese, Korean, and Southeast Asian youth do better in math and reading than their White counterparts, while Pacific Islanders earn considerably lower test scores than their White counterparts. Likewise, Cuban youth typically outperform other Hispanic immigrants on academic tests, but Mexicans, who constitute the largest U.S. immigrant group, have much less success (Kao, 1995; Rumbaut & Cornelius, 1995; Portes & MacLeod, 1996; Hao & Bonstead-Bruns, 1998; Hirschman, 2001).

Disagreeing with both the straight-line assimilation theory as well as the accommodation without assimilation hypothesis, Kao and Tienda (1995) proposed an alternative *immigrant optimism* perspective that shifts the focus from immigrant children to their immigrant parents. They found parental immigrant status to be more influential on immigrant children's school success than youths' immigrant status. Immigrant parents often have high hopes for their children's future, which is a source of support for their children's high school achievement. Regardless of the youth's place of birth and ethnicity, having immigrant parents is associated with higher academic achievement in both math and reading in the 8th and 10th grade (Kao & Tienda, 1995). When U.S.-born children are divided into 2nd and higher-generations, the 2nd generation has an advantage in reading proficiency over the 1st generation because of their fluency in the English language (Kao & Tienda, 1995). These results suggest that foreign-born parents may hold high expectations or adopt practices that help their children to succeed in school.

Academic performance is a useful indicator of immigrant assimilation. Segmented assimilation theory has been a popular explanation for the diverse experiences of assimilation among new waves of immigrants and their children; it is also suitable to

explain the process and the outcomes of immigrant assimilation. Furthermore, the theory argues that the consequences of assimilation, especially for children, depend on the particular assimilation pathway followed by an immigrant family. Thus, segmented assimilation theory focuses on both the process of assimilation and the outcomes of assimilation. The recent diverse wave of mass immigration to the United States has sparked attempts to re-think theories of immigrant adaptation and assimilation. Portes and Rumbaut (2006) expand segmented assimilation theory by specifying the factors that influence disparate outcomes. They identify human capital, models of incorporation into the host society, and family structure as the relevant background factors that shape the experience of the first generation. These, in turn, affect the relationship between the type of acculturation experienced by immigrant parents and the type experienced by their children. According to this, different immigrant groups bring with them different levels of human, financial, and political capital that ultimately determine their assimilation into different segments of the U.S. society. The immigrant groups' location of settlement has strong implications for its eventual socioeconomic success. Immigrants with more education, wealth, or government support tend to settle in resource-rich neighborhoods with good schools. Such favorable conditions enable their upward mobility and successful incorporation into the host society. By contrast, less educated and poor immigrants who receive no special government support can only afford housing in disadvantaged neighborhoods with poor schools. Consequently, these groups are susceptible to long-term poverty and discrimination.

Using neighborhood effects models and segmented assimilation theory together, there are various explanations about why disadvantaged neighborhoods could produce

negative outcomes for the immigrant children. Disadvantaged neighborhoods have “sharply lower expectations for social control” (Sampson et al., 1999). Immigrant children may identify more with the countercultural message of poor native-born peers, even if they have no subjective reason to do so (Portes & Zhou, 1993). Moreover, the residence of immigrant children in disadvantaged ethnic enclaves puts them in schools that are dominated by low-income students, both from their own group and from the native-born minority poor (Zhou, 1997). Immigrant children living in disadvantaged neighborhoods typically attend “schools with a demoralized educational climate” (Hirschman, 2001). Controlling for individual ability and family background, poor educational performance by a student’s peers reduces the student’s performance; the magnitude of the effect is larger for students already performing poorly (Zimmer & Toma, 2000). Peer effects operate the same for immigrant children, and tend to reinforce existing disadvantages (Portes & MacLeod, 1996). Immigrant children in disadvantaged ethnic enclaves have the option of remaining embedded in the culture of their parents’ homeland, or at least the version of it that flourishes in the ethnic enclave. The existence of a familiar neighborhood culture in sync with a child’s familial culture may increase the psychic cost and reduce the perceived benefits of cultural and linguistic integration. For example, even third -Hispanics are more likely to speak Spanish in an ethnic neighborhood context (Alba et al., 2002), although one can argue whether this is positive characteristic (bilingualism, biculturalism) or an indication of incomplete assimilation or both (Mouw & Xie, 1999).

Historically, Hispanic and Asian immigrants largely settled in metropolitan areas in the northeast and western states of the U.S. In recently years, immigrant settlement

patterns have become less urban (Alba & Logan, 1993). Although some immigrants have begun to settle away from the cities (Singer, 2004), most immigrants are still more likely than their native counterparts to live in urban areas—an often undesirable socioeconomic environment. This spatial distribution tends to reflect Hispanic immigrants' experience more than that of Asian immigrants (Jenson, 2001). Of course, more detailed information is needed to definitely determine if neighborhood conditions for Asian immigrants are better than those for Hispanic immigrants. Nevertheless, poor neighborhood conditions may be one reason Hispanic students perform less well in school than do immigrant Asian or native White students (Rong & Grant, 1992; Portes & MacLeod, 1996; Hao & Bonstead-Bruns, 1998; Fuligni & Witkow, 2004).

Overall, immigrant children may adjust their assimilation behaviors in response to local contexts. Segmented assimilation theory predicts that the consequences of assimilation should differ according to the local context. This theoretical framework assumes that immigrant children are passive agents subject to the influence of their local environments. However, if immigrant children indeed experience divergent outcomes depending on local context, they may well anticipate these consequences and adjust their assimilation behavior accordingly. It therefore follows that the decision of whether and how to assimilate may also depend on local context. The neighborhood may well affect how immigrant parents guide their children's assimilation processes, and therefore immigrant children's degree of assimilation may vary systematically according to neighborhood status.

For this study, assimilation is conceptualized as similarity among/between immigrant children (both first- and second-generation children, and, in other words, all

children in immigrant families) and their non-immigrant peers. In other words, assimilation is defined as diminishing difference among/between immigrant and non-immigrant individuals with respect to educational outcome, within the same neighborhoods. Differences among/between immigrant children and the non-immigrant children in their neighborhoods with respect to their educational achievements will be examined. Educational outcome is appropriate for two reasons. First, it is critical among the outcomes that most concern immigrant parents as their children become “Americanized” (Portes & Rumbaut 2006). Second, it can be considered as a social behavior, in the sense that adolescents usually engage in education in the company of others. Therefore, educational achievements can be expected as a particular influence by children’s peer group and adult group.

Hypotheses of the Study

Six empirical hypotheses are tested in analyzing which neighborhood-level characteristics contribute to immigrant children’s academic performance (research question #1), which school-level characteristics contribute to immigrant children’s academic performance (research question #2), what are the interactive characteristics between neighborhoods and schools (research question #3), and the differences in neighborhood and school conditions for non-immigrant and immigrant children. The neighborhood-school involvement variable is measured by parent-school involvement and social capital, which can be expected to explain the interactions between neighborhoods and schools.

Hypothesis 1 and 2 are used to examine neighborhood effects. Hypothesis 3 and 4 attempt to test school effects. Hypothesis 5 and 6 are proposed for neighborhood-school

involvement effects. In this study, “among” is defined as taking into account eight immigrant groups, and “between” is defined as taking into account immigrant groups and non-immigrant groups. These hypotheses represent several possible types of neighborhood effects, school effects, and interactive effects between neighborhood and school for both immigrant and non-immigrant groups.

Hypothesis 1: Among immigrant children, there is a positive relationship between advantaged neighborhood characteristics and academic performance. And there is a negative relationship between disadvantage neighborhood characteristics and academic performance.

Hypothesis 2: Between immigrant and non-immigrant children, a positive relationship between advantaged neighborhood characteristics and academic performance is more associated with non-immigrant children than immigrant children. A negative relationship between disadvantage neighborhood characteristics and academic performance is more associated with immigrant children.

Hypothesis 3: Among immigrant children, schools characterized by high-level variables lead to better academic performance.

Hypothesis 4: Between immigrant children and non-immigrant children, schools characterized by many high-level variables are more associated with non-immigrant children’s academic performance than that of immigrant children. Schools characterized by many low-level variables are more associated with immigrant children’s academic performance.

Hypothesis 5: Among immigrant children, higher levels of neighborhood-school involvement characteristics are associated with higher levels of academic performance.

Hypothesis 6: Between immigrant children and non-immigrant children, higher levels of neighborhood-school involvement characteristics are more associated with higher levels of academic performance for non-immigrant children. Low levels of neighborhood-school involvement characteristics are more associated with lower levels of academic performance for immigrant children.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Every 10 years, the U.S. Census Bureau provides information that can be used to construct neighborhood-based measures, such as individual and group socioeconomic status, the percentage of adults with college degrees, and percentage of adults without jobs. Such data are available for U. S. Census tracts, zip code, cities, counties, metropolitan areas, and other useful geographically defined areas. However, the Census data do not have any direct measures of family context, the school, the neighborhood, and the ethnic community, nor do they provide detailed information on school performance. There are a few national surveys that offer important data that the census lack, such as National Educational Longitudinal Study and the National Longitudinal Survey of Adolescent Health (Add Health).

The Data Set

This study uses data from the National Longitudinal Survey of Adolescent Health (Add Health, <http://www.cpc.unc.edu/addhealth> for a detailed description of the study), which began in 1994. Add Health is a nationally representative study of children in grades 7-12. The Add Health data set provides the opportunity to focus on individual, biological, behavioral, and personality factors and how they interact with the social environment to predispose adolescents to, or protect them from, health risk behaviors. The sample is representative of U.S. schools with respect to region, school location, school type, ethnicity, and school size. Therefore, unlike previous survey studies, Add Health contains both a geographic representation of youth across the U.S as well as youth

who vary in certain characteristics such as age and ethnicity. Additionally, Add Health uses self-reported data from youth, parents, and school administrators.

Add Health was initially conducted in three Waves (Harris et al., 2003). Wave I was conducted from 1994 through 1995; 90,118 students from grades 7-12 attending 144 schools across the United States answered brief questionnaires about their social and demographic characteristics, the education and occupation of their parents, household structure, friendships, self-esteem, and expectations for the future in school. Before students could participate, parents had to give their permission through procedures approved by each school. In addition, each adolescent was given a roster of students in his/her school so that he/she could identify up to 5 male and 5 female friends, to indicate which of 5 activities they had engaged in with each of these friends during the past week. Because the numbers of their friends were recorded, a child's peer group and friendship networks can be determined and described in detail.

Wave II, called In-Home I, was conducted between April and December 1995. In this phase, written consents were obtained from both students and their parents before 20,745 in-home student interviews were conducted. Interviews covered such topics as family life, peer relationships, goals and aspirations, romantic partnerships, sexual partnerships, substance use, and criminal activities. This "in-home" sample was composed of both a nationally representative "core sample" of approximately 12,000 students, and a dozen special samples of groups that would otherwise be too small for analysis (for example, twins, Cuban Hispanics, and disabled youth). A parent of each adolescent was also asked to complete an interview and many—about 18,000 parents, usually mothers—agreed to participate. This second-phase in-home sample also provides

data at the neighborhood level. As part of Add Health's data collection, over 2,000 neighborhood variables were extracted from the 1990 Census of Population and Housing and were linked to individual students. The geographic units in In-Home I included the census block group, census tract, and county.

Wave III, also called In-Home II, were follow-up interviews given to 14,738 adolescents who participated the In-Home I from April 1996 to August 1996. Overall, Add Health provides adequate sample sizes to examine adolescents in both Asian and Latin American immigrant families, although it is not possible to examine many specific national origin groups.

Analytic Sample

The present analyses use data from Wave I and Wave II of Add Health. The total samples of the first and second phase contain 17,719 adolescents within 144 schools. About one-quarter (4,300) of the sample are immigrant students.

For the purpose of this study, eight immigrant groups that have a large enough sample size to analyze were selected. These eight immigrant groups are: 779 non-Hispanic Whites, 283 non-Hispanic Blacks, 575 Mexicans, 436 Puerto Ricans, 367 Cubans, 226 Chinese, 209 Koreans, and 490 Filipinos. The remaining immigrant groups combined into one category named as "other" (906). The purpose for categorizing this "other" students group is maintaining a consistent sample size. The analysis results for this group are not substantively interpreted.

As for ethnicity, non-Hispanic Whites refer to all children having origins in any of the original peoples of Europe, North Africa, or the Middle East except those of Hispanic origin. Non-Hispanic Whites are the largest ethnic group in the Add Health data

set. Non-Hispanic Blacks refer to all children having origins in any of the black racial groups of Africa except those of Hispanic origin.

There are five Hispanic categories in the Add Health data set: *Mexican, Cuban, Puerto Rican, Central or South American, and other Hispanics*. In this study, Mexicans, Puerto Ricans, and Cubans were kept in the analyses. Among the Hispanic group, Mexicans represent the largest Hispanic population. According to Census 2000, Mexicans consist of over 50 percent of all Hispanics in the U.S.. Mexican students have been reported to perform less well in school compared to other immigrant students (e.g., Portes & MacLeod, 1996). Although immigrants who move from Puerto Rico to the mainland are U. S. citizens, their migration pattern and adaptation experiences are similar to those of other immigrant groups. Therefore, in this study, Puerto Ricans are still considered as immigrants. On the other hand, Cuban immigrants mostly come from professional, technical, and entrepreneurial sectors of Cuban society. They represent a smaller proportion of Hispanics but nevertheless have one of the highest academic performances among Hispanics (Rodriguez, 2003). In this study, these three groups provide considerable variability among Hispanic groups on educational achievement and immigration status.

Asian students were classified as: *Chinese, Filipino, Japanese, Asian Indian, Korean, Vietnamese, and other Asian*. Chinese, Koreans, and Filipinos were selected for the analyses in this study. Immigrant children from Asia often show a distinctive educational advantage and more often fare well in school than do U.S. children. Chinese and Koreans are two particularly high-achieving ethnic groups among Asians (Bankston

& Zhou, 2002). Filipinos represent one the largest immigrant populations among Asian Americans.

Conventional academic achievement comparisons have emphasized Black and White differences, noting Whites as the most advantaged group and Blacks as the most disadvantaged group (e.g. Wilson, 1996; Massey & Denton, 1993). Categorizing immigrant groups as non-Hispanic White and Black helps in understanding the position occupied by immigrants in the racial/ethnic hierarchy.

This study is primarily based on the Wave I and Wave II in-home surveys, with corresponding data on selected variables also drawn from the in-school questionnaire and the parent questionnaire, as well as neighborhood-level data from the contextual dataset. More specifically, the in-home survey provided data on the adolescent student's school grades, individual, and family characteristics. School information comes from three sources: the school administrative survey, the in-school survey, and school information codebook. Schools were separated by school type (private or public schools) and school location (urban, suburban, and rural) in this study.

As mentioned before, neighborhood variables were extracted from the 1990 Census of Population and Housing and were linked to individual students in the Add Health dataset (Billy, Wenzlow & Crady, 1998). In the present study, the neighborhood is defined as the Census tract, partly due to restrictions of the available data. While locally defined neighborhoods with natural boundaries are the ideal definition of neighborhood, such contextual data usually are not available in large national datasets. Given that the sample was stratified by region, state, and school, respondents were not necessarily equally distributed across smaller geographic units. For this reason, the smallest census

unit (the census block) was not practicable as a proxy for neighborhoods, since half of census blocks had only one respondent, which makes a multilevel regression model difficult to apply. Therefore, the census tract is the most proximate level of aggregation available that also provides enough distribution of the sample across geographic units to be able to detect variation both within and across neighborhoods. Accordingly, census tracts are widely used among social researchers as an appropriate operationalization of “neighborhood” (Sampson et al., 1997).

As is true when using any school-based survey data, children who never entered the school system and those who dropped out of school before the survey was conducted are not represented in the data. Children of Hispanic (especially Mexican) labor immigrants are the most likely to never enter a school in the U.S. (Waldinger & Feliciano, 2004). Although there is no accurate documentation concerning who these children are, they most likely have the lowest SES family background. Given what we know about the relationship between family-level variables and academic performance, many of these children probably would join the ranks of low performance if they enrolled in school. Since they are not captured in the survey data, the findings of this research might overestimate the school grades of Hispanics, especially Mexican immigrant students. In other words, the study might understate the performance gap between Hispanic students and other group students.

In addition, samples of this study contain extensive cross-classification between schools and neighborhoods. This is to a large extent due to the fact that Add Health includes children in grades 7 to 12 (from age 10 to 18). Whereas a school often receives students from a variety of tracts, students from the same tract may attend different

schools. In the Add Health data set, the 17,719 students come from 2,212 census tracts. Students can share memberships in a tract but attend different schools. Based on the dataset, in 1,707 Census tracts, resident adolescents attend just one school. Students living in other tracts split between two or three schools. In this study, there are total of 2,722 tract-school specific units.

Academic Performance as Measured by School Grades

There are many terms that describe the concepts of how well students do academically. Among them are “educational achievement,” “academic performance,” and “school performance.” In some studies, these terms are used interchangeably, and they have been measured either by school grades or standardized test scores. In other studies, researchers have made a distinction between them. When the distinction is made, “academic performance” or “school performance” is usually measured by school grades, and “educational achievement” is measured by standardized test scores or “achievement test” scores. The majority of studies in this area use standardized test scores. Fewer studies utilize school grades. There are obviously advantages in using standardized test scores. They are administered to all students under the same conditions and therefore are comparable across schools. They are more objective because the grading is mostly automated. The opposite can be said of school grades. Since different schools might have different grading policies and some grade students on a curve, grades from different schools are less comparable than standardized test scores. Because grades are given by teachers, they are also more subjective. In spite of these psychometrically undesirable traits, there are some characteristics that make school grades good measures of how students perform in school. In a study about educational achievement that does not

involve immigration status, Keith and Benson (1992) cited the following reasons for using school grades: 1) grades are the most frequent measures of learning; 2) they are more understandable; 3) they are more easily manipulated than achievement test scores; and 4) they are the basis for important decision such as promotion and retention. I do not think the third reason as stated is a good basis for using grades as desirable measure of learning. I would add an additional advantage: while a standardized test score is the result a student gets from one administration of a test, a grade carries a teacher's evaluation of a student's overall effort and achievement in a course. Likewise, the grade point average (GPA) carries several teachers' evaluations of a student, and reflects the student's overall effort and achievement in multiple courses. The other three reasons cited by Keith and Benson are self-explanatory. I would add another reason by pointing out that most colleges and universities use high school grades as an important criterion in their admissions. In some states and some universities (e.g., Ohio, Texas, the University of California, Los Angeles), students who are in the top 10 percent of their graduating class are eligible for automatic admission to any public university in their respective states.

For these reasons and because of the availability of the data, I use school grade (GPA) as measurement of academic performance. Because most of the more comprehensive studies in the area of immigrants' education have used standardized test scores as the outcome variables, the current study using a different, but equally important measurement, offers a unique angle on the issue.

Measures

Dependent Variables

The purpose of this study is to explore the ways in which the two important ecological systems—the neighborhood and school—are associated with immigrant children’s academic performance. The dependent variable of this study is students’ academic performance between 7th and 12th grades. More specifically, the outcome for this study is students’ academic performance as indicated by their self-reported grade-point-average (GPA), which is the average grade of at least three of the four subjects: mathematics, English, social studies, and science.

In most school systems, the conversion from letter grade to GPA would follow this convention: A=4, B=3, C=2, D=1, and F=0. However, the Add Health survey only asked students to report grades at four levels (A, B, C, and “D and below”). In other words, the survey data lumped D and F together and labeled them “D and below”. I code “D and below” as 1 when calculating GPA. Compared to the GPA calculating convention that treats an “F” as 0, the GPA in this study is slightly inflated for students who failed one or more courses. However, students’ relative ranking in GPA hardly should be affected. The maximum GPA is 4 and the minimum is 1. The slight inflation of GPA should not be a concern because the purpose of this study is not about the absolute values of students’ GPA, but rather about how various factors affect students’ academic performance. As long as the computed GPA variable closely resembles the conventional grade point average and preserves students’ relative ranking, it can be used as a valid dependent variable.

Independent variables

In this study, neighborhood effects on immigrant children’s academic performance are studied within the same neighborhood, which is operationalized as the

census tract. Neighborhoods and schools are studied separately. They are treated as two different sets of variables. Nowadays, a number of neighborhoods could feed into the same school. In large cities this number can be quite large because of magnet schools or other schools of choice (e.g., charter schools) having open-enrollment policies. And children living in the same neighborhood may attend different schools. For these children, their schools cannot be considered a neighborhood resource. As schools play a significant role in shaping immigrant children's academic performance, I use school characteristics as separate predictors from neighborhood characteristics. Also, some variables are directly available in the data set; some need to be constructed from existing variables. The following are all the independent variables used in the analysis.

Independent Variables: Individual and Family Level

Generation status: Scholars have generally used a three-category system for immigrant generation status: first, second, and third+ generations (Kao & Tienda, 1995). For the purpose of studying academic achievement, White & Glick (1998) pointed out that there needs to be further differentiation within the first generation. They contend that those who arrive during early childhood might be more similar to native-born children than those who arrive at school age. This strategy is used in this study. In Add Health dataset, the student respondents were asked whether they were born in the U.S., whether their fathers were born in the U.S., and whether their mothers were born in the U.S. Therefore, I subdivide first generation into preschool generation and school-age immigrants. Therefore, three generation-status variables were constructed in this study. The following is the exact definition of the three categories of the immigrant children generation status that I use in this study:

- 1) Preschool generation: those who were born outside the U. S., have at least one foreign-born parent, and arrived in the U. S. before school age (usually less than six years old).
- 2) School-age immigrants: those who were born outside the U. S., have at least one foreign-born parent, and arrived in the U. S. after school age (at six years old or older).
- 3) Second generation: those who were native born, but who have at least one parent born outside the U. S. (Harker, 2001).

Other adolescents were considered to be natives or non-immigrants. Following the literature, children of the preschool and school-age immigrant generation type are often considered as “immigrant children” because they themselves are immigrants. Children defined as second-generation are often referred to as “children of immigrants” because they themselves are not immigrants. For ease of writing and when the context is clear, I will refer to all these children collectively as “children with immigrant background.”

Gender: this variable was coded by the Add Health interviewer. Based on Add Health documentation, the gender of a small number of respondents were misidentified in Wave I and was corrected for Wave II. Therefore, I use the coding from Wave II data.

Household income: students’ socioeconomic status is represented by the log of household income.

Family structure: family structure was categorized into three types: 1) Stepfamily: either the biological mother and stepfather or the biological father and stepmother are at home; 2) Single-parent: either single-mother family or single-father family; 3) No

biological parent: both adoptive parents present at home. The reference group is the two-parent family where both biological parents are present in the household.

Parental education: Parent's highest education level is measured by three dummy variables: less than high school graduate, some college, and college or more. The reference category is high school graduate.

Parental expectations for college: In two separate questions, students were asked how disappointed their parent would be if they did not graduate from college. The original scale was 1 to 5, where 1 means low disappointment and 5 mean high disappointment. A response of 1 to 3 is coded as "low expectation for college" and 4 to 5 as "high expectation for college". Again for purpose of the parsimony, these two variables were combined into one as parents' expectation for college.

Primary Language spoken in the home: two dummy variables indicate the language the child speaks at home: Spanish and other non-English language. The reference category is English.

Table 2 shows the weighted means and standard deviation for all individual and family variables by nativity status.

Independent Variables: Neighborhood Level

Guided my theoretical framework, I extracted neighborhood contextual data to create more than 50 neighborhood variables that measure neighborhood effects. Because of the large number of neighborhood variables, the variance inflation factor (VIF) method was used to identify those variables which were most responsible for collinearity. After eliminating those variables, I applied a factor analysis that grouped variables and created composites that are consistent with my theoretical model. For those variables that

can hang together with others, they were standardized separately first. Then an average is taken for the similar variables. The remaining variables that do not hang together with others are used individually for their own unique theoretical meaning. Appendix Table 2 contains the detailed definitions of all neighborhood-level variables and composites, grouped by the theoretical framework. The cornbach's alpha reliability statistics are also shown in that table. Those neighborhood composites range from 0.87 to 0.95.

Neighborhood Household Status: a composite indicating the proportion of two parent households, female-headed household with children and co-racial female-headed household with children.

Neighborhood SES: This includes the proportion of people age 25 and above with no high school diploma or equivalency, and the proportion of people age 25 and above with a college degree or more.

Idle peers: the number of idle peers; this composite indicates peers or co-racial peers who were neither enrolled in school nor working.

Neighborhood Employment: this includes the proportion of unemployment, employment in the civilian labor force, and employment in managerial and professional occupations.

Neighborhood immigration composition: this is the proportion of the neighborhood population that was foreign-born.

Neighborhood social cohesion: measured by proportion of housing units moved into the neighborhood from 1985 to 1990.

Independent Variables: School Level

School variables were organized in much the same way as the neighborhood variables. This study's focus is on peer influences, teacher characteristics, and organizational characteristics such as class size (see Appendix table 2). All of these variables are known to have a very strong relationship with academic performance.

In the Add Health dataset, student's nominated peers' GPA indicates both positive and negative peer influence on the adolescent's schooling. This composite variable was constructed by averaging the student's nominated school friends' GPA. The number of friends nominated can be as many as 5; the nominated friends who did not attend the same school were not included.

School-climate composites of two variables show individual student's disagreement to the questions about their feelings toward their school. Their combined alpha score is 0.71.

Problem behavior is another variable. In this study, three individual variables will be used to indicate the average number of times that students are having trouble with teachers, homework, and other students. The combined alpha score is 0.77

The teacher quality and support variable combine four school-level variables: the percentage of teachers in a school who have worked for five or more years, and the percentage of teachers having a Master degree or a higher degree. In addition, this composite variable also combines another school-level variable: the ESL counselor and social worker in school who may work full time or part time. The cornbach's alpha reliability for this composite is 0.81.

Average Class size: class size in a school will be used to indicate the amount of attention teachers can allocate to each student.

Other school-level variables included in this study are school SES, school location, and school type. The school SES status indicates the percent of parents having a college degree or above. School location is measured by the dummy variables for urban and rural schools, with suburban schools used as the reference category. School type is represented by dummy variables for magnet school, other public school, and private school, with public school being the reference category. Other public school means public schools that have open enrollment and non-specialized curriculum, such as charter schools. Public school means regular public schools and served as the reference category.

Independent Variable: Neighborhood - School Involvement Level

This level variable is composed of parental involvement in school activities, parent-teacher organization (PTO), school conversation, parental trust, and intergenerational closure. Parental involvement in school activities is measured by parent's responses to participate school-organized activities. Parent-teacher organization (PTO) is measured by parent's responses to participate the parent-teacher organization meetings. School conversation is another index referring to discussions about school grades and other school matters (cronbach's alpha = 0.66) with children at home.

In addition, Parental trust examines how parents trust their children, and parental trust has a scale of 1-5 (1= never and 5 = always). Add Health asked parents to name their children's five closest friends and indicate whether they live in the same community and whether they know the parents of each friend. The cronbach's alpha is 0.79 for these three dummy variables. Based on my theoretical framework, these variables are not only between neighborhoods and schools, but also reflect the different level of social capital

between/among immigrant children and nonimmigrant children. For more details of each of the neighborhood-school involvement variables, see Appendix Table 3.

The detailed descriptions of variables are presented on Table 1. The analytical framework for this study can be seen in Figure 2. This analytical framework shows the relationships between dependent variables and different independent variables.

Table 1 Description of Dependent and Independent Variables

Variables	Description
Dependent Variable	
Student GPA	The average grade of at least three of the four subjects: mathematics, English, social studies, and science.
Independent Variable	
Generation status	Three categories of immigration children's generational status: preschool, school age, and second-generation.
Gender	Male and Female
Household income	parental education and the log of household income
Family structure	Family structure categorized into three types: stepfamily, single-parent family, and non-biological family. Two-parent family used as reference group.
Parental education	Parent education level is measured by: less than high school graduate, some college, and college or more. High school graduate used as reference group.
Parental expectation for college	Two questions included: High/low expectation for college?
Primary language spoken in the home	The language the child speaks at home: Spanish and other non-English language. The reference category is English
Neighborhood immigration composition	The proportion of the population in a neighborhood that is foreign-born.
Neighborhood household status	The proportion of two-parent households, female-headed household with children, and co-racial female-headed household with children.
Neighborhood SES	The proportion of persons age 25 and above with no high school diploma or equivalency, and the proportion of person age 25 and above with college degree or more.
Idle peers	Peers or co-racial peers who were neither enrolled in school nor working.
Neighborhood employment	The proportion of unemployment; employment in the civilian labor force, and employment in managerial and professional occupations.
Neighborhood social cohesion	The proportion of new families who moved into the neighborhood, 1985–1990.
Student's nominated peers' GPA	5 nominated school fiends' GPA
School climate	Individual student's disagreement to the questions about their feelings toward their

Problem behavior	school.
Teacher quality and support	Students are having trouble with teachers, with homework, and with other students. The percentage of teachers in a school who have worked for five or more years, the percentage of teachers having a Master degree or a higher degree, the ESL counselor and social worker in school who may work as full-time or part-time.
School SES	% parents having a college degree or above
Average class size in school	Average class size in school
School location	Urban and rural school, suburban school used as reference variable.
School type	Other public school, magnet school, and private school. Public school used as reference variable.
Parental involvement in school activities	Parents' involvement in different school activities.
Parent-teacher organization	Parents' participation in PTO meetings
School conversation	Talk about school grades and other school-related issues in the home.
Parental trust	How parents trust their children
Intergenerational closure	Name their children's five closest friends, whether they live in the same community, and whether they know the parents of each friend

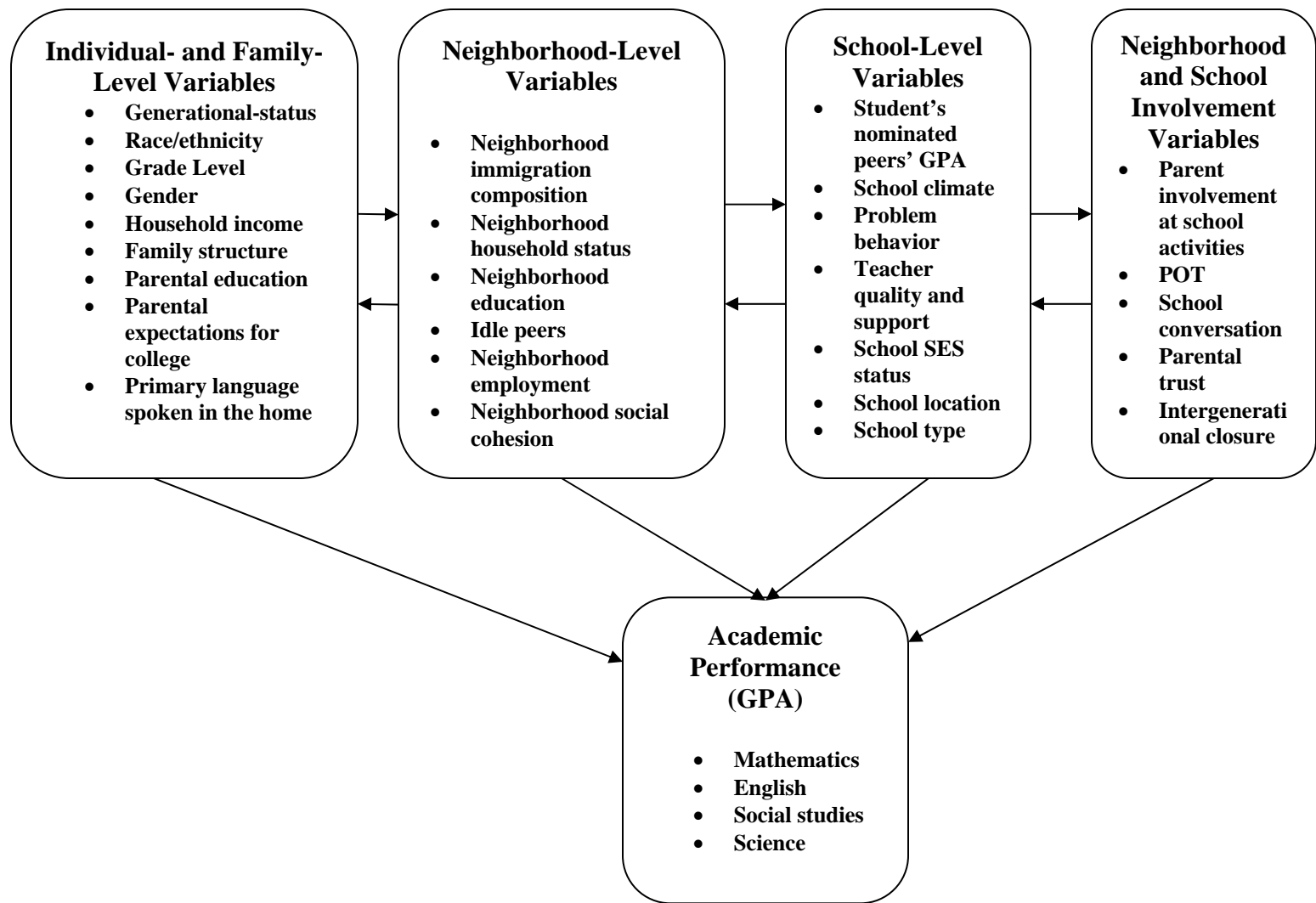


Figure 2 Analytical Framework of Neighborhood and School Effects on Immigrant Students' Academic Performance

Methods of Analysis

The transformed weight variables were used in this study. The original weight in the data set is the grand sample weight. This weight is appropriate for calculating population sizes and percentages but is not appropriate for t-test statistics and multivariate modeling. For the purpose of significance testing, I computed a normalized weight, which is equal to the original grand sample weight divided by average weight. The new average normalized weight for the entire sample (excluding cases that do not have a grand sample weight) is 1 by definition, and the sum of relative weights is equal to the entire sample size. Using normalized weight produces the same percentages as using the grand sample weight.

Statistical analyses were carried out with SAS running on Windows XP. Four statistical techniques apply in this study: independent samples t-test, Chi-square test, Hierarchical linear modeling (HLM) models, and fixed-effect regression models. First, both t-tests and Chi-square tests were used for examining differences between immigrant and non-immigrant groups at the neighborhood-level, school-level and neighborhood-school involvement level.

Second, multi-level models were tested to evaluate the effects of individual-level, family-level, neighborhood-level, and school-level variables on students' academic performance. HLM is especially suitable for analyzing Add Health data, which collected information at the neighborhood and school levels as well as the individual (student) level. Specifically, in this study, both neighborhoods and schools are contexts within which the students are situated. HLM is common in studies of contextual effects (Jones & Duncan, 1998; Teachman & Crowder, 2002). Therefore, HLM was employed in this

study. The hierarchical nature of the data violates the homogeneity assumption in conventional modeling. Thus, it is appropriate to use multi-level models that take into account the potential heterogeneity across neighborhoods or schools. However, the normal HLM can handle multiple-level data only when these levels are “nested” (Bryk & Raudenbush, 2001), which means each student goes to one, and only one, school. However, the problem in this study is not so simple. Although each student lives in one, and only one, neighborhood and goes to one, and only one, school, each neighborhood may be resided in by adolescents who go to a variety of schools. Therefore, neighborhoods are not “nested” within schools. A three-level HLM would not be appropriate because one has to eliminate tracts that “send” adolescents to more than one school. A two-level HLM model would be appropriate as long as the cross-classified cases are identified. I created a two level cross-classified random effects model that specifies a unique neighborhood tract location (Goldstein, 1995). The overall HLM regression equation is:

$$Y_{i(jk)} = \beta_0 + \beta_1 X_{i(jk)} + \alpha_{(jk)} + \epsilon_{i(jk)}$$

This is a regression equation which the i th student is classified by the j th neighborhoods and the k th schools. Y is the response-dependent variable of academic performance.

β_0 represents the intercept of neighborhood or school. $\beta_1 X_{i(jk)}$ represents the slope of variable X_i of neighborhood or school, $\alpha_{(jk)}$ represents random effect for individual i within neighborhood or school, and $\epsilon_{i(jk)}$ represents the residual for individual i within neighborhood and school. On subsequent levels, the level 1 slope(s) and intercept become dependent variables being predicted from level 2 variables. Based on this equation, the covariance between students is zero if they attend the same school but live

in different neighborhoods or if they live in the same neighborhood but attend different schools. If they attend the same school and live in same neighborhood, the covariance is nonzero.

More specifically, this two-level model consists of a sub-model at level 1 (the neighborhood level) and a sub-model at level 2 (the school level). Basically, the level-1 sub-model represents the relationships between the neighborhood-level independent variables and the dependent variable, while the level-2 model represents the influence of school-level variables. The data consist of $i = 1, 2, \dots, n_j$ neighborhoods (level -1 units) nested within $j = 1, 2, \dots, J$ schools (level – 2 unites). The neighborhood-level (level 1) sub-model represents the dependent variable for case i within unit j , as follows:

$$Y_{ij} = \beta_{0j} + \beta_{1j}X_{1ij} + \beta_{2j}X_{2ij} + \dots + \beta_{qj}X_{qij} + \epsilon_{ij} = \beta_{0j} + \sum \beta_{qj}X_{qij} + \epsilon_{ij}$$

(Equation 1)

where β_{qj} ($q = 0, 1, \dots, q$) are neighborhood-level coefficients. X_{qij} is the neighborhood level predictor q for case i in unit j , and ϵ_{ij} is the level-1 random effect (Bryk & Raudenbush, 2001). In the school-level (level-2) model, each of the neighborhood-level coefficients (β_{qj}) becomes an outcome variable to be predicted by school-level predictors, as follows:

$$\beta_{qj} = \gamma_{0q} + \gamma_{1q}W_{1j} + \gamma_{2q}W_{2j} + \dots + \gamma_{sq}W_{sj} + \mu_{qj} = \gamma_{0q} + \sum \gamma_{sq}W_{sj} + \mu_{qj}$$

(Equation 2)

where γ_{qj} ($q= 0, 1, \dots, S_q$) are school-level coefficients, W_{sj} is a school-level predictor, and μ_{qj} is the level-2 random effect (Bryk & Raudenbush, 2001). It is assumed that the distribution of the vector of level-2 random effects ($\mu_{0j}, \mu_{1j}, \dots, \mu_{qj}$), for each school j , is

multivariate normal, and that each random effect μ_{qj} has a mean of zero and variance of $\text{Var}(\mu_{qj}) = \tau_{qq}$

A version of Equation 2 is specified for each β_{qj} coefficient that is in the neighborhood-level Equation 1. Each Equation 2 (corresponding to each β_{qj}) is substituted into Equation 1 to create a single equation linear model with a complex error structure, which is estimated using empirical Bayes estimation of the randomly varying level-1 coefficients, generalized least squares estimation of level-2 coefficients, and maximum likelihood estimation of the variance and covariance of level-1 and level-2 random error components (Bryk & Raudenbush, 2001).

The models used in this study include all of the relevant neighborhood predictors in Equation 1. Further, for all of the models, all of the school-level variables are included in the Equation 2 that predicts β_{0j} , the neighborhood-level intercept, which is allowed to vary across schools by including the μ_{qj} school-level random effect term. For all of the remaining β_{qj} coefficients, each Equation 2 predicting these other coefficients does not include any school-level predictor variables, nor does it include the μ_{qj} school-level random effect term, thus modeling these coefficient as fixed level-1 coefficients. This means that the predicted coefficient is the same for all schools, rather than varying across schools like the intercept (β_{0j}) does. The exception is when cross-level interactions were included to interact school-level variables with neighborhood-level variables. In these models, the relevant school variables were included as a predictor in the Equation 2 for the β_{qj} coefficient corresponding to neighborhood-level variables, again as fixed coefficients without school-level random effects. Then, when the Equation 2 corresponding to the β_{qj} coefficient for neighborhood-level variables are substituted into

Equation 1, the γ_{sq} for the school variable in that equation has a main effect and multiplicative interactive effect with the β_{oj} coefficient for neighborhood-level variables.

Finally, fixed effects regression methods were used to analyze the neighborhood-school involvement effect on students' academic performance. Due to the essence of neighborhood-school involvement variable, the HLM model is not fit for this step in the analysis. The neighborhood-school involvement variable reflects the social capital of individuals. Therefore, this variable cannot be considered as a contextual variable in this study. In addition, the fixed effects regression can control for all possible characteristics of individuals in longitudinal studies (Allison, 1999). The fixed effects regression equation is:

$$Y_{ij} = \beta_0 + \beta_1 X_{ij} + \alpha_i + \varepsilon_{ij}.$$

In this regression equation, i subscript refers to different individuals and j refers to different measurements within the individual. In this study, j refers neighborhood-school involvement variables. Y is the response-dependent variable of academic performance. $\beta_1 X_{ij}$ is described as a fixed effect because the X_{ij} terms are all measured values and β_1 is a fixed variable. In this study, α_i is treated as a set of fixed variables, which estimated the dependent variable directly.

Overall, there are several analyses for this study: neighborhood and school characteristics for each immigrant group were explored first. Then the relationship between neighborhood characteristics and academic performance, the relationship between school characteristics and academic performance, and the relationship between neighborhood-school involvement effects and academic performance for both immigrant and non-immigrant children were also investigated. Finally, I compared neighborhood

effects, school effects, and neighborhood-school involvement effects and examined whether neighborhood, school, and neighborhood-school involvement factors accounted for both immigrant children and nonimmigrant children's differences in academic performance.

CHAPTER 4
DESCRIPTIVE RESULTS
Students' Grade Distribution

The primary concerns of this research are the neighborhood and school factors that affect immigrant students' academic performance. In order to compare the academic performance of immigrant students with non-immigrant students, the subjects in this research were both immigrant students and non-immigrant students who were enrolled in grades 7 through 12 of the first and second wave in the Add Health data set.

In order to analyze academic performance, self-reported GPA was used as an outcome variable. For each subject, a small percentage of the students reported that they did not take the subject or did not receive a letter grade. An even smaller percentage of students did not answer these questions; the majority of the students reported letter grades on each subject. There are data for 90 percent of students providing information for math, 98 percent for English, 83 percent for social studies, and 81 percent for science. GPA is calculated for those students who have a letter grade in at least two subject areas. The total sample size is 17,719 for analyses involving GPA ($\bar{x} = 2.78$, $SD = .77$ in Wave I; $\bar{x} = 2.80$, $SD = .77$ in Wave II). Although slightly inflated, self-reported grades are highly correlated with grades reported on official transcripts (Dornbusch, Ritter, Leiderman, Mont-Reynaude & Chen, 1990).

In Table 2, the unweighted sample size is reported; however, the percentages are calculated using both Wave I and Wave II sample weights and taking into consideration the clustering sampling design. The SUTVEYFREQ procedure in SAS was used to adjust for the sample weights. The primary sampling unit, PSUSCID (school ID), is used as the

cluster variable. Region is the strata variable. This way of reporting is used for all the tables and figures in this study.

Table 2 reflects the student's grade distribution. The most difficult subject seems to be math: it was the most difficult to get an "A" in this subject. Students were also more likely to get a very low grade (D or below) in math than in any other subject. In contrast, social studies looks like the easiest subject. More "A's" were awarded in this subject than in any other subject; students were also least likely to receive the lowest grade. English and science fell in between the math and social studies.

Table 2 Student's Grade Distribution

	N	% A	% B	% C	% D
Math	19,768	25	30	26	18
English	18,154	29	40	22	11
Social Studies	21,435	36	32	22	10
Science	21,964	31	32	25	12

A Profile of Students

In terms of GPA, immigrant students ($\bar{x} = 2.81$) show slightly higher GPA than non-immigrant students ($\bar{x} = 2.78$) (t-test significant at $p < 0.01$). About an equal number of male and female students were enrolled from grades 7 to 12 in this study. There are no gender differences presented in both the immigrant and non-immigrant groups.

The composition of the students in terms of their generation and race/ethnicity status are presented in Table 3. The composition of the students is quite different across both the generations and races. Less than 1% of White and Black students are preschool and school-age generation immigrants, and only 3 to 5% of them are second-generation children of immigrants. Together, only 6% of them have direct immigration experience or an immigration background in the immediate family. The vast majority, or 94%, of White and Black students are native born to parents who are also native born. In addition, since White and Black students make up 84% of the adolescent student population in Add Health, their generation status has a stronger impact on the overall generation-status composition of these adolescent students. When all races are considered together (non-Hispanic White and non-Hispanic Black, Hispanic, Asian), 7% of the students are preschool and school-aged generation immigrants, 11% are second-generation children of immigrants, and 84% have native-born parents.

It is obvious that the majority of Hispanic students and the overwhelming majority of Asian students have some immigrant background. Among Hispanic groups, Cuban students are much more likely to be immigrants or come from immigrant families: 63% of Mexican students are immigrants, and 37% of them are native born to native parents; 93% of Cuban students are immigrants, and only 7% of them are native born. Puerto Ricans did not show significant differences in the proportion of immigrants and natives.

All three groups of Asian students—Chinese, Korean, and Filipino—presented very similar patterns in the proportion of immigrants and natives. Around 87% of Chinese students, 88% of Korean students, and 89% of Filipino students were immigrants.

Table 3 Sample Size and Percentages by Ethnic Groups

	Immigrant Students		Non – Immigrant Students	
	%	N	%	N
<i>Generation</i>				
Preschool generation	2.8	121	-	-
School-age generation	4.2	179	-	-
2nd generation	11.00	470	-	-
<i>Race/Ethnicity</i>				
Non-Hispanic White	5.3	779	93.7	10,139
Non-Hispanic Black	8.0	283	92.1	3309
<i>Hispanic Groups</i>				
Mexican	63.4	575	36.6	463
Cuban	93.0	367	7.0	17
Puerto Rican	49.9	436	50.1	448
<i>Asian Groups</i>				
Chinese	86.6	226	13.5	29
Korean	87.8	209	11.5	33
Filipino	88.8	490	12.3	42
Other groups	32.6	906	67.0	1862

Note: Sample size used for this table is the one for GPA discussed in Chapter 3 (N = 17791)

A Profile of Family Characteristics

The average values for family characteristics for both immigrant and non-immigrant groups are shown in Table 4. The three clearest sources of variation between the immigrant and non-immigrant groups are home language speaking, parental education, and household income. Table 4 shows that over 40% (n = 1751) of immigrant children grow up with a home language other than English; a majority of them spoke

Spanish at home. Although some of these students are fluent bilinguals, many are limited English-proficient. Language can become a barrier for the schooling of these students.

In terms of parental education, non-immigrant parents tend to have more education than do immigrant parents in general: 35% (n = 1495) of immigrant parents had not finished high school, whereas only 13% (n= 1748) of native parents lacked a high school education ($p < 0.001$), and over 52% (n= 6993) of native parents have some college education or above, whereas 43% (n = 1569) of immigrant parents have some college education or above. However, when comparing the highest education levels of immigrant and non-immigrant parents, there were no significant differences. For both the immigrant and non-immigrant parents groups, about 20% had a college degree or higher.

Compared with non-immigrant families, immigrant families also had lower average household income (t-test significant at $p < 0.001$). Over 72% of immigrant family household incomes were lower than native families'.

However, no significant difference existed in parents' expectation for college among immigrant and non-immigrant parents. Family structures differed little between immigrant and non-immigrant groups.

Table 4 Weighted Sample Means and Percentages for Family-level Characteristics

	Immigrant Students	Non- immigrant Students		p-value
Household income (log)	1.27	1.44	<i>t-test (t)</i> -5.98	p<0.001
<i>Chi-Square (χ^2)</i>				
<i>Parents' education (ref: high school)%</i>				
Less than high school	35	13	37.23	p<0.001
Some college	23	31		
College or above	20	21		
<i>Parents' expectations for College (%)</i>	25	23	0.92	0.63
<i>Family Structure (ref: two-parent family)%</i>				
Stepfamily	8	11	0.66	0.72
Single-parent	25	29		
No biological parent	6	7		
<i>Home language (ref: English)%</i>				
Spanish	28	-		
Other non-English	13	-		
N	4271	13448		

Note: All statistics analyses performed on weighted data and corrected for effects of clustered sample design

Total N = 17,791.

A Profile of Neighborhood Characteristics

Among Immigrant Groups

Weighted sample means and percentages of the neighborhood-level characteristics for each racial/ethnic group are presented in Table 5. Compared with other immigrant groups, Hispanic immigrant students are the most disadvantaged in terms of neighborhood characteristics. All Hispanic immigrant students had fewer parental educational resources, and were concentrated in very low SES neighborhoods with many idle peers. These neighborhoods were worse on average than those containing non-Hispanic native Blacks. Asian groups had the most advantaged characteristics. They tended to live in higher SES neighborhoods with lower proportions of foreign-born

individuals and fewer idle peers. Also, Asian groups were more likely to live in neighborhoods with high proportions of two-parent families.

Non-Hispanic White immigrant students had more adult neighbors with high SES and employment than non-Hispanic native White students. Otherwise, these two groups were similar on most neighborhood measures. By contrast, non-Hispanic immigrant Black students lived in less desirable neighborhoods compared to non-Hispanic immigrant White students. Compared with non-Hispanic immigrant White, Hispanic, and Asian students, non-Hispanic immigrant Black students were most likely live in single-household families in low SES neighborhoods.

Among Racial/Ethnic Groups

Among Hispanic immigrants, Cubans' neighborhood conditions appear to be the worst of all groups. They tended to live in neighborhoods with high proportions of foreign-born individuals. Similar to native-born non-Hispanic Blacks, Cuban immigrants were most likely to live in neighborhoods with more single-parent households. Based in the Add Health survey on the family-level characteristics analysis, parental educational status is most pronounced among immigrant Mexican and Cuban students because their parents' educational level fell below the neighborhood average. Therefore, their neighborhood conditions are usually at least as undesirable as those of native-born non-Hispanic Blacks.

Although, the Mexican student's parental educational status is far below the average, they have the highest proportion of families living in two-parent household ($\bar{x} = 0.55$) of the Hispanic groups. Unlike Cubans and Puerto Ricans, the Mexican students have significantly larger number of idle peers ($\bar{x} = 0.59$). Immigrant Mexicans remain the

largest ethnic enclave in U.S., and it is not hard to explain why immigrant Mexican students generally have large peer social networks. In addition, levels of employment in Mexican neighborhoods ($\bar{x} = -0.15$) were lower than that of other immigrant groups. Their neighborhood employment levels are even worse than immigrant Cubans' and are similar to non-Hispanic native Blacks. Thus, most of them are located in disadvantaged neighborhoods.

Among Hispanic immigrant groups, Puerto Rican immigrants are most likely to live in more desirable neighborhoods. They had the highest neighborhood employment ($\bar{x} = 0.09$) among the Hispanic groups. In addition, they experienced much more stability—by remaining in their original ethnic enclave and not moving frequently—compared to all other Hispanic immigrant groups. However, Puerto Rican immigrants also live in neighborhoods with high proportions of foreign-born individuals, which is similar to other Hispanic immigrants.

As described before, Asian immigrants' neighborhood conditions are quite different from those of Hispanic immigrants. Among the Asian groups, Chinese, Korean, and Filipino immigrants have similar proportions of foreign-born individuals and idle peers in their neighborhoods. Compared to non-Hispanic native Whites, immigrant Chinese, Korean, and Filipino students are more likely to live in mobile communities with a high proportion of housing units that are occupied by newcomers. Chinese and Koreans had very similar patterns; both of them had the highest neighborhood SES among all immigrant groups. Chinese and Korean immigrants' educational status is usually higher when compared to that of their neighbors. Their financial capitals, along with their strong educational credentials, appear to help them live in more advantaged

neighborhoods. Neighborhood employment rates were relatively high for both Chinese and Korean immigrant groups; the employment rate may reflect the immigrants' relatively high education status.

Filipino immigrants are very special among Asian immigrants. They live in neighborhoods with very high proportions of two-parent families ($\bar{x} = 0.76$). Their proportions of two-parent household are much larger than any other immigrant groups'. Such advantageous neighborhood conditions surpass those characterizing the neighborhoods of non-Hispanic native Whites. Unlike other immigrant groups, Filipino immigrants have the highest neighborhood employment rate ($\bar{x} = 0.18$) among both immigrant and non-immigrant groups.

Between Immigrant and Non-immigrant Groups

Overall, Table 6 presents the neighborhood-level characteristics for immigrant and non-immigrants without regard to ethnicity. Comparing the entire immigrant group with the non-immigrant group, immigrant students show significant differences from non-immigrant students in neighborhood SES, neighborhood immigrant composition, and neighborhood social cohesion. Immigrant students tend to live in neighborhoods with a high proportion of immigrant neighbors ($p < 0.001$), and their neighborhood SES ($p < 0.05$) is significantly lower than that of the non-immigrant group. Finally, immigrant groups' residential stability is lower than the non-immigrant groups' as well ($p < 0.05$). The immigrant group was not statistically different from the presented non-immigrant group on the other neighborhood characteristics.

Table 5 Weighted Sample Means and Percentages of Neighborhood Characteristics by Race/Ethnicity and Nativity

Variables	Immigrant Students								Non-immigrant Students	
	Non-Hispanic White	Non-Hispanic Black	Mexican	Cuban	Puerto Rican	Chinese	Korean	Filipino	Non-Hispanic White	Non-Hispanic Black
Household Status	0.46	-0.22	0.55	-0.39	-0.10	0.26	0.27	0.76	0.42	-0.39
Neighborhood SES	0.30	0.00	-0.57	-0.86	-0.31	0.46	0.48	0.16	0.38	-0.38
Idle peers	-0.33	0.10	0.59	0.28	0.28	-0.28	-0.28	-0.22	-0.22	0.14
Neighborhood Employment	0.16	0.04	-0.15	-0.12	0.09	0.12	0.11	0.18	0.08	-0.19
Neighborhood Immigrant Composition (%)	3	4	12	36	10	7	8	8	2	2
Neighborhood Social Cohesion (%)	50	50	56	54	49	53	53	53	47	45
N	779	283	575	367	436	226	209	490	10,139	3309

Note: Total N= 17,791

Table 6 Neighborhood Characteristics of Immigrant and Non-immigrant Students

	Immigrant Students	Non- immigrant Students		p-value
Variables				
			<i>t-test</i>	
Household Status	0.30	0.31	-2.11	0.17
Neighborhood SES	0.02	0.16	-5.16	0.03
Idle Peers	0.13	0.10	0.97	0.43
Neighborhood Employment	0.03	0.07	-1.13	0.38
			<i>Chi-Square (χ^2)</i>	
Neighborhood Immigrant Composition (%)	10	2	32.00	p<0.001
Neighborhood Social Cohesion (%)	41	62	7.11	0.03
N	4271	13448		

Note: All statistics analyses performed on weighted data and corrected for effects of clustered sample design

Total N= 17,791

A Profile of School Characteristics

Among immigrant groups

Table 7 shows school-level variables by race/ethnicity and nativity. In general, Hispanic immigrant students tended to attend low SES schools, and schools attended by these students had more problem behaviors and larger class sizes than schools attended by all other ethnic groups. Moreover, Hispanic immigrant students often lacked qualified teachers and ESL support from schools. Their nominated peers' GPAs were lower than other ethnic groups'. The Hispanic immigrant group presents a pattern similar to that of the non-Hispanic native Blacks. In terms of school location and type, Hispanic immigrant students were most likely enrolled in urban public schools. In addition, Hispanic immigrant students are more likely to attend magnet schools than are other groups of immigrant students. Magnet schools are generally found in big cities and often have a policy of maintaining racial diversity in the student body. Since Hispanic immigrants

concentrate in urban areas, their chance of being admitted to magnet schools is quite high. However, Hispanic immigrant students were the least likely to attend private schools.

As with the neighborhood characteristics, Asian immigrants' school conditions also differ from those of Hispanic immigrants. Asian immigrant students attended schools with higher parental SES levels and fewer problem behaviors than schools attended by other immigrant children. Their nominated peers' GPA is relatively higher than other immigrant students'. Like the Hispanic immigrant group, Asian students also reported a lack of qualified teachers and ESL support from schools. Unlike Hispanic immigrant students, Asian immigrant students were overrepresented in private and suburban schools.

Meanwhile, non-Hispanic immigrant Whites and non-Hispanic immigrant Blacks have substantially better school conditions than the Hispanic immigrant group and slightly worse conditions than Asian immigrant groups.

Among Racial/Ethnic Groups

Because of low family SES backgrounds, immigrant Cubans are the most disadvantaged group in terms of school conditions. Their nominated peer's GPA ($\bar{x} = 1.65$) was the lowest among all immigrant groups. Their nominated peers' GPA was even lower than non-Hispanic native Blacks. They have more negative feelings about their schools, which may lead to more problem behaviors among all students. Most immigrant Cubans attended urban schools; few of them were in suburban areas and none of them were in rural schools. Few Cuban students were enrolled in private schools.

Mexican and Puerto Rican immigrant students portray very similar patterns. Except for Cuban immigrant students, the nominated peers' GPA of Mexican and Puerto Rican immigrant students ($\bar{x} = 1.97, 1.93$, respectively) were lower than that of all ethnic

groups and non-Hispanic native Blacks. Mexican and Puerto Rican immigrant students attended schools with very low SES levels. Similar to both non-Hispanic native Blacks and non-Hispanic immigrant Blacks, Mexican and Puerto Rican immigrant students showed more negative feelings about their schools and had more problem behaviors. In addition, they reported a lack of qualified teachers and ESL support from schools, like non-Hispanic native Blacks. The average class size is also quite large for Mexican immigrant students (followed by Cubans and Puerto Ricans). Like Cuban immigrant students, and non-Hispanic native Blacks, Mexican and Puerto Rican immigrant students were most likely living in urban areas; therefore, most of them were enrolled in urban public or magnet schools.

Chinese and Korean immigrant students, on the other hand, attended schools with higher SES and with fewer problem behaviors than schools attended by other immigrant students. And although both Chinese and Korean immigrant students reported a lack of qualified teachers and ESL support from schools, their nominated peers' GPA ($\bar{x} = 2.95$, 2.95, respectively) were relatively higher than that of other immigrant students. For Chinese and Korean immigrant students, private school attendance surpassed that of non-Hispanic Whites. Although only 39% of Chinese and 38% Korean students attended urban schools, their enrollment in magnet schools was almost 25% and 28%, respectively, suggesting that the majority of Chinese and Korean immigrant students who live in urban centers are placed in magnet schools.

Filipino immigrant students—although their schools tend to be higher SES and are reported to have fewer behavioral problems—are also similar in many respects to Chinese and Korean immigrant students. They report very similar feelings about their

schools; their nominated peers' GPA ($\bar{x} = 2.02$) is lower than that of Chinese and Korean students but is still higher than the other three Hispanic groups' and native non-immigrant groups'. Filipino immigrant students had the largest average class size ($\bar{x} = 30.44$) among all ethnic groups and non-immigrant groups. Compared to Chinese and Korean students, fewer Filipino immigrant students attend urban schools and rural schools; most of them attend suburban schools. Because a majority of them are enrolled in suburban schools, they do not attend the magnet schools (only 5%), but both public and private schools instead.

Between Immigrant and Non-immigrant Groups

Table 8 presents the comparison results for entire immigrant and non-immigrant groups. Native students show significantly higher nominated peers' GPA than immigrant students ($p < 0.05$). Compared to non-immigrant students, immigrant students have significantly larger class size ($p < 0.05$). It appears that non-immigrant students got more support from their teachers and schools than immigrant students; also non-immigrant students have more qualified teachers than immigrant students ($p < 0.05$). Although differences in school climate and problem behaviors exist among immigrant student groups, there are no significant differences present between the entire immigrant and non-immigrant groups.

Immigrant students are more likely to attend urban schools (48% vs. 22%, $p < 0.001$). Furthermore, because of their urban residential status, immigrant students are more likely to attend magnet schools than non-immigrant students (22% vs. 9%, $p < 0.001$). Other public school enrollment for native students is also significantly higher

than for immigrant students (21% vs. 34%, $p < 0.05$). There is no significant difference between entire immigrant group and native group in private school enrollment.

Table 7 Weighted Sample Means and Percentages for School Characteristics by Race/Ethnicity and Nativity

Variables	Immigrant Students							Non-Immigrant Students		
	Non-Hispanic White	Non-Hispanic Black	Mexican	Cuban	Puerto Rican	Chinese	Korean	Filipino	Non-Hispanic White	Non-Hispanic Black
Students' nominated peers' GPA	2.71	2.52	1.97	1.65	1.93	2.95	2.95	2.02	2.69	2.01
Average Class Size	25.05	27.35	29.51	28.38	28.37	26.40	25.03	30.44	24.70	26.49
School climate	2.45	2.55	2.50	2.40	2.52	2.49	2.49	2.49	2.42	2.54
Problem behavior	1.53	1.65	1.66	1.72	1.71	1.43	1.44	1.59	1.52	1.81
Teacher quality and support	2.37	2.09	2.11	2.03	2.15	2.18	2.18	2.07	2.28	2.07
School SES %	26	24	17	11	16	38	38	24	23	20
<i>School location (ref: suburban school) %</i>										
Urban school	27	39	70	96	78	39	38	13	19	30
Rural school	16	10	5	0	0	6	4	2	21	15
<i>School type (ref: public school) %</i>										
Magnet school	5	25	47	50	17	25	28	5	4	30
Other public school	31	18	17	3	26	16	17	11	36	24
Private school	9	6	4	2	16	21	21	16	8	4
N	779	283	575	367	436	226	209	490	10,139	3309

Note: Total N= 17,791

Table 8 School Characteristics Compared by Immigrant and Non-immigrant Students

	Immigrant Students	Non-immigrant Students		p-value
Variables				
Students' nominated peers' GPA	2.53	2.76	<i>t-test</i> -5.78	0.03
Average Class Size	28.69	25.13	6.58	0.02
School climate	2.49	2.44	1.61	0.25
Problem behavior	1.61	1.56	2.45	0.13
Teacher quality and support	2.17	2.75	-5.32	0.03
School SES	0.22	0.23	0.19	0.87
			<i>Chi-Square (χ^2)</i>	
<i>School SES %</i>	22	23	0.19	0.87
<i>School Location (ref: suburban school)%</i>				
Urban school %	48	22	30.73	p<0.001
Rural school %	7	20	8.45	0.02
<i>School Type (ref: other public school)%</i>				
Magnet school	22	9	18.78	p<0.001
Public school of choice	21	34	8.05	0.02
Private school	10	7	1.29	0.52
N	4271	13448		

Note: All statistics analyses performed on weighted data and corrected for effects of clustered sample design
Total N= 17,791

A Profile of Neighborhood-School Involvement Characteristics

Among Immigrant Groups

Table 9 shows the weighted sample means and percentage of components of neighborhood-school involvement characteristics for all ethnic groups. The Hispanic immigrant parent is less involved in school activities, less likely to participate in the parent-teacher organization (PTO), and also less likely to engage in networking with the parents of their children's friends. Thus, Hispanic immigrant groups clearly lack school- and community-based parental involvement and intergenerational closure. Hispanic immigrant parents are also less likely to trust their children than are all other foreign-born immigrant parents.

Compared with the Hispanic immigrant groups, Asian immigrants are not so advantaged in neighborhood-school involvement characteristics. Although immigrant Asian parents are less likely to engage in school activities, PTO, and school conversation, the differences between these parents and non-Hispanic native White parents is not statistically significant. In addition, Asian immigrant parents were more trusting with their children than other ethnic groups.

Both non-Hispanic immigrant Whites and Blacks are very similar to the Asian immigrant groups. They presented better situations than Hispanic immigrant group in all five neighborhood-school involvement characteristics.

Among Racial/Ethnic Groups

Mexican immigrants had the lowest scores on all measures of neighborhood-school involvement variables, especially with respect to involvement with the PTO. Only

11% of Mexican immigrant parents are likely to attend PTO meeting. As mentioned before, all immigrant parents show higher trust with their children than non-immigrant parents. Although, Mexican immigrant parents show lower levels of trust with their children among Hispanic group, their levels are still higher than that of both non-Hispanic native White and non-Hispanic native Blacks. Cuban immigrant parents and Puerto Rican immigrant parents had similar patterns of parent involvement in school activities, PTO, and school conversation. Nevertheless, Cuban immigrant parents show the highest parent trust ($\bar{x}=3.76$) and intergenerational closure ($\bar{x}=1.04$) among Hispanic groups.

Among the Asian groups, neighborhood-school involvement characteristics for Chinese and Korean are still consistently similar. Filipino immigrant parents are like Chinese and Korean; they are involved in school activities, they showed greater parent trust of their children, and they also had intergenerational closure. Unexpectedly, 55% of Filipino immigrant parents are involved in the PTO. This represents the highest proportion of any of the immigrant or non-immigrant groups. Also, Filipino immigrant parents were involved in school conversation in the highest proportion among all immigrant groups.

Between Immigrant and Non-immigrant Groups

Table 10 shows the overall neighborhood-school involvement conditions. There were stark disparities between immigrant students and non-immigrant students. Overall, immigrant groups have low parent participation in school activities and parent-teacher organizations (29% and 11%, $p<0.05$ and $p<0.01$, respectively). Also, immigrant parents show lower levels of intergenerational closure with their children than non-

immigrant parents ($p < 0.05$). In other words, on average the immigrant group fared worse than non-immigrant groups on three indicators: parental involvement in school activities, PTO, and intergenerational closure for their children. Conversely, the immigrant group revealed higher levels of parental trust ($p < 0.05$) than the non-immigrant group. School conversation is the only variable that the immigrant and non-immigrant group were involved in to a similar degree.

Table 9 Weighted Sample Means and Percentage for Neighborhood-school Involvement Characteristics by Race/Ethnicity and Nativity

Variables	Immigrant Students							Non-immigrant Students		
	Non-Hispanic White	Non-Hispanic Black	Mexican	Cuban	Puerto Rican	Chinese	Korean	Filipino	Non-Hispanic White	Non-Hispanic Black
Parent Involvement in School Activists (%)	45	37	22	25	25	48	47	49	48	31
PTO (%)	35	26	11	20	27	31	29	55	33	29
School Conversation	0.62	0.60	0.46	0.51	0.43	0.60	0.60	0.71	0.77	0.72
Parental Trust	4.22	4.17	3.53	3.76	3.22	4.29	4.27	4.21	3.19	3.16
Intergenerational Closure	1.15	1.09	0.88	1.04	0.60	1.09	1.11	1.24	1.86	1.03
N	779	283	575	367	436	226	209	490	10,139	3309

Note: Total N=17,791

Table 10 Neighborhood-school Involvement Characteristics Compare by Immigrant and Non-immigrant Students

	Immigrant Students	Non-immigrant Students		p-value
Variables				
			<i>Chi-square (χ^2)</i>	
Parental involvement in school activities (%)	29	46	6.28	0.04
PTO(%)	11	36	17.36	0.002
			<i>t-test (t)</i>	
School talking	0.60	0.62	-2.85	0.12
Parental trust	4.51	4.32	4.47	0.04
Intergenerational closure	1.09	1.88	-7.29	0.02
N	4271	13448		

Note: All statistics analyses performed on weighted data and corrected for effects of clustered sample design
Total N= 17,791

CHAPTER 5
MULTIVARIATE MODELS
HLM Models

From the descriptive statistic results, the sharp differences in the neighborhood characteristics, school-level characteristics, and neighborhood-school involvement characteristics of these ten ethnic-nativity groups were seen. As expected of this study, neighborhood and school conditions account for some of the ethnic-nativity differences in adolescents' academic performance as measured by GPA.

Model 1 and Model 2

Model 1 is the basic model that has only the ethnic-nativity individual- and family-level dummy variables as the independent variables. This model establishes the “total apparent effects” of the race/ethnicity and immigration factors on students' academic performance.

Model 2 adds all neighborhood-level and school-level variables to Model 1. The potential problem of multicollinearity was assessed when both neighborhood-level and school-level variables were included in the analysis. The analyses showed this was not a problem. The hierarchical analysis of the full sample results are shown in Table 11. Two cross-classified random effects models are presented, both of which include the student's ethnicity, gender, generation status, grade level, parental education, family structure, family income, and home language.

Results of Full Samples: Model 1 and Model 2

The results from Model 1 and Model 2 show the relationships between GPA and neighborhood and school-level characteristics. Table 11 shows the standardized coefficients by racial/ethnic category, the characteristics of the neighborhood in which each group lives, and the characteristic of school each group attends. They represent the apparent total effects of being a member of one of these groups on academic performance (Miller & Shanks, 1996).

The overall neighborhood and school effects on GPA are generally small, except for negative school climate. High neighborhood SES, urban school, magnet school, public school of choice, and private school are all positively related to higher GPA, but neighborhood immigrant composition, poor school climate, and large average class size are negatively associated with students' GPA.

Significant GPA differences by ethnicity and nativity groups also are apparent. Model 1 shows that all Hispanic immigrant students – Mexicans, Cubans, and Puerto Ricans – have significantly lower GPAs than do non-Hispanic native White children, whereas Chinese and Korean immigrant students have significantly higher GPAs. Filipino immigrant students have significant higher GPAs than all Hispanic immigrant students. However, compared to Chinese and Koreans, their GPAs are significantly lower. Non-Hispanic immigrant Blacks and non-Hispanic immigrant Whites are not different from non-Hispanic native White students in their GPAs.

After taking into account neighborhood and school characteristics in Model 2, the coefficient for the Mexican immigrant students decreased by almost half; Mexican immigrant students no longer present significant differences from non-Hispanic native

White students. This result suggests that neighborhood and school-level variables, along with family-level variables, explain the low academic performance of Mexican students from immigrant families. In another words, some of the reasons for the low academic performance of these Mexican students may be related to their neighborhood and school variables, such as low SES neighborhoods, high proportion of immigrant neighbors, and large average class size, etc. Coefficients of Cuban and Puerto Rican students are increased, and these immigrant students consistently present significant differences from non-Hispanic native Whites.

Neighborhood and school-level variables show a significantly positive effect for immigrant Asian groups when controlling for family-level variables. Chinese and Korean immigrant students always have very similar patterns. They are significantly more likely to reside in higher SES neighborhoods, which have lower proportions of immigrants, than are immigrant Filipinos and non-Hispanic native Whites. In addition, Chinese and Korean immigrant students also tended to attend schools with more advantaged characteristics than did immigrant Filipinos and non-Hispanic native Whites. However, if comparisons were made by individual variables with similar neighborhood and school characteristics, immigrant Filipinos have higher GPAs than non-Hispanic native Whites. Otherwise, the disadvantaged neighborhoods (e.g., high proportion of immigrant neighbors) and disadvantaged schools (e.g., large average class size) of immigrant Filipino students conceal their higher academic performance.

Although neighborhood and school-level variables account in part for the academic performance of immigrant Mexican and immigrant Filipino children, for the most part they do not affect the performance gaps between non-Hispanic native White

and other immigrant groups, even though neighborhood variables are obviously different. The following analyses separate the two nativity groups in order to investigate whether neighborhood-level and school-level effects differ for immigrant and non-immigrant groups.

Model 3 to Model 6

These four models are all cross-classified hierarchical random effects models. They are separately estimated neighborhood effects and school effects for immigrant students' and non-immigrant students' academic performance. The results are presented in Tables 12–14. Model 3 includes only individual adolescent characteristics of gender, school grade, generation status, and ethnicity. Model 4 adds family-level background variables, and Model 5 further adds neighborhood-level characteristics.

Model 1 through Model 5 are level-1 models in which all the predictors are from the neighborhood level and their slope coefficients are specified as fixed. In other words, the effects of these neighborhood variables are assumed to be homogeneous across schools.

Model 6 adds all level-2 (school-level) variables. It examines the effects of the school-level characteristics on students' academic performance. This model includes all the independent variables. The reference category for each non-immigrant sample is non-Hispanic Whites. Because there is no significant difference in GPA (see Table 11) and most other measures between immigrant and native non-Hispanic White students, the two reference groups are largely comparable. Immigrant generation is included in the models for the sample of immigrant students only.

Separate Analytic Results for Immigrant Students and Non-immigrant Students:

Model 3 to Model 6

Model 3 and Model 4

Generational and ethnic differences among immigrant children are presented in Table 12. Models 3 and 4 show that immigrant students of the preschool and school-age generations have higher GPAs than do those of the 2nd generation, and that the school-age generation shows a higher GPA than the preschool generation. Family-level variables cannot explain this foreign-born advantage (Model 4), and neither do neighborhood- and school-level variables. Although the coefficient for the preschool generation is not significant in Model 6, the magnitude of the coefficient remains largely the same as that in Models 3–5.

Using non-Hispanic immigrant Whites as a reference group produces very similar results as when using non-Hispanic native Whites as a reference group. Thus, Model 3 (Table 12) shows a similar ethnic hierarchy in academic performance as the one in Model 1 (Table 11). More specifically, the result still shows that non-Hispanic immigrant Blacks do significantly worse, and Filipino immigrant students are not significantly different from non-Hispanic immigrant Whites. The ethnic hierarchy remains largely the same in Model 4 when family-level variables are included, but the ethnic academic performance differences drop consistently: 42% for Mexicans, 33% for Cubans, 28% for Puerto Ricans, 26% for Chinese, 26% for Korean, and 25% for non-Hispanic Blacks. In addition, the GPA gap between non-Hispanic Whites and Mexicans narrows significantly from -0.32 to -0.19 ; this result suggest that family-level variables are important in accounting for immigrant Mexicans' low academic performance.

Table 13 presents the relationship between GPA and family characteristics' influence on academic performance of both immigrant and non-immigrant students. Comparing results from Model 4 for immigrant and non-immigrant students, two clear differences emerge. First, low parent education (less than high school) is not significantly associated with GPA among students of immigrants. However, low parental education is associated with GPA among non-immigrant students. Based on Feliciano (2005), immigrant parents' education status may not be used as a comparable variable to non-immigrant parents' education because immigrant parents' education has both a skill component and a status component. What is relevant to immigrant children's academic performance is not their parents' education, relative to U.S.-born parents' education, but their parents' education in their home country. A similar explanation can be provided for household income. Table 13 also shows that household income has small, positive effects on GPA among immigrant adolescents, and even smaller effects on non-immigrant students. Household income, like parental education, could have a material component and a status component as well, and what is relevant is one's household income compared to their peer's household income back home. Thus, immigrants who have less education or income may bring with them a feeling of being members of a high status, which positively affects their adaptation to the host country. This may explain why low SES immigrant students are not educationally disadvantaged compared with other immigrant students.

Second, before adding neighborhood and school variables (model 4), speaking Spanish at home is related with lower GPA among immigrant children, but not among native children. After neighborhood and school variables are added to the model, the

GPA disadvantage associated with speaking Spanish at home disappears among immigrant students. Results presented in Table 11 suggest that Hispanic immigrant students—Mexican, Cuban, and Puerto Rican—usually live in neighborhoods with greater proportions of immigrant neighbors, and these neighborhood conditions are negatively associated with their academic performance. Native children who speak Spanish at home are likely to be fluently bilingual; their English skills are not compromised. Moreover, Portes and Hao (1998) pointed out that immigrant children who speak a non-English and non-Spanish language at home have superior academic performance compared to their English-speaking counterparts. These immigrant children may be fluent in English because their ethnic communities are too small to support their languages and they need English for their daily life. Thus, the non-Spanish foreign language variable may reflect immigrant students' fluent bilingualism, which has a positive effect on their academic performance.

In addition, Table 13 reveals two protective family characteristics for the academic performance of immigrant students: parents having a college degree and the presence of two-biological-parent families. For immigrant students who have college-educated parents, their GPA is about one-third of a standard deviation ($0.26/0.78 = 0.33$) above their counterparts whose parents have only a high school diploma. The effect of a parent's college education also remains substantial after neighborhood and school characteristics are controlled.

Model 5

In Model 5, neighborhood-level variables are taken into account. Most GPA differences between non-Hispanic immigrant White children and other immigrant groups

are consistently stable except for immigrant Cubans, who, as the previous analysis mentioned, usually live in very low SES neighborhoods and with very high proportions of immigrant neighbors (see Table 11). These disadvantages account for about 58% of the immigrant Cuban-White differences (0.15/0.25), on top of their disadvantageous family-level variables.

Overall, Model 5 in Table 14 shows that high neighborhood SES is positively associated with the GPA among immigrant students, while neighborhoods with high proportions of immigrant and less educated neighbors are negatively associated with GPA among immigrant adolescent. When school characteristics are controlled in Model 6, the relationship still remains between neighborhood SES, the proportion of immigrant neighbors, and GPA. Among native children, neighborhood household status and the proportion of immigrant neighbors affect adolescents' GPA. However, after taking into account school characteristics, none of these significant neighborhood relationships remain. These results suggest that some neighborhood effects on the GPA of native children are influenced by school characteristics.

Model 6

In Model 6, the school-level characteristics were controlled. Compared with non-Hispanic White immigrant children, the non-Hispanic Black immigrant children are no longer disadvantaged. Therefore, family characteristics, neighborhood characteristics, and school characteristics all accounted for the low academic performance of non-Hispanic Black immigrants' students. The GPA differences between non-Hispanic White and Hispanic immigrant student groups decreased consistently from Model 4 to Model 6 (39% drop for Mexicans, 43% drop for Cubans, and 24% drop for Puerto Ricans). These

results suggest that neighborhood-level and school-level characteristics together account for some of the educational disadvantages of Hispanic immigrant students. However, the GPA differences between immigrant White students and immigrant Chinese and Korean students does not appear to be explained by neighborhood-level and school-level characteristics.

Model 6 in Table 15 reveals that school climate is significantly associated with GPA both for the immigrant and native adolescents. Poor school climate negatively affects all adolescents. However, these two negative coefficients are significantly different ($\beta = -0.36$ and $\beta = -0.47$): statistically, this result demonstrates that poor school climate is worse for native adolescent than for immigrant adolescents. Similarly, average class size is significantly associated with the GPA for native adolescents but not for immigrant adolescents. Thus, large class size negatively affects native adolescents more than it does immigrant adolescents.

There is a substantially significant relationship between school SES and GPA among immigrant adolescents, but not for native adolescents. This suggests that immigrant children are more affected by role models, within schools or neighborhoods, than are native children.

Generally speaking, using school location as a predictor for immigrant adolescents' GPA is not easy, for it is difficult to generalize the quality of schools in urban, suburban, and rural areas. However, results show both urban and rural schools are associated with higher immigrant student GPA than are suburban schools. In other words, immigrant adolescents in urban or rural schools tend to outperform their immigrant counterparts in suburban schools. However, while GPA of native adolescents differs by

school types, the academic performance of immigrant adolescents does not. On the one hand, immigrant adolescents in regular public schools do just as well as their counterparts in magnet schools or other public schools. On the other hand, native students do more poorly in typical public schools than their counterparts in magnet schools or other public schools—while immigrant students perform consistently in all types of schools.

In general, school characteristics are more strongly related to GPA than are neighborhood characteristics (Model 6). The only strong neighborhood characteristic for immigrant students is neighborhood SES, although its effect on GPA is quite small compared to the effects of school climate and school SES, which have similarly large influences on GPA amounting to almost half a standard deviation ($0.37/0.78 = 0.47$). In other words, schools can protect immigrant students if the climate in school is positive and if there are plenty of educated adult role models in school. But if immigrant students do not feel like they are a part of the school or feel close to people at school, their performance is very poor. For these immigrant children, a standard deviation increase in such negative feelings towards school completely eliminates the academic benefits of attending a school with higher SES (by one standard deviation).

Table 11 Standardized Coefficients for Relationships between GPA and neighborhood- and school-level characteristics

	Model 1	Model 2
<i>Group</i>		
<i>Immigrant Children</i>		
Non-Hispanic White	0.04	0.05
Non-Hispanic Black	-0.04	0.04
Mexican	-0.12**	-0.07
Cuban	-0.20**	-0.14*
Puerto Rican	-0.22**	-0.16**
Chinese	0.38**	0.40**
Korean	0.33**	0.34**
Filipino	0.08*	0.15***
<i>Non-immigrant Children</i>		
Non-Hispanic White (ref)	-	-
Non-Hispanic Black	-0.16**	-0.11**
Mexican	-0.17**	-0.13**
Cuban	-0.02	-0.04
Puerto Rican	-0.28**	-0.22**
Chinese	0.13	0.15
Korean	0.12	0.15
Filipino	-0.15	-0.11
All other ethnic-nativity groups	-0.10**	-0.06**
<i>Neighborhood Characteristics</i>		
Household status		0.03
Neighborhood SES		0.04*
Idle Peers		0.09
Neighborhood Employment		0.01
Neighborhood Immigrant composition		-0.03*
Neighborhood social cohesion		-0.05
<i>School Characteristics</i>		
Student's nominated peers' GPA		0.18
Average class size		-0.09**
School climate		-0.47**
Problem behavior		-0.04
Teacher quality and support		0.05
School SES		0.13
<i>School Location</i>		
Suburban school (ref)		-
Urban school		0.07**
Rural school		0.03
<i>School Type</i>		
Public school (ref)		-
Magnet public school		0.10**
Other public school		0.08**
Private school		0.09**

Note: Total N = 17,791

Models 1 and 2 include all individual-level and family-level variables.

Significance level: *p < 0.01, **p < 0.05, ***p < 0.001.

Table 12 Individual Characteristics in Academic Performance of Immigrant and Non-immigrant Students

Variable	Immigrant Students (N=4,271)				Non-Immigrant Students (N=13,448)			
	Model 3 Ind.	Model 4 Ind.+ Fam.	Model 5 Ind.+ Fam.+ Nei.	Model 6 Ind.+ Fam.+ Nei.+ Sch.	Model 3 Ind.	Model 4 Ind.+ Fam.	Model 5 Ind.+ Fam.+ Nei.	Model 6 Ind.+ Fam.+ Nei.+ Sch.
<i>Generation</i>								
2 nd generation (ref)	-	-	-	-	-	-	-	-
Preschool	0.07**	0.07**	0.07	0.06	-	-	-	-
School-age	0.11*	0.12*	0.13*	0.13*	-	-	-	-
<i>Ethnicity</i>								
Non-Hispanic White (ref)	-	-	-	-	-	-	-	-
Non-Hispanic Black	-0.17*	-0.13*	-0.12**	-0.08	-0.23*	-0.15*	-0.13*	-0.10*
Mexican	-0.32*	-0.19*	-0.17*	-0.12**	-0.25*	-0.16*	-0.14*	-0.12*
Cuban	-0.37*	-0.25*	-0.15**	-0.15**	-0.02	-0.02	-0.02	-0.04
Puerto Rican	-0.37*	-0.27*	-0.24**	-0.21*	-0.36*	-0.27*	-0.24*	-0.20*
Chinese	0.48*	0.36*	0.37*	0.36*	0.13	0.11	0.12	0.12
Korean	0.39*	0.27*	0.36*	0.32*	0.17	0.12	0.12	0.09
Filipino	0.06	-0.07	-0.03	0.07	-0.22**	-0.14	-0.13	-0.13

Note: Total N = 17,791

Significance level: *p < 0.01, **p < 0.05, ***p < 0.001.

Table 13 Family Characteristics in Academic Performance of Immigrant and Non-immigrant Students

Variable	Immigrant Students (N=4,271)			Non-immigrant Students (N=13,448)		
	Model 4 Ind.+ Fam.	Model 5 Ind.+ Fam.+ Nei.	Model 6 Ind.+ Fam.+ Nei.+ Sch.	Model 4 Ind.+ Fam.	Model 5 Ind.+ Fam.+ Nei.	Model 6 Ind.+ Fam.+ Nei.+ Sch.
Household income	0.05*	0.05*	0.04*	0.08**	0.07**	0.07**
<i>Parent Education</i>						
High school graduate (ref)	-	-	-	-	-	-
Less than high school graduate	-0.04	-0.04	-0.04	-0.12**	-0.12**	-0.11*
Some college	0.10*	0.09*	0.07**	0.07**	0.07**	0.05**
College or more	0.26**	0.23**	0.22**	0.28*	0.28**	0.27**
Parents' expectations for college	0.03**	0.02**	0.02**	0.05*	0.04*	0.04*
<i>Family structure</i>						
Two biological parents (ref)	-	-	-	-	-	-
Stepfamily	-0.21**	-0.21**	-0.21**	-0.16**	-0.15**	-0.15**
Single-parent	-0.18**	-0.18**	-0.18**	-0.18**	-0.18**	-0.17**
No biological parent	-0.11**	-0.11*	-0.11*	-0.23**	-0.23**	-0.22**
<i>Primary language spoken in the home</i>						
English (ref)	-	-	-	-	-	-
Spanish	-0.08*	-0.06	-0.06	0.05	0.05	0.05
Other non-English language	0.15**	0.16**	0.16**	0.04	0.05	0.04

Note: Total N = 17,791

Significance level: *p < 0.01, **p < 0.05, ***p < 0.001.

Table 14 Neighborhood and School Effects on Academic Performance of Immigrant and Non-immigrant Students

Variable	Immigrant Students (N=4,271)		Non-immigrant Students (N=13,448)	
	Model 5 Ind.+ Fam.+ Nei.	Model 6 Ind.+ Fam.+ Nei.+ Sch.	Model 5 Ind.+ Fam.+ Nei.	Model 6 Ind.+ Fam.+ Nei.+ Sch.
<i>Neighborhood Characteristics</i>				
Household status	-0.01	0.02	0.03*	0.03
Neighborhood SES	0.05*	0.05*	0.04	0.03*
Peer influence	0.07	0.06	0.10	0.09
Neighborhood employment	-0.06	-0.04	0.01	0.02
Neighborhood immigrant composition	-0.34*	-0.34*	-0.56*	-0.18
Neighborhood social cohesion	0.04	-0.08	0.01	0.02
<i>School Characteristics</i>				
Students' nominated peer's GPA		0.27		0.11
Average class size		-0.06		-0.08**
School climate		-0.37**		-0.48**
Problem behavior		0.10		-0.08
Teacher quality and support		-0.15		-0.12
School SES		0.37*		0.02
<i>School Location</i>				
Suburban school (ref)		-		-
Urban school		0.14**		0.05*
Rural school		0.19**		0.02
<i>School Type</i>				
Public school (ref)		-		-
Magnet school		0.03		0.14**
Other public school		0.03		0.09**
Private school		-0.09		0.14**

Note: Total N = 17,791

Significance level: *p < 0.01, **p < 0.05, ***p < 0.001.

Regression Results for Neighborhood-school involvement Variable:

Model 7 and Model 8

Two fixed-effects regression models on adolescents' GPA were analyzed in this section. All models included the parental involvement variable and the intergenerational closure variable (results reported in Table 5.5). In Table 5.5, Model 1 (individual characteristics) and Model 2 (family characteristics) still follow the previous analysis. Model 7 add the parental involvement variables, and Model 8 added all the intergenerational closure variables.

Model 7

Model 7 has the parental involvement variables in addition to the individual and family background variables. Parental involvement in school activities, PTO, and school conversation are not statistically significant to students' GPA for both immigrant and native groups. However, parents of immigrant children are obviously less likely to join a PTO, volunteer at school, speak to teachers, or attended class events (Kao and Tienda, 1995). Compared with parents of immigrant children, parents of native children are more likely to talk about school grades and other matters with their children.

Model 8

The last model, Model 8, adds the intergenerational closure measures to the previous model. The results show that parent trust is significantly and positively related to GPA for both immigrant and non-immigrant students at a significance level at 0.05. Intergenerational closure was not significantly related to GPA. Judged by the standardized coefficients, parental trust is also the strongest predictor among all variables.

The magnitude of positive coefficient is increased from 0.09 to 0.15 in model 7 and from 0.06 to 0.17 in model 8. However, the change in R-square of the fixed-effect model is minimal. This suggests that neighborhood-school involvement variables are a smaller factor than neighborhood and school characteristics. Therefore, parent trust is not enough to explain the achievement gap, although this variable contributes significantly to students' GPA.

Table 15 Relationships between Neighborhood-school involvement Characteristics and GPA

Variable	Immigrant Students (N=4, 271)				Non-immigrant Students (N= 13,448)			
	Model 1 Ind.	Model 2 Ind.+ Fam.	Model 7 Ind.+ Fam. +P. Involve	Model 8 Ind.+ Fam. + P. Involve +IC	Model 1 Ind.	Model 2 Ind.+ Fam.	Model 7 Ind.+ Fam. +P. Involve	Model 8 Ind.+ Fam. + P. Involve +IC
<i>Parent Involvement</i>								
Parent Involve in School Activities			-0.03	-0.02			-0.02	-0.02
PTO			0.18	0.14			0.17	0.15
School Conversation			0.09	0.06*			0.15	0.17
<i>Intergenerational Closure</i>								
Parent Trust				0.19**				0.18**
Intergenerational Closure				0.15				0.17
R ²	0.19	0.23	0.25	0.28	0.22	0.27	0.26	0.23

Note: Total N = 17,791.

Significance level: *p < 0.01, **p < 0.05, ***p < 0.001.

CHAPTER 6

DISCUSSION AND CONCLUSION

The purpose of this study is to illuminate what roles neighborhood and school play in academic performance among adolescent students of different ethnic and nativity groups. This study builds on the simple premise that children's academic performance is tied to the social and economic opportunities of the geographical space in which they reside. Guided by social disorganization theory, Coleman's social capital theory, and Jencks and Mayer's (1990) five taxonomy mechanisms of neighborhood effects, the present study identifies variables and constructs multiple-indicator composites to measure contextual factors that correspond to these theoretical models. The study also attempts to extend social disorganization, Coleman's social capital, and Jencks and Mayer's framework to specify various ways by which schools operate similarly to neighborhoods in the transmission of advantages and disadvantages to immigrant adolescents. In addition, neighborhood-school involvement variables are identified and used to examine the social capital in immigrant students. This study used segmented assimilation theory to link the social contexts with immigrant students' academic performance because success in school is an indicator of how well an adolescent is assimilated to an environment outside the family. By applying a statistical model that takes into account the cross-classified hierarchical structure and fixed-effects of the data, this study examines whether neighborhood, school, and neighborhood-school involvement characteristics account for academic performance differences among/between groups of adolescents by ethnicity and nativity.

First, comparison results indicate that both neighborhood and school conditions are worse for immigrant students than for non-immigrant students, which is consistent with past research. Hispanic immigrant children and Asian immigrant children display well-known and opposite patterns on neighborhood, school, and neighborhood-school involvement characteristics. Non-Hispanic immigrant White and Black students present a very similar pattern to Asian immigrant students. Among Hispanic groups, Mexican immigrants' overall conditions appear to be the least desirable. Most of them are trapped in disadvantaged neighborhoods and schools, and lacked parental involvement. Among Asian groups, Chinese and Korean students display very similar patterns on neighborhoods, school, and neighborhood-school involvement characteristics. Filipino immigrants show slight differences from Chinese and Korean immigrants. These comparisons among/between immigrants and non-immigrants also can help refine our understanding of whether and how academic outcomes are influenced by the immigration process.

Second, HLM is used to examine specific ethnic groups in Model 1 and Model 2 for overall conditions. This study finds significant differences among/between students' GPA by ethnicity and nativity. Hispanic immigrant students of Mexican, Cuban, and Puerto Rican background perform less well in school than do both non-Hispanic White native students and non-Hispanic Black native students. As with previous research, Asian children of Chinese, Korean, and Filipino immigrants still perform at the highest level in school compared to any other immigrant groups and native groups in this study (Rong & Grant, 1992; Portes & MacLeod, 1996; Hao & Bonstead-Bruns, 1998; Russel, Shen & Lee, 2008). Chinese and Korean immigrant students have significantly higher GPA. Non-

Hispanic immigrant Whites and Non-Hispanic immigrant Blacks are not different from non-Hispanic native White students. These ethnicity-nativity differences among immigrants are not only accounted for by differences in their individual and family characteristics, but also neighborhood and school characteristics.

When native non-Hispanic Whites are used as a reference group, Mexican immigrant students' poor academic performance is well accounted for by their unfavorable family, neighborhood, and school characteristics. However, controlling for the unfavorable neighborhood and school conditions of Filipino immigrant students produces an opposite effect: higher academic performance is present. Ethnic hierarchy in academic performance remains largely the same when immigrant non-Hispanic Whites replace native non-Hispanic Whites as a reference group, with one notable difference: immigrant non-Hispanic Blacks lag significantly behind immigrant non-Hispanic Whites, and this performance gap is also well accounted for by their family, neighborhood, and school characteristics.

There is considerable variation among immigrants in terms of country of origin, family background, political status, economic standing, and other factors (del Pinal & Singer, 1997). These differences may have important implications for educational achievement. Mexicans have faced hostility receptions upon entry into the United States (Johnson, Farrell, & Guinn, 1997). Because of their low socioeconomic status, they are not only experiencing intergenerational poverty but become members of a highly stigmatized social group characterized by their minimal social, financial, and human capital (Portes & Zhou, 1993). In addition, their historical cultural tendencies to

undervalue education (Obgu, 1991; Valencia & Black, 2002) have a real impact on their children's educational achievements.

However, a significant number of post-1965 Filipino immigrants to the United States are college-educated professionals (Rumbaut, 1991). Their English proficiency and U.S.-style education enabled these Filipino immigrants to secure professional jobs in the mainstream U.S. labor market without much tangible assistance from a pre-existing ethnic community (Wolf, 1997). The first generation's achievement of middle-class status would thus facilitate the second generation to move on to a normative path to social mobility, which resembles the first pattern noted by segmented assimilation theory. However, second-generation Filipino immigrants occupy significantly lower educational and occupational levels than their parents' generation, but levels similar to those of non-Hispanic Whites and higher than those of the general American adult population (Zhou & Xiong, 2005). Although these second-generation Filipino immigrant children seem to move in a "downward" direction, they still benefit from their parents' exceptionally high level of human capital and are assimilated to the mainstream middle class in a pattern of "horizontal" mobility (Zhou, 1999; Zhou & Xiong, 2005). This study shows consistent results with this "horizontal" mobility for Filipino immigrant students.

By contrast, Mexican immigrant students' educational and occupational achievements seem higher than those of their parents, but still far behind the average for all immigrant students (Waldinger & Feliciano, 2004). These Mexican immigrant students cannot possibly drop by any further, since their parents' SES is already the lowest in this society. Explaining this by segmented assimilation theory, their seemingly

“upward” mobility is also “horizontal” mobility, which reinforces the disadvantages encountered by Mexican immigrants.

Neighborhood Effects

Hypothesis 1: Among immigrant children, there is a positive relationship between advantaged neighborhood characteristics and academic performance. And there is a negative relationship between disadvantaged neighborhood characteristics and academic performance.

Hypothesis 2: Between immigrant and non-immigrant children, the positive relationship between advantaged neighborhood characteristics and academic performance is more associated with non-immigrant children than immigrant children. A negative relationship between disadvantaged neighborhood characteristics and academic performance is more associated with immigrant children.

In this study, the immigrant and non-immigrant groups show disparities in neighborhood characteristics. Both positive and negative relationships between neighborhood characteristics and academic performance were found. Differences in the neighborhood effects on academic performance among/between immigrant and non-immigrant children were also discovered. Using comparison and HLM models, Hypothesis 1 and Hypothesis 2 were confirmed.

Comparison results proved that differences in neighborhood characteristics vary greatly depending on the specific ethnic group. There are significant differences in neighborhood characteristics, such as neighborhood SES and proportion of immigrant composition, among immigrant groups, especially for Hispanic and Asian adolescent immigrants. In general, Hispanic immigrants’ neighborhoods are characterized by low

SES, high proportions of co-racial peers who are idle, foreign-born individuals, lower employment rates, limited English proficiency, and residential instability. In contrast, Asian immigrants tend to live in high SES neighborhoods with few idle peers, though Asian immigrants' neighborhoods are also characterized by a high percentage of foreign-born individuals or those who speak limited English, and residential instability. When comparing both Asian and Hispanic immigrant groups to non-Hispanic native White groups, immigrant Asian-White differences are less pronounced than immigrant Hispanic-White differences. Taking all immigrants into consideration, their neighborhood conditions are still less desirable than those of non-immigrants.

Comparison results also demonstrate that differences in neighborhood characteristics are driven by differences in human, cultural, and community capital across race/ethnic groups (Alba & Nee, 2003). Adjusted for differences in the forms of capital available to them, disadvantaged neighborhood characteristics always exist among immigrant students and native non-Hispanic Black students. Low levels of family human capital place the immigrant and native non-Hispanic Black students, especially Hispanic immigrant students, in disadvantaged neighborhood. It is clear that their low household income, parental education, and poor English proficiency place them at heightened risk for residing in neighborhoods characterized by poverty and violence (Suárez-Orozco, Suárez-Orozco & Todorova, 2008). According to Portes & Zhou (1993), disadvantaged neighborhood conditions can make Hispanic immigrants' children vulnerable to downward assimilation through the influence of neighborhood disadvantaged factors which affect their education attainment and other normative paths to upward mobility.

Based on HLM, there are two significant neighborhood characteristics that influence students' GPA. First, neighborhood SES has positive effects on students' GPA. The results of the present study offer findings consistent with previous research dealing with neighborhood effects on children's academic achievement and school readiness (Jencks & Mayer, 1990; Vartania & Gleason, 1999; Leventhal & Brooks-Grun, 2000; Ainsworth, 2002). However, when separating children by their ethnicity and nativity, results demonstrate that the relationship between GPA and neighborhood SES exists among Hispanic and Asian immigrant students but not among non-immigrant Hispanic Black and White students. Thus, the neighborhood SES effect for the full sample conceals the differential influence of neighborhood SES for different subsamples.

Model 5 of HLM shows that neighborhood SES is more associated with academic performance for immigrant children than for non-immigrant children. This is also consistent with the comparison result that neighborhood SES for non-immigrant students is much better than for immigrant students. Moreover, the relationship between family SES (indicated by parental education level and household income) and GPA was more significant among non-immigrant students than immigrant students. Combining these findings, the present study suggests that, compared to non-immigrant children, academic performance of immigrant children depends more on successful neighborhood adults and less on their immigrant parents' resources. One possible empirical explanation for this is that immigrant children, who are eager to assimilate into American society, are more likely to look to native-born neighborhood adults as role models. Another explanation is that because children of immigrants are more likely to live in co-ethnic communities with denser social networks than are children of natives, community-level social capital can be

more readily tapped and translated into higher GPA for these immigrant children (Bankston, Caldas, & Zhou, 1997).

The second significant neighborhood effect is the proportion of immigrant individuals (either adults or children) in a given neighborhood. It is worth noting that this effect has not been reported/studied in existing neighborhood literature. Findings from this study show that a greater proportion of immigrant individuals residing in a given neighborhood is negatively associated with the GPA of immigrant students but not with non-immigrant students. Similar to what was found in the first neighborhood characteristic discussed earlier; immigrant students appear to be more susceptible to neighborhood conditions than their native counterparts. To be specific, this study shows that the effects of neighborhood SES and proportion of immigrant neighbors are statistically significant to immigrant students' GPA. Because there are only two among all six neighborhood characteristics associated with GPA, neighborhood effects are weaker than school effects on immigrant students' GPA in this study.

The opposite roles of neighborhood SES and neighborhood immigrant composition are noteworthy. In particular, segmented assimilation theory argues that ethnic communities would be an important source of social capital for immigrant families, helping them to support the adaptation of their children, who face the risks of racial discrimination and assimilation into the oppositional cultures of downtrodden domestic minorities. Unlike previous research that only emphasizes the benefits of living in immigrant communities for children, an important finding of this study shows one drawback of immigrant communities: the lack of opportunities for developing better English-language skills associated with living among a high proportion of immigrant

neighbors. Neighborhood language environments are particularly important for children of immigrants, because English is often not spoken at home. In neighborhoods where English is spoken, these children learn to speak fluent English from friends and other adults. But in predominantly immigrant neighborhoods, particularly those with a high proportion of co-ethnics, immigrant children are much less likely to become fluent in Standard English than children of native-born parents. Based on Portes and Rumbaut (2001), when useful resources exist in an immigrant community, such as high SES role-models, the social network and relationships within the community will be productive for human capital investment. But if instead English language deficiencies are prevalent, social network and relationships will only reinforce such deficiencies. Therefore, the results of this study echo Portes' (1998) in calling for the examination of the negative side of social capital in general, and offer empirical support for such negative effects in the field of education in particular. The results indicated that community social capital can either help or hurt children's education depending on whether useful resources or language deficiencies are embedded within the community in which they live.

In addition, the results reveal that neighborhood SES as a predictor of GPA corresponds to the Jencks and Mayer's theoretical model of collective socialization. High SES adult neighbors who have a college education and hold professional and managerial occupations provide positive role models that encourage students' academic performance, but co-racial single mothers raising children in the neighborhood serve the opposite effect (except among Asian immigrant children). Therefore, neighborhood role models serve as a form of collective socialization and are the most important mechanism. This result is the most consistently found neighborhood effect on students' academic achievement and

attainment (Ainsworth, 2002; Vartania & Gleason, 1999; Leventhal & Brooks-Grun, 2000; Jencks & Mayer, 1990).

Moreover, neighbors who know and trust each other, at least at a minimal level, can also collaborate to support neighborhood children's development, exercise social control through enforcement of appropriate behavior, and improve local institutions for children. Drawing on social organization theory, Sampson et al. (1999) suggest that this type of collaboration is more difficult to achieve in disadvantaged neighborhoods, particularly those with high residential turnover, substantial race/ethnic heterogeneity, and large numbers of immigrants. However, the findings of this study suggest that immigrant neighborhoods, especially those composed of a single race/ethnic group, may be more effective at monitoring and controlling students' academic performance because shared cultural values act as a form of social capital among residents.

School Effects

Hypothesis 3: Among immigrant children, schools characterized by high-level variables lead to better academic performance.

Hypothesis 4: Schools characterized by many high-level variables are more associated with non-immigrant children's academic performance than that of immigrant children. Schools characterized by many low-level variables are more associated with immigrant children's academic performance.

For Hypothesis 3 and 4, analyses showed school characteristics, such as school climate, school SES, average class size, and school type, are significantly associated with both immigrant children and non-immigrant children. Six out of twelve school effects on GPA supported Hypothesis 3 and 4.

Similar to neighborhood characteristics, school characteristics also differ between immigrant and non-immigrant students. Among immigrant groups, Hispanic immigrant children are more likely to attend low SES schools and schools where students are exhibiting problem behaviors, and less likely to attend private schools than are Asian immigrant children. All schools attended by immigrant students have larger average class size than do schools attended by native students. Hispanics are the most disadvantaged group in terms of all various school conditions. Their schools are also of lower quality than those attended by Asians or any other immigrants. Furthermore, Hispanic immigrant students largely attended more urban schools than any other immigrant group. Once again, taking all school characteristics together, immigrants are more likely to be disadvantaged than non-immigrants.

These comparison results again demonstrate that the persistence of Hispanic disadvantage negatively affects academic performance by constraining the development and value of school-based social capital and limiting the instructional resources available to students. School is a pivotal social institution for immigrant students and also is their source of social protection and support (Portes & MacLeod, 1996; Rumbaut, 1999). Also, school experiences are an essential step in upward socioeconomic mobility. Hispanic immigrant students attending disadvantaged schools are more susceptible to perform poorly as a result of being exposed to and becoming acculturated into a presumed American native minorities' "oppositional culture." Importantly, Hispanic immigrant students stand apart among immigrant groups as experiencing some of the highest levels of school segregation. Compared to Asian and other immigrant groups, Hispanic immigrant students have become increasingly likely to attend high-minority urban

schools and now are nearly as segregated as African Americans (Logan, 2002; OrWeld et al., 1997). For example, in California, Spanish-speaking students are more concentrated in high-minority, high-poverty schools than other immigrant groups, including non-Hispanic White, Black, and non-English speaking Asians (Ryabov & Van Hook, 2007). On a national scale, schools that are 90–100% black and Hispanic are 14 times more likely to be majority poor than schools that are 90% or more white (OrWeld et al., 1997).

Based on HLM, there are six significant school characteristics that are associated with students' GPA. As with neighborhood effects on academic performance, both positive and negative school effects on students' GPA were found in this study. School conditions are important for students' academic performance. School SES, measured by the percentage of parents with a college degree or above, is strongly positively associated with the GPA of immigrant students but not of non-immigrant students. Again, this finding demonstrates immigrant students depend more on adults outside their home for role models.

School climate is more negatively associated with GPA for immigrant students than for non-immigrant students. For example, most immigrant students tend to attend schools with socioeconomically disadvantaged students. In disadvantaged schools, student- and teacher-related factors may negatively affect the school climate. Therefore, immigrant students are more likely to be exposed to negative school climate. This negatively affects immigrant students' academic performance. On the other hand, schools with a positive climate tend to instill in immigrant students a sense of social responsibility and positive teacher-student relationships which, in turn, lead to their better academic performance (Ryabov & Van Hook, 2007).

Large class sizes negatively affect GPA among non-immigrant students but not among immigrant students. As supported by comparison results, most immigrant students are assigned to large classes, especially Filipino immigrant students. Immigrant students' academic performances are not affected by class size. Therefore, the class size as a school factor is not enough to explain the academic achievement gap among/between immigrant and non-immigrant students. However, reductions in class size can improve academic performance, as is generally accepted in the United States educational system (Pong & Pallas, 2001).

Furthermore, school location is strongly associated with immigrant students' GPA; immigrant students attending urban schools show lower GPA than immigrant students attending suburban and rural schools. Moreover, both immigrant and non-immigrant groups show significantly low GPA in urban schools. Non-immigrant students who have attended urban schools typically live in higher-poverty neighborhoods and attend schools with a greater share of students who are poor and from less-educated families (Massey & Denton, 1993; Jargowsky, 1997).

Immigrant students represent a large and growing proportion of school children in the United States, especially in urban areas. These immigrant students live in high-poverty inner-city neighborhoods where schools are often troubled and where native-born students are alienated from mainstream educational culture (Portes, 1995; Portes & Zhou, 1993). In this study, comparison results show that Cuban immigrant students are the most likely to attend urban schools (Table 7). In their Miami school system study, Murnane, Willett, & Tyler (2001) also pointed out that Cuban students who attend highly urbanized Miami schools have higher dropout rates. Almost 1 out of 4 students dropped out from

these Miami urban schools. Urban school locations also lead to downward assimilation of immigrant children. Moreover, compared to Hispanic immigrant students, Asian immigrant students' high performance may be due to their attending high-quality suburban or rural schools. Demographic diversity within schools may create inequality of access to advanced institutional resources.

In terms of the school type, this effect is only associated with non-immigrant students' GPA. Considering all immigrant students together, most of them tend to attend public schools, magnet schools, and other public schools. However, Asian immigrant students are overrepresented in private schools. This is especially true among Chinese and Korean students, whose private-school attendance surpassed that of non-Hispanic native White students and is four to five times higher than most Hispanic groups (Table 7). It is unquestionable that immigrant students attending private schools perform better than those in public, public magnet, and other public schools. Private school could arguably be another measure of socioeconomic status. However, previous studies also found private schools, especially Catholic schools, to have more rigorous curriculum and greater social capital available to students, all of which may be indicators of favorable school quality that enhances student learning performance (Coleman & Hoffer, 1987; Lee, Smith, & Croninger, 1997). Moreover, it is noteworthy that Hispanic immigrant students constitute the largest population in magnet schools of all immigrant students in this study.

According to Lew (2006), Korean American students at the magnet school she studied used their peer networks to get information and institutional resources about college admission or private after school academies in order to improve their academic achievement. They use "institutional agents" to build social capital to access the

institutional resources and opportunities (Stanton-Salazar, 1997, 2001). However, this study demonstrates that Hispanic immigrant students clearly do not benefit from their “institutional agents,” which inhibits their access to institutional resources and educational opportunities. Compared to the “successful” Asian immigrant students from Lew’s (2006) magnet school, Hispanic immigrant students consistently navigate through the education system in low-performing, poorly resourced, uncaring urban public schools without much adult guidance.

In summary, besides residing within the confines of their own ethnic group, immigrant students inevitably engage in a variety of school activities and contexts, which not only serve educational purposes but also provide them access to mainstream institutions that their own ethnic group may be unable to provide. School as a significant structural determinant can either hinder or facilitate the social mobility of immigrant students (Lew, 2006). As proved by this study, school, and not other social contexts, plays positive roles in immigrant students’ academic performance. Therefore, school as an institution can foster students’ upward mobility, according to this study.

Immigrant students can use school as a vital path for their upward social mobility. Schools with large proportions of high-SES resources are likely to provide opportunities for all immigrant students to develop valuable social capital that may facilitate positive assimilation outcomes such as academic success (Conger et al., 1997; Dornbusch et al., 1987; Lareau, 1989; Carbonaro, 1998; Coleman, 1988; HoVerth et al., 1999; Morgan & Sörensen, 1999; McNeal, 1999; Joyner & Kao, 2000; Moody, 2001). School climate, which is in this study defined by how immigrant students feel about their school, positively affects their academic performance. Students’ positive feelings about being

accepted and capable of participating in school also results in their positive assimilation outcomes. School location also can affect students' academic performance. According to segmented assimilation theory, immigrant students live in high-poverty inner-city neighborhoods where schools are often troubled and where native-born students are alienated from mainstream educational culture (Zhou, 1997).

In addition, Stanton-Salazar (2001) recognized the valuable role of “institutional agents” in school and how they can serve to defend immigrant students' interests, provide them with constructive advice, and guide their overall progress. These institutional agents can help immigrant students increase their social capital. Overall, these school factors pressured immigrant students to assimilate into the mainstream culture of the school and become eager to learn. School creates different educational opportunities for immigrant children from varying family-school backgrounds, illustrating that even students from the same ethnic background experience school differently and have varying levels of academic achievement.

Neighborhood-school Involvement Effects

Hypothesis 5: Among immigrant children, higher levels of neighborhood-school involvement characteristics are associated with higher levels of academic performance.

Hypothesis 6: Between immigrant children and non-immigrant children, higher levels of neighborhood-school involvement characteristics are more associated with higher levels of academic performance for non-immigrant children. Low levels of neighborhood-school involvement characteristics are more associated with lower levels of academic performance for immigrant children.

In this study, neighborhood-school involvement variables reflect the social capital for immigrants' adolescents. Hypotheses 5 and 6 are constructed based on social capital theory. Although comparison results suggest the amount of social capital available to different racial/ethnic groups varies by type of social capital, HLM results indicate that social capital has positive but limited effects on academic performance on both the immigrant and non-immigrant groups. The result from Model 7 and Model 8 are consistent with these two hypotheses, indicating very limited support for social capital. Therefore, Hypothesis 5 and 6 were rejected.

Following the definition of social capital proffered by Coleman, social capital in this study refers to the supportive relationships between adults and children in order to promote positive behaviors and attitudes among students for their successful performance outside of their family. Such functional social relationships are embedded and operate within and among the structures of the family, as well as the neighborhood and school within which family effects are embedded. In this study, social capital is constructed by parental involvement and intergenerational closure.

Coleman (1988) emphasizes that parental social relationships facilitate children's academic performance. Parental involvement translates into governance and advocacy in neighborhoods and in school. These social capital relationships either reside inside the family or outside the family, and increase the overall social capital available to a child. A remaining question of this study is: Why doesn't social capital do a better job of helping explain academic performance in this study? Common major reasons may be the lack of networks, unfamiliarity with local environments, language barriers, and the busy work schedules of many immigrant parents, which prohibit them from actively participating in

schools. These reasons confirm Coleman's argument that human capital in parents will not transfer to the children automatically. The intergenerational transmission process is interrupted because immigrant parents are not familiar with norms and practices in the new education system. For immigrant families, parent involvement does not function to impose shared norms on the children, since the parents, lacking sufficient understanding about the new culture, may not acknowledge the norms in the host society.

However, the greater social capital derived from immigrant parents' involving their children in extracurricular schooling, such as in church or after school programs, can expedite the acculturation process both for themselves and for their children. In this sense, greater parental involvement—frequent exchanges with other parents on children's behaviors, homework monitoring, active volunteering, information exchanging, and so on—does facilitate the generation of human capital in their children. In fact, both immigrant parents and native parents put high values on parental involvement and intergenerational closure in their own unique ways. If immigrant parents simply followed the so-called mainstream practices, they may have much closer ties with teachers and schools. However, they did not.

The findings of this study do not necessarily mean the rejection of Coleman's social capital theory. However, an alternative definition and measurement for social capital might have shown that social capital has stronger effects on academic performance and might have explained more of the gap in academic performance between immigrant and non-immigrant students. Social capital is not a static and arbitrary collection of personal interactions occurring in different social contexts; instead, it should be imagined as a network woven by the individual parent around him/herself for

a specific purpose—for instance, better education for their children. Such an interlaced network allows dynamic flows of resources from one link in the network to another in the process of accomplishing the goal. The resources, not the network per sé, are the key in the concept of social capital according to Bourdieu's definition (Bourdieu, 1992, p, 119). For immigrants, accessing institutional resources, rather than the norms, is more important for their educational achievement and assimilation processes. Stanton-Salazar and Dornbusch (1995) studied educational attainment and social capital considering students' own social networks and their "bridging" access to information-related support, including personal advice about academic decisions; future educational and occupational plans; and access to legal, health, and employment services (Stanton-Salazar and Dornbusch, 1995). They found a more complex picture, in which bilingualism and associated cultural capital was a key factor in students' access to sources of information and to institutional resources (p.132). Grades were positively related to three different informational network variables: the number of school-based weak ties, the number of non-kin weak ties, and the proportion of non-Mexican origin members. Overall, the nature of the network and the amount of resources available in the network may be responsible for differentiation in students' academic performance.

Conclusion

In summary, this study illustrates great disparities among/between immigrant groups and non-immigrant groups on neighborhood and school characteristics. Among immigrant groups, Asian immigrant students have better neighborhood and school conditions than Hispanic immigrant students. Immigrant non-Hispanic Blacks have significantly worse conditions than immigrant non-Hispanic Whites. Between immigrant

and non-immigrant groups, non-Hispanic native White students have better neighborhood and school conditions than most immigrant students. Although there are variations within each immigrant group, Asian immigrants are much more likely to perform better than Hispanic immigrants in general. Immigrant non-Hispanic Whites and immigrant non-Hispanic Blacks occupy a middle slot between Asian and Hispanic immigrants.

These comparison results certainly do not prove that race/ethnicity itself can explain the differences. Race/ethnicity may affect the societal segment into which immigrant youth are assimilated. According to this perspective, the findings from comparison analyses in this study can be explained by the “segmented assimilation theory” (Portes & Zhou, 1993). The Hispanic immigrant group takes the path of assimilation into the disadvantaged underclass, while the Asian immigrant group is able to assimilate into a better situation. Hispanic immigrants most likely live in disadvantaged neighborhoods and attend disadvantaged schools. Their segmented assimilation into American society is quite different than the segment that highly educated, professional immigrants assimilate into.

Furthermore, following the 2003 Census, among the proportion of foreign-born population age 25 and over who had earned a bachelor’s degree or higher, 50 percent of them are from Asia, while only 11.6 percent of them are from Latin America. Among the proportion of foreign-born workers in management and professional occupations, 47 percent of them are from Asia, 12.7 percent of them are from Latin America, and 7.9 percent of them are from Central America. Given these facts and based on the segmented assimilation perspective, it is not hard to conclude that Asian immigrant children are

living in better neighborhoods, attending better schools, and having better academic performance than Hispanic immigrant students.

Based on the multilevel regression analysis, the findings of this study indicate important neighborhood and school effects on immigrant students' academic performance and prove that immigrant groups perform differently with different structural resources. Unlike ample neighborhood-effect studies that consider school as a neighborhood institute, this study expands the base of current neighborhood-effect theories by treating neighborhood and school as two separate variables among/between immigrant and non-immigrant students. In this study, neighborhoods and schools play different roles in immigrant students' academic performance.

The most consistent neighborhood effect in this study is the impact of neighborhood SES, measured by the proportion of high school graduates and college graduates or above. The neighborhood SES was found to positively affect students' GPA. The finding is consistent with the ample body of neighborhood-effect research which continues to emphasize socioeconomic status of a neighborhood as an important predictor of various child and adult outcomes. In this way, this study adds to this body of work.

However, this study makes a distinct contribution in that it finds that the proportion of immigrant neighbors in a neighborhood is significantly and negatively associated with immigrant students' GPA, even after controlling for neighborhood SES and various other measures. As discussed earlier, community-based social capital has both positive and negative influences on immigrant students. This finding reinforces the drawback of living in high-proportion immigrant communities; this residential pattern

can have negative consequences that reflect the downside of social capital: limited English proficiency, which inhibit immigrant students' educational achievement.

Furthermore, the results show that school characteristics are more important predictors for immigrant student academic performance than neighborhood characteristics. School SES, measured by the proportion of parents with a college degree or above, is positively associated with immigrant students' GPA, but not the GPA of non-immigrant students. School climate is more negatively associated with immigrant students' GPA than with the GPA of non-immigrant students. Large class sizes negatively affect non-immigrant students' GPA but not immigrant students'. School location is associated with immigrant students' GPA but not non-immigrant students'. School type is only associated with non-immigrant students' GPA. To put it simply, school SES, school climate, and school location are associated with immigrant students' GPA. Large class size and school type are associated with non-immigrant students' GPA.

In this study, school as a social and institution context plays a crucial role in immigrant students' academic performance. Students usually spend most of their daylight hours in school. As Stanton-Salazar and Dornbusch (1995) suggest, school may be the only channel for resources transmission for disadvantaged immigrant students. If immigrant students are well assimilated into the host society, it is plausible that they improve their academic performance through their assimilation processes, and they are assimilated more into the school context than into the neighborhood context. They may also adjust their assimilation behavior accordingly in school and neighborhood contexts.

Results of this study also illustrate that immigrant students' academic performance is affected by different school characteristics, and that these school

characteristics, in addition to the family and the neighborhood, are facilitating their educational experiences, fostering upward assimilation and influencing their social mobility.

Although this study does not present significant statistical neighborhood-school involvement effects on students' academic performance, neighborhood-school involvement variables will still need to be considered as very important resources for immigrant assimilation. As mentioned before, the neighborhood-school involvement effects reflect social capital. No matter which assimilation theory is being used, the role of networks has been the subject of a large social capital literature. Typically, networks are seen as instrumental in creating productive social capital, including social relations, which will in turn facilitate integration (Coleman, 1988). Coleman's theory of social capital suggests that student with higher levels of intergenerational closure and whose parents are more involved with their schools will have better educational outcomes. Intergenerational closure occurs when children and parents of one household are known to another, thus creating denser networks between families and enhancing parental supervision of children. Immigrant children may have less access to social capital. In addition, because of the disadvantage in English language skill and varying social customs, immigrant parents have, on average, less interaction with parents of their children's friends and less involvement with their children's schools. However, immigrant and minority parents may also have access to ethnic-specific forms of social capital (Zhou 1997). For instance, some Chinese and Korean American communities have cram schools (kumon) that offer tutoring for standardized college entrance exams. Moreover, immigrant parents may draw from social networks that are primarily

embedded in their ethnic communities. If this is the case, school-specific social capital does matter less for the educational achievement of immigrant students.

Studies addressing differences in social capital among different racial, ethnic, and immigrant groups have consistently found that non-Hispanic native White and third-generation immigrant students possess higher levels of social capital than native Black and immigrant children (Bankston and Zhou, 2002). In this study, regression results do not show the social capital effects on first- and second-generation immigrant students' academic performance. However, comparison results demonstrate that these immigrant students possess less social capital than their native-born and White counterparts, especially Hispanic immigrant children. Coleman's social capital theory can be used as a powerful tool for understanding educational stratification by race/ethnicity. However, Coleman's social capital theory only explains what makes Catholic schools successful; it may not be generalized to include other school contexts. This lack of generalization makes this theory less powerful in studying the subject. As mentioned before, social capital and its effects on the education outcomes of immigrant students need a clearer definition and measurement method. Stanton-Salazar's definition for social capital may better explain the immigrant students' experiences. He prefers Bourdieu's formulation, as it places more emphasis upon the structures in which social capital is embedded. Stanton-Salazar (2001) believes that social mobility of individual depends in part on their social networks and the social capital these networks provide. More economically privileged individuals enjoy strong social networks through their extended families, friendship groups, and workplace relations. Low-income individuals depend more on institutional agents, such as teachers, counselors, social workers et al. for the kind of social capital

that leads to upward social mobility. Low-income individuals do have social networks and accrue social capital, but their social capital does not provide them with entrée into privileged settings. Their social capital has low exchange value among those institutional agents who act as gatekeepers to upward social mobility. In addition, according to this social capital theory, social networks of relationships can aid immigrant students in managing an otherwise unfamiliar environment (Attinasi, 1989) by providing them with valuable information, guidance, and emotional support (Stanton-Salazar, 1997). For example, Stanton-Salazar (2001) found that Hispanic students reported a lack of social and academic support from teachers and peers, along with a feeling of being disconnected as reasons for dropping out of high school. Similarly, Stanton-Salazar & Dornbusch (1995) found that genuinely supportive relationships with institutional agents (including peers) and resources were related to academic success among Hispanic immigrant students. These findings provide important information about the benefits of social capital for immigrant students' educational success. Thus, Bourdieu's or Stanton-Salazar's social capital theory is more suitable for immigrant students' schooling experience than Coleman's

Problems of Segmented Assimilation Theory and Model Minority

Segmented Assimilation Theory

Segmented assimilation theory is a framework used to describe different processes and pathways immigrants go through as they incorporate into the host society (Portes and Rumbaut, 2001). This theory has identified structural factors, such as immigration history, reception, and opportunity structure, as significant determinants of immigrant social mobility. As an important and powerful theory, it has been used widely

to study assimilation. Meanwhile, over the years, many researchers have raised reasonable criticism as well.

One of the criticisms is that segmented assimilation theory does not address social class issues and their effects on immigrant assimilation. Social class is a complex and important variable in immigrant students' assimilation process and should not be ignored. High- and low-achieving immigrant children are placed at a competitive disadvantage compared to their native-born counterparts in terms of their access to educational opportunities. Lew's (2006) study on Korean American students found that social class determines how much and what kind of educational resources and social networks immigrant students have access to. She further discovered that the process of obtaining or not obtaining social capital differentiates academically successful students from the dropouts even within the same ethnic group. Consequently, Lew argued that to investigate the immigrant student's social mobility, "it is pivotal to disaggregate achievement data by race and class" (Lew, 2006, p. 111), rather than simply accepting racial generalizations at face value.

Moreover, Alba & Nee (2003) proposed the causal mechanisms of assimilation for contemporary immigrants. They argue that segmented assimilation theory appears to inflate the magnitude of the underclass population and overlook various cultural models within an ethnic group. They believe that most divergences in assimilation are attributable to the socioeconomic diversity of contemporary immigrants. Thus, Alba and Nee distinguish between human capital and labor immigrants. For example, although labor immigrants (the single largest group is from Mexico) do acquire language assimilation, their social mobility is slow and the prospects for a second and third

generation are not dissimilar. This study's results also demonstrate that immigrants' human capital and diverse socioeconomic statuses determine their children's academic performance.

Segmented assimilation theory also raises the possibility that immigrant children may acculturate into "oppositional youth cultures" supposedly found in poor neighborhoods (Zhou 1997). The theory does not explicitly take into account the possibility of greater involvement on the part of immigrant parents, who may take a more active role in guiding their children's assimilation if they perceive the local context to be threatening. Immigrant parents, like native parents (Furstenberg 1999), are likely aware of neighborhood dangers, which segmented assimilation theory suggests may be especially pronounced for acculturating immigrant children. Immigrant parents living in disadvantaged neighborhoods may make greater efforts to discourage their children to form friendships with local peers and reduce their exposure to the surrounding community than parents in more advantaged neighborhoods. If so, the end result may be that immigrant children living in poor neighborhoods will be less assimilated than those living in more advantaged neighborhoods. It follows that differences between immigrant children's outcomes and those of their native peers, within the same neighborhood, will be smaller in high-SES neighborhoods than in low-SES neighborhoods. Immigrant parental involvement seems to play some roles in immigrant children's assimilation process. The present study also finds that parental involvement does have effects on immigrant student's academic performance. Although parental involvement effect is not a stand-alone factor in explaining immigrant students' academic performance, its existence and effects can and should not be ignored in future study.

Besides ignoring social class and parental involvement as possible affecting variables, segmented assimilation theory is primarily focused on social context effects on immigrants—the majority of these contexts being immigrant families and ethnic communities. Even though these contexts play very important roles in immigrant students' assimilation process, they do not necessarily reflect the comprehensive nature of the process. Segmented assimilation theory's explanatory power, therefore, becomes limited in investigating the subjects, as more and more studies and research efforts are conducted based on this theory. To further understand the nature of the assimilation process, the present study introduced and proved that another group of important variables can and should be used in studying the process, namely the school context. The results of this study suggested that school as social context is more important than immigrant students' neighborhood.

In addition, segmented assimilation theory underscores the importance of social capital and co-ethnic networks of immigrant communities in determining immigrant students' academic success and social mobility (Portes & Rumbaut, 2001; Zhou & Bankston, 1996). In segmented assimilation theory, the concept of “institutional agents” is often missing in defining social capital. Stanton-Salazar (2001) specifically defines social capital as ties that transmit “institutional support” (p.267). He further stressed the need to nurture links or social networking with “institutional agents” such as teachers, counselors, and mentors who can guide the way for new educational resources and opportunities. The support provided by these institutional agents can serve to defend immigrant students' interests, provide them with constructive advice, and guide their overall progress. The results this study indicate school—as an institution and a place to

connect the institutional resources in which immigrant students interact with other students from other ethnic groups—should not be ignored in investigating the assimilation process.

Finally, both Bourdieu (1986) and Coleman (1990) agree that social capital can be understood as a network of relationships designed to help its members to accomplish certain goals. Within this network, peer networks can facilitate access to educational resources for immigrant children (Stanton-Salazar, 2001; Lew, 2006). According to Stanton-Salazar (2001), “individuals [are] deeply embedded in social webs that, in turn, are interwoven within other webs, with these webs further interwoven within ever larger webs or networks” (p. 16). For disadvantaged immigrant students, peer network may be the only institutional resource that they have access to. Segmented assimilation theory addresses many concerns related to the social context, such as ethnic community, but it does not consider the effects of this kind of social capital on the assimilation process. For immigrant children, given the complexity of peer networks, more investigations are needed to clarify how peer networks affect immigrant students’ social mobility,

As discussed above, while segmented assimilation theory provides an insightful and in some sense necessary perspective on the experiences of today’s immigrants and their children, it does have limitations. Immigrants’ assimilation outcomes are very diverse but not random. Into what segment a group is likely to assimilate depends on the interplay between individual, family, community, school, and other social factors, which are directly or indirectly linked to unique contexts of exit and reception. Immigrant children are living in a society that is highly stratified not only by class but also by race. Their success depends disproportionately on family, ethnic community, school, and other

social resources, while the failure of some is due largely to low family SES exacerbated by the lack of social resources. These realities have shaped, and to an important extent, determined immigrant children's multifaceted experiences and life chances. In their pursuit of the "American dream," whatever that may be, they would probably still have to work 'twice as hard' as other Americans if they expect to succeed (Zhou & Xiong, 2005).

Model Minority Myth

Numerous studies have shown that Asian immigrant students' academic performances are better than other immigrants' or natives'. The results of this study are consistent with this "Model Minority Myth." For Chinese and Korean immigrant students in this study, neighborhood, school, and neighborhood-school involvement do not affect their high GPA; they have done remarkably well. In another words, unlike previous research, this study does not find evidence of neighborhood, school, and neighborhood-school involvement characteristics that can be used to explain the better academic performance of Asian immigrant students when compared to non-immigrant native Whites'. Puzzling as it may be, academic performance differences between non-immigrant native White adolescents and Asian adolescents of immigrants cannot be explained by any differences in their family, neighborhoods, or schools. Are the "model minority" images true to these Chinese and Korean immigrant students?

In this study, the model minority image is based on reports of Chinese and Korean immigrant students' high GPA in comparison to those of Hispanic and other immigrant students. In fact, there are crucial structural resources that shape immigrant students' schooling experiences, including academic support and school guidance, access to key institutional gatekeepers, and families' economic and social resources (Lew, 2006). Thus,

the “model minority myth” masks racism and other structural barriers that prevent minority students from achieving to high standards in school and ultimately helps maintain the status quo of White hegemony (Jo, 2004; Lee, 1996). As Lew (2006) demonstrated, neither race nor how one entered the United States wholly determines educational success. Socioeconomic status, and its accompanying resources of neighborhood, families, purchasing power, and connections, remains a powerful force in any student’s ability to overcome institutional and social barriers. “Model minority discourse, as a hegemonic device, attributes academic success and failure to individual merit and cultural orientation, while underestimating important structural and institutional resources that all children need in order to achieve academically” (p. 105).

Contributions of the Study

The present study examines the neighborhood effects and school effects on immigrant students’ academic performance. This study makes several important contributions to research in this area. First, this study contributes to understandings of neighborhood effects in theoretical terms. Theoretically, this study expands the base of current neighborhood effects theories by treating neighborhood and school conditions as two separate variables among immigrant children. Immigrants are more likely to be disadvantaged than non-immigrants. Because of low family SES, most of them are trapped in inner-city disadvantaged neighborhoods and schools. The reception of immigrants by the U.S. government, the American population, and the local labor market can be positive, neutral, or negative, depending on immigrants’ national origin. Families, coethnic communities, and schools can facilitate or hinder the cognitive and social development of disadvantaged immigrant children (Portes & Fernandez-Kelly, 2008;

Zhou et al., 2008). School is usually considered as a neighborhood institution and the least studied of these factors. Based on the findings of this study, neighborhoods and schools certainly play different roles in immigrant students' academic performance. School characteristics foster upward assimilation among immigrant students. Armed with a more appropriate way to understand the neighborhood and school effects, parents, researchers, teachers, and policy makers will be better able to construct studies and explain phenomena in current social contexts.

Second, the present study undertook the challenge of integrating social disorganization theory across racial/ethnic groups with several theories of the sociology of deviance (i.e., Jencks & Mayer's neighborhood effects theory) in order to develop a general framework that could be used to examine neighborhood and school effects on the academic performance of immigrant students. This approach proved fruitful, given that the various theories often complemented each other well by predicting different effects of certain variables (neighborhood-level characteristics and school-level characteristics) but on similar sets of outcomes (students' GPA). In addition, this integrated theoretical framework has strong implications for causal relationships, which is the foundation for making causal inference. The statistic model used in this study is a reduced form model in which individual-level and family-level characteristics affect past and current academic performance. Because individual school grades cannot logically cause neighborhood and school conditions, the causal relationship between neighborhood, school, and school grades can be established.

Third, most studies limit the range of neighborhood and school variables to socioeconomic disadvantage and one or two other demographic characteristics (e.g.,

population density or residential stability), while this study used a wider range of characteristics drawn from social disorganization theory, social capital theory, and Jencks and Mayer's neighborhood effects theory, which include both structural characteristics and neighborhood social processes.

Fourth, the analysis in this study includes strong controls for individual and family-level effects, both by employing a richer set of individual and family characteristics and by including individual-level and family-level random effects. Better controls for individual-level and family-level effects allow this study to draw clearer conclusions about the net effects of neighborhood characteristics and school characteristics on students' academic performance.

Finally, although previous neighborhood qualitative studies shed insights on advancing neighborhood effects theories, the findings of this study are more generalized to a larger population due to its quantitative nature. By using a nationally representative sample of adolescents, this study complements existing knowledge on the neighborhood effects and school effects on immigrant students' academic performance nationally. Unlike previous neighborhood effect research, this research not only concentrated on poverty in urban neighborhood but also determined whether the same types of relationships were observed elsewhere. In addition, using hierarchical linear Modeling (HLM) techniques in this study allowed incorporation of multiple factors in a manner better than the ordinary least squares method, since HLM takes into account error structures at each level (individual, family, neighborhood, and school) (Raudenbush & Bryk, 2001).

In summary, there are currently 14 million immigrant children under the age of 18 in the United States (Census, 2000). As mentioned previously, most of these immigrant children are newcomers, the majority of whom are of Hispanic or Asian origin. Meeting the educational needs of these children has become a pressing issue. It is crucial to understand issues related to immigration students' assimilation processes in order to meet the educational needs of immigrant students. The findings of this study illuminate ways to support current teachers and schools in promoting more culturally sensitive curricula and school programs, and more productive school environments, for immigrant children. The results demonstrate that neighborhood and school conditions do have different effects. Optimal combinations of these two factors may help in alleviating apparent tensions between structural barriers of disadvantaged neighborhoods and schools, and overwhelming academic performance expectations.

Policy Implications

Existing research has documented large differences among/between different races and ethnic groups (Glick & White, 2003), and current immigrants have much different race/ethnic composition than third+ generation Americans (Larsen, 2004). According to the 2000 U.S. Census, Hispanics and Asians are still the two largest immigrant groups in the U.S. The largest ethnic group among immigrant Hispanics (in fact among all immigrants) is Mexican (Schmidley, 2001). Other large Hispanic ethnic groups include Cuban, Puerto Rican, Dominican, and ethnic groups from other Central and South American countries. The second-largest immigrant group is Asian, which includes Chinese, Filipino, Korean, Indian, Vietnamese, as well as ethnic groups from Southeast Asia and some Pacific islands.

The perception and reception of the two largest immigrant groups by the host society has been quite different. Some political events have revealed long-term sentiment against Hispanic immigrants, especially undocumented immigrants from Mexico (Gordon, 2005). Arizona made national news in the November 2004 election when its voters passed Proposition 200, which requires state and local government officials to confirm legal residency before offering public benefits not mandated by federal law (Anderson, 2004). Although the language of the proposition is neutral in terms of who it targets, there was little doubt in most voters' minds that it was intended mostly to prevent undocumented Mexican immigrants from obtaining "public benefits." After legal challenges, a temporary injunction, and then the lifting of the injunction, the proposition eventually became law on December 23, 2004. Reflecting the same sentiment but expressed more blatantly, Hanson (2003) names his book *Mexifornia*, and he warns that California is in danger of becoming a place like Mexico because of the large influx of Mexican immigrants, especially those with little or no education. Hanson also warns that other places in American could be slowly walking the path that leads to "Mexisota," "Utexico," "Mexizona," or even "Mexichusetts." Hanson recounts the story of the Santiago, a Mexican immigrant with seven children. The author first met Santiago some 20 years ago and gave him what work he had on his orchard for two days. Twenty years later, the author occasionally saw Santiago, who still did not speak a single word of English and continued as an occasional farm laborer. Not a single one of his seven children and many grandchildren finished high school. Although Santiago's experience is hardly representative of all Hispanic immigrants or even Mexican immigrants, such sad, but not necessarily untrue, images are painted in some popular press.

The popular image of Asian immigrants is quite different. Asians once were considered an inferior race. In 1882, Congress passed the Chinese Exclusion Act, expressly barring immigration from China. In 1889, the Supreme Court upheld the law. Over time, the legislation also extended to other Asian nationalities (Wu, 2001). The law was not repealed until 1943, when China became an ally of the United States in World War II. If race/ethnicity itself were a factor that determined how children perform, then in the long span of human evolution, several decades were certainly too short for an “inferior” race to turn “superior.” Many news articles addressed this issue somewhat recently, bearing titles such as “The Triumph of Asian-Americans,” “Why Asian Students Excel,” “Asians: To America with Skills,” and “The New Whiz Kids” (Wong, 1993). Asians have come to be labeled as a “model minority.” Despite the effort by many to dispute this labeling as stereotypic and a myth, the image persists. Wu (2003) analyzed the phrase “model minority,” pointing out that it could have either one of two meanings: 1) It could imply that Asian Americans are remarkable, given that they are a racial minority group; or 2) It could mean that Asian Americans are exemplary, serving as a model for other minorities. Wu argues that both of these meanings are condescending toward racial minorities. However, there are germs of truth within the myth in that many Asians have achieved high levels of success, especially through means of education.

Given these events and popular images, it is especially important to expand our understanding of what American society offers and how it can shape the academic performance of immigrant children. There is no doubt that education plays a critical role in immigrants’ labor market success—in terms of wages, hours, unemployment, and use of social assistance, job satisfaction, and many other aspects (Cardak & McDonald, 2004).

Low levels of educational attainment, particularly in today's competitive labor market, can seriously inhibit future employment prospects, while high education levels are likely to lead to significantly better labor market outcomes, in turn leading to higher taxes paid and less reliance on government transfers. Thus an important determinant of the success of immigration policy in general is the education levels of recent immigrants (Bouma-Doff, 2008). In analyzing the academic performance of immigrants, it is important to recognize those immigrants' overall social, human, financial, economic, and political capital assimilation processes. These capitals ultimately determine what assimilation path they take and which segment of U.S. society they assimilate into (Portes & Zhou, 1993; Portes & Rumbaut, 2006). According to Coleman (1988), immigrants' neighborhood and school conditions can be considered as a source of support, information, guidance, and social mores.

By helping to explain the academic performance and differences among /between race/ethnicity, this research raises important questions about what types of policies and programs can be used to promote academic performance for different adolescent immigrant groups. For Hispanic immigrant youth, it is clear that their lower family human capital, and disadvantaged neighborhood and school conditions (especially low parental education and poor English proficiency) place them at risk for poor academic performance. Improvements in these forms of human capital, community capital, and school capital would greatly improve their academic performance. Although this study focuses on educational trajectories between immigrant adolescents, the findings of this study also help to identify factors that improve the academic performance of natives. For example, a lack of human capital and access to institutional resources (Stanton-Salazar,

1997, 2001; Lew, 2006) in the educational domain indicates that native youth, especially native Blacks, are disengaged from school and the rewards associated with academic performance (Anderson, 1999; Konstantopoulos, 2006). A major goal of American education is to provide high-quality educational experiences and adequate educational preparation for all the groups that compose the national population. Many of the policies devised to meet this goal attempt to ensure that human resources and school materials are allocated equitably across schools. As the results from this study indicate, policy efforts need to ensure that immigrant children have access to resources in both their communities and respective schools. Fostering social and cultural resources within the families, communities, and schools of all youths should remain a priority.

In addition, this study results suggest that downward mobility among immigrant students may not be reversed without major policy efforts. Therefore, investing in the structural attributes of schools is part of the solution for disadvantaged students, regardless of national origin, and especially for Hispanic youths. The upward mobility of immigrant students appears to be much more dependent on their experiences in school than in other social contexts. Moreover, in addressing unequal access to resources, the policy makers need to target the earliest year of school and pre-school programs, offering resource centers and services for immigrant students and parents. This study's neighborhood effects findings illustrate that living in high-proportion immigrant neighborhoods can inhibit immigrant children's English-skill development. Community-based ESL programs should be launched to reach more immigrant students, though ESL programs can only be effective if they incorporate education in immigrants' first

languages. This also requires more community-based resources and new teaching techniques beyond the scope of traditional ESL program.

Limitations of the Study

Despite the valuable contribution of the present study, it also has several limitations. First, although there are some benefits to using GPA to measure academic performance, due to data restrictions the GPA, rather than standardized tests, had to be used as the dependent variable. The GPA available in the Add Health dataset is a self-reported score. In addition, there is a lack of comparability if GPAs are obtained from different educational institutions with different levels of quality and different bases for grading. Thus, using GPA as a dependent variable becomes a large limitation of this study.

Next, given the large number of variables included in the models that were necessary to represent the desired general framework, it is also possible that controlling for so many variables explained away the effects of some variable that may have otherwise shown up as significant in a more condensed model. Another issue that may affect the result is the statistical power, in particular whether the larger sample size for native children compared to the smaller sample sizes for immigrant children contributed to the relatively larger number of significant effects for native children. Further analysis in future research can explore these issues.

In this study, although each characteristic is evaluated independently, there are many reasons to believe that characteristics are strongly interrelated (Sampson, Morenoff & Gannon-Rowley, 2002; Leventhal & Brooks-Gunn, 2000). It may be particularly insightful to model the extent to which multi-problem characteristics vary from

neighborhood to neighborhood, from neighborhood to school, and from school to school. For example, the convergence of poverty, inadequate educational resources, relatively insecure familial contexts, high prevalence of individuals engaged in risk-related outcomes, and inadequate health-related resources are qualitatively different than one of these characteristics set apart from the others. Without investigating the neighborhood-school interactive effects, research will overestimate each of individual variables' effects.

And finally, another limitation of this study is that it only analyzes adolescents who were enrolled in school. School non-enrollment and dropouts differ among/between racial/ethnic groups and are also a serious problem among foreign-born Hispanic youth between age 16 and 24, whose dropout rate is as high as 43.4 percent (U.S. Department of Education, 2005). Some immigrant children simply do not attend school when they arrive in this country. Non-enrollment rates among Mexicans, Puerto Ricans, Cubans, Dominicans, and recent immigrants from El Salvador and Guatemala are above population average (Rumberger & Palardy, 2005). Foreign-born Mexicans who arrive in their teens have non-enrollment rates over 40 percent (Hirschman, 2001). Those who stay in school are likely to be a selected group due to their higher school performance among their peers, even though it is still relatively lower than that of other populations.

Future Research

Given the importance of understanding outside family factors on immigrant children's academic performance, the findings of this study suggest that more research should be undertaken to understand the meanings of immigrant adolescent students' educational experiences. Family, neighborhood, school, and any other social context cannot facilitate immigrant children's assimilation processes independently. The

interactions between these factors should be given careful consideration in future research.

As mentioned in the previous limitations section, the present study uses self-reported GPA to measure students' academic performance. Future research should compare results using GPA to using standardized test scores for each ethnic group (such as using the NAEP dataset) to make the results of the study more generalizable.

In terms of the methodology, contextual variance estimates obtained from multilevel modeling reflect the tendency for relatively similar responses to cluster within particular ecological units (Boardman, 2004). Less common is the evaluation of relative outliers. As Duncan et al. (1996) discuss, multilevel models enable researchers to make “predictions of place-specific intercepts, and slopes can be obtained, and since these are made using the entire sample of places, they are more precise than those from a traditional approach in which each place is estimated separately” (p. 821). In other words, neighborhood-specific variables estimates obtained from multilevel models can be used to identify neighborhoods in which there is a relatively high degree of clustering in the dependent variable, and to identify neighborhoods in which the estimated effect of a particular individual-level characteristic (e.g., socioeconomic status) is relatively strong or weak. Once these neighborhoods are identified, more elaborate and nuanced methodological techniques such as systematic social observation (Sampson and Raudenbush, 1999; Jensen, & Harris, 2008) can be used to more accurately describe neighborhood mechanisms that account for this variation across neighborhoods in future research.

Finally, future studies should investigate the reasons for Hispanic immigrant students' academic disadvantages. Portes and Fernández-Kelly's (2008) findings are suggestive of why academic disadvantages for Hispanic immigrant students persist; they stress the importance of "significant others" in mitigating the effects of socioeconomic disadvantage. Measures of these variables should be incorporated into future studies and tested systematically. Furthermore, future research should also investigate variation in teachers' treatment of immigrant students based on student ethnicity. It would be interesting to investigate the way classroom ethnic demographics influence teachers' responses to immigrant students. For instance, are Asian immigrant students in predominantly Asian classrooms rewarded for appropriate classroom behavior to the same extent as their peers in predominantly non-Asian classrooms? Further research along these lines will allow for a more detailed understanding of the way that immigrants assimilate into U.S. society by virtue of the educational system.

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APPENDICES

Appendix Table 1 Cronbach's Alpha for Neighborhood Composite and Constructs

Appendix Table 2 Cronbach's Alpha for School Composite and Constructs

Appendix Table 3 Cronbach's Alpha for Neighborhood-School Involvement Composite and Constructs

Appendix Table 4 Neighborhood Variables: Data Source in the Contextual File

Appendix Table 5 School Variables: Data Source in the Contextual File

Appendix Table 6 Neighborhood-school involvement Variables: Data Source in the Contextual File

Appendix Table 1 Cronbach's Alpha for Neighborhood Composite and Constructs

Composites and Their Components	Cronbach Alpha
Neighborhood Household Status	0.87
Proportion of two parents household, married couple with children	
Proportion of female – headed household with children	
Proportion of co-racial female – headed household with children	
Neighborhood SES	0.94
Proportion of 25+ years old without HS diploma	
Proportion of 25+ years old with college degree or above	
Idle Peers	
Co-racial idle peer (per 10 peer)	0.93
Number of 16–19 not in school or armed forces/no HS/	
Number of co-racial peer aged 16–19 not in school or armed forces/no HS	
Neighborhood Employment	0.95
Proportion of unemployment	
Proportion of employed in civilian labor force	
Proportion of employed in managerial and professional occupations	
Neighborhood immigration composition	–
Neighborhood social cohesion	
Proportion of housing units moved into neighborhood 1985–1990	–

Appendix Table 2 Cronbach's Alpha for School Composite and Constructs

Composites and Their Components	Cronbach Alpha
Negative school climate	0.71
Average disagreement that student feels close to people at school: scale from 1 (strong agree) to 5 (strongly disagree)	
Average disagreement that students feel part of the school	
Problem behaviors	0.77
Average times students have trouble with teachers	
Average times students have trouble with homework	
Average times students have trouble with other students	
The Teacher quality and support	0.81
Proportion of teachers' working experiences (worked for five or more years)	
Proportion of teacher's education (having a Master degree or a high degree)	
Proportion of teacher attention (Average class size in school: per 10 students)	
Proportion of ESL counselor or social worker (work full-time or part-time)	
Other School Characteristics	
Student's nominated peers' GPA	—
School SES status (% parents having a college degree or above)	—
Average class size	—
Urban school (ref: suburban school)	—
Rural school (ref: suburban school)	—
Magnet school (ref: public school)	—
Other public school (ref: public school)	—
Private school (ref: public school)	—

Appendix Table 3 Cronbach's Alpha for Neighborhood-School Involvement Composite and Constructs

Composites and Their Components	Cronbach Alpha
School conversation Talking about school grades Talking about other school matters	0.66
Intergenerational closure Parent to name their children's five closest friends Whether they live in the same community Whether they know the parents of each friend	0.79
Other neighborhood-school involvement variables Parental involvement in the school activates Involvement in the parent-teacher organization (PTO) Parent trust: scale from 1-5 (1= never and 5 = always)	— — —

Appendix Table 4 Neighborhood Variables: Data Source in the Contextual File

Variable	Code
Neighborhood immigration composition	TST90010
Neighborhood Household Status	
Proportion of two parents household, married couple with children	TST90486
Proportion of female – headed household with children	TST90485
Proportion of co-racial female – headed household with children	TST90487
Neighborhood SES	
Proportion of 25+ years old without HS diploma	TST 90686
Proportion of 25+ years old with college degree or above	TST90687
Idle Peers	
Co-racial idle peer (per 10 peer)	TST90710
Number of 16–19 not in school or armed forces/no HS/	TST90708
Number of co-racial peer aged 16–19 not in school or armed forces/no HS/not in LF	TST90709
Neighborhood Employment	
Proportion of unemployment	TST90754
Proportion of employed in civilian labor force	TST90732
Proportion of employed in managerial and professional occupations	TST90795
Neighborhood social cohesion	
Proportion of housing units moved into neighborhood 1985–1990	TST90813

Appendix Table 5 School Variables: Data Source in the Contextual File

Variable	Code
Student's nominated peers' GPA	S35A
Negative school climate	
Average disagreement that student feel close to people at school	S62B
Average disagreement that students feel part of the school	S62E
Problem behaviors	
Average times students have trouble with teachers	S46A
Average times students have trouble with homework	S46C
Average times students have trouble with other students	S46D
The Teacher quality and support	
Proportion of teachers' working experiences (worked for five or more years)	S72A
Proportion of teacher's education (having a Master degree or a high degree)	S72H
Proportion of teacher attention (Average class size in school: per 10 students)	S72K
Proportion of ESL counselor or social worker (work full-time or part-time)	S77F
Other School Characteristics	
School SES status (% parents having a college degree or above)	
Average class size	A7
Urban school (ref: suburban school)	A1
Rural school (ref: suburban school)	A3
Magnet school (ref: public school)	A4
Other public school(ref: public school)	A5
Private school (ref: public school)	A6

Appendix Table 6 Neighborhood-school involvement Variables: Data Source in the Contextual File

Variable	Code
Parent-school involvement	
Involvement in the school activities	S36D
Involvement in the parent-teacher organization (PTO)	S47B
School conversation	
Talking about school grades	H1WP18H
Talking about other school matters	H1WP18L
Social Capital	
Parental trust	H1WP7G
Intergenerational closure	
Parent to name their children's five closest friends	H1WP9B
Whether they live in the same community	H1WP7E
Whether they know the parents of each friend	H1WP7H

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