Social Capital and Educational Outcomes of Immigrant Youth

Abstract

The academic achievement of immigrant children has been a focus of social research for decades. Yet little attention has been paid to peer social capital and its importance as a school context factor for academic success of immigrant and native youths. Using multilevel data from the National Longitudinal Study of Adolescent Health (Waves 1 and 3), this article draws upon social capital theory and assimilation theory to examine the effects of peer social capital on the academic achievement and attainment of immigrant and native youths. The effects of three measures of peer social capital are studied, controlled for many important variables, e.g., students' background variables, school characteristics, and family social capital. Results indicate that only the average GPA of peers had a consistent and significant effect on children's achievement and attainment, whereas the density and the homogeneity of the peer network did not. Furthermore, all three measures of peer social capital have stronger effects for immigrant youths than for native youths.

Keywords: Social Capital; Academic Achievement; Academic Attainment; Immigrant Youths

Introduction

Through the examination of factors related to peer networks, this paper provides insight into the school context of adaptation of immigrant youth. Rooted in the segmented assimilation hypothesis and social capital theory, it seeks to explain the effect of immigrant generational status in terms of social capital present in peer networks as well as in families. The various strands of assimilation theory can be compared on the utility of different forms of social capital that they deem important for immigrant assimilation. Classical assimilation theory (e.g., Glazer and Moynihan, 1970; Gordon, 1964), for example, focuses on weak ties (Granovetter, 1983) – that is, the number of social network linkages to out-group members relative to the total number of linkages to in-group and out-group members. Because classical assimilation theory focuses on adopting cultural patterns of the dominant group, weak ties that promote cross-group integration (i.e., *bridging social capital*) serve the intrinsic purpose of cultural assimilation. In contrast, the focus of segmented assimilation hypothesis, perhaps the dominant theoretical development in the field of immigrant incorporation today, is on the other form of social capital, in which strong ties (Granovetter, 1983) are viewed as the source of social cohesion (i.e., *bonding social capital*). The bonding social capital has been seen as promoting immigrant advancement by augmenting ethnic enclave autonomy (Borjas 1995; Sanders and Nee, 1996), information about job prospects (Aponte, 1996; Smith, 1995), and appreciation for foreign educational credentials (Light and Rosenstein, 1995). The main weakness of assimilation theories is that, although they allude to social capital (e.g., Zhou, 1997, Fernández-Kelly, 1995), they hardly operationalize different forms of (peer) social capital. The novelty of the present study lies not only in the application of social capital concepts to the literature of assimilation theory, but primarily in operationalizing peer social

capital to include the effects of both network characteristics (homogeneity and density) and the amount of peer social capital available through these networks (mean achievement of peer network). In examining the influence of social capital on immigrant adolescents' academic achievement, this study considers whether adolescents' cohesive educationally oriented peer networks (representing bonding social capital) impact student's educational success differently than their open peer networks (representing bridging social capital). Other strengths of the present study include the large scale sample – the National Longitudinal Study of Adolescent Health (Add Health) – and the control for many important variables, such as race and socioeconomic status (SES). Related to the hierarchical nature of the Add Health data is the use of multilevel modeling, which allows controlling for school effects, a practice that was not fully employed by early research on peer networks (for more on the use of multilevel modeling, read Bryk and Raudenbush, 1992).

Whereas earlier studies consistently explored family influences on immigrant youths' academic and non-academic outcomes (e.g., Waters 1997; White and Kaufman 1997), little remains known about the relative importance of social capital in the family as compared to that which is available through the membership in peer networks. Only recently has the focus of immigration research begun to shift to the effects of peer social capital on educational assimilation of immigrant groups. It should be noted that the term itself – peer social capital – had entered literature only recently.[1] The main methodological weakness of those few studies examining the effect of peer social capital on educational assimilation of immigrant groups is their limited generalizability, as they almost exclusively focused on Hispanic ethnic groups (e.g., Gibson et al., 2004; Ream, 2005a, 2005b; Stanton-Salazar, 1997). Also noteworthy is

[1] The term "peer social capital" was coined by Valenzuela (1999) to denote a type of social capital available through peer interaction.

the fact that, although these studies conceptualize peer social capital in terms of some measure of peer relationships (e.g., peer support), none considers the effects of peer network structure and none examines educational attainment and achievement simultaneously. The present study, in contrast, not only examines the effects of peer network structure on both achievement and attainment, measured as GPA in Wave 1 and some college education in Wave 3 of the Add Health, but also explores how peer social capital, as well as that in the family, affects immigrant youths' academic outcomes.

As stated above, our empirical analysis is based on the National Longitudinal Study of Adolescent Health (Add Health). Unlike most of the existing data sources that only survey the academic achievement of adolescent respondents, and not their parents or members of their peer network, the Add Health incorporated information from each of these three sources – the adolescent, parents, and friends – which provides a complete account of all possible social interactions among them. These data allow the examination of the relative influences of peer group factors and family context on the academic achievement and attainment of immigrant youths. By using Waves 1 and 3 of the Add Health, we provide additional insight into the causal order of the relationship. More importantly, we investigate how peer and family social capital measured in Wave 1 influence educational attainment in Wave 3 while controlling for educational achievement and other individual-level factors in Wave 1.

Social Capital and Nativity Status

In this study, we rely on Bourdieu's definition of social capital: "the aggregate of the actual or potential resources which are linked to . . . membership in a group – which provides each of its members with the backing of the collectivity owned capital" (1986, p. 249).

Although Bourdieu does not specify social networks as the only locus of social capital, other theorists (e.g., Coleman, 1988; Granovetter, 1983; Portes, 1998) elaborated Bourdieu's concept into the "network view" of social capital (Woolcock, 1998). Compare Bourdieu's definition to that of Portes (1998, p. 6): "the ability of actors to secure benefits by virtue of membership in social networks or other social structures". For Bourdieu (1986), the amount of social capital to which an individual may gain access through social networks and relationships depends on the structural characteristics of the networks, such as size and density, as well as on the amounts of social capital that other individuals in the network possess.

While the first mentioning of social capital can be traced as far back as to John Dewey (Farr, 2004), it is James Coleman's (Coleman et al., 1966, Coleman, 1988, 1990) work that has been credited in the United States as the foundation for contemporary social capital theory. The Coleman report (1966) was probably Coleman's most influential work that laid out an extensive investigation of school context factors related to educational performance. With all its merits and demerits, the report lacks a clear distinction between different aspects of school context. As a result of this ambiguity, empirical researchers have tended to take a limited view of peer social capital, either confining it to the composition of the school student body, or viewing peer effects as a individual-level rather than group-level factor (Coleman et al., 1961; MacLeod, 1995; Sewell et al., 1970; Steinberg, 1996). Hence, the distinction that should be made is between school context and peer social capital in the school context. One overarching caveat is that it is essential to maintain the conceptual and empirical clarity when treating (1) the composition and structural characteristics of social setting that provide an opportunity for the formation of social ties, and (2) attributes of social networks that are

formed and operate in this social setting. Individuals are expected to have friendship networks that reflect school composition.

Further, drawing from the work of Bourdieu (1986), we argue that available peer social capital manifests itself in the structure and composition of peer networks. The question that we posit here is *how* network structural features relate to educational outcomes. In this regard, social capital theory supports two major views on how both network density and homogeneity as structural features may be related to the social capital as a network internal resource. Proponents of the first view, rational-choice theorists like Putnam (1998), tend to emphasize the bonding nature of social ties (*bonding* social capital). They believe that density and homogeneity reflect intensity of reciprocal social exchange present in strong or transitive ties and ergo is positively associated with social capital as a network resource. The opposite view represented by structuralists (e.g. Burt, 1992; Granovetter, 1973) contrasts strong ties with relative autonomy and freedom from structural constraints associated with weak ties, insisting that social capital is the ability of an actor to bridge between dissimilar individuals (*bridging* social capital). According to this view, the lesser density and homogeneity of a network, the more social capital is available to network members. Put differently, "weak ties" of open networks provide social capital of different quality from social capital obtainable through "strong ties" of an individual's family and close friends (Granovetter, 1983; Lin, 2001).

For our research objectives, it is important to investigate whether the "strength of weak ties" argument proposed by Granovetter (1983) and further developed by Lin (2001) is applicable to the question of how social capital differentially affects the educational achievement and attainment of immigrant and native youths. Given the arguments of social

network theorists (Hallinan and Williams, 1989; Moody, 2001; Schofield, 1982; Stanton-Salazar, 1997; Stanton-Salazar and Spino, 2001), peer social capital may help explain any association between adolescent immigrant generation status and educational outcomes. Therefore, it is worth examining the concept of social capital in discourses on immigrant assimilation.

Classical assimilation theory (e.g., Gordon, 1964) pictured immigrant assimilation as a steady process by which immigrants adopted the behavioral patterns of the majority group. This theory assumes that open, heterogeneous networks would facilitate the process of immigrant assimilation because these kind of networks allow more ties to the cultural majority (native English-speaking non-Hispanic whites), than close-knit co-ethnic networks of immigrant community.

Recent discourses of the 'second generation' assimilation – the children of the post-1965 wave of immigrants – have challenged this time-honored view that acculturation and upward social mobility are necessarily linked (Gans, 1992; Portes and Zhou, 1993; Rumbaut, 1994, 1997; Zhou, 1997). Increasingly, studies demonstrate that ethnic character, ethnic enclaves, and an adherence to ethnic cultural norms not only survive the test of time, but also may be helpful and adding to market opportunity (Bankston et al., 1997; Conzen 1991; Glazer and Moynihan, 1970).

Portes and Zhou (1993) have incorporated these ideas in their segmented assimilation hypothesis. When applied to a variety of socio-economic outcomes, segmented assimilation hypothesis has championed three possible assimilation paths. First, the straight-line upward assimilation foretells that immigrants' educational level will rise across generations until it corresponds to the educational level of the white middle-class. Second, the straight-line

downward assimilation implies that the first generation children will do better academically than higher generation immigrants owing to the protective character of ethnic cultural norms infused in them by their families and communities. Finally, the third path, also known as delayed or selective assimilation, combines "rapid economic advancement with deliberate preservation of the immigrant community's values and tight solidarity" (1993:82).

While considering the mechanisms through which social mobility can be facilitated, Portes and Zhou (1993) emphasized the role of social capital. The first two paths, in Portes and Zhou's view (1993), although similar in the way the assimilation trajectory is pictured as a straight-line process, differ in one important aspect. This aspect is the form of social capital that immigrants rely on while pursuing their socio-economic aspirations. In the case of upward assimilation, which is seen as a gradual, but progressive and uninterrupted, process (Rong and Grant, 1992; White and Kauffman, 1997; Wojtkiewicz and Donato, 1995; Zsembik and Lanes, 1996), the role of bridging social capital is crucial in connecting individual immigrants to a larger society. In the case of downward assimilation into the underclass, immigrant groups that congregate in the ethnic enclaves rely almost exclusively on bonding social capital. Hence, the lack of educational progress both over time and across generations that they find in some immigrant groups noted in some studies (Hirschman, 2001; Ogbu, 1981; Rong and Brown, 2001; Tillman et al., 2006, Velez, 1989; White and Glick, 2000) can be attributed, in case of straight-line downward assimilation, to the strong ties to ethnic community maintained over generations. However, according to Portes and Zhou (1993), bonding social capital, is not associated with the lack of social progress in the case of selective assimilation. With dense networks connecting new immigrants to education and occupational opportunities, the immigrant community shelters immigrants from the prejudice

of the larger society, providing a positive normative environment for furthering educational and occupational aspirations. There is significant empirical support for the path of selective assimilation (e.g., Alba and Nee 1997, 2001; Gibson 1989; Rumbaut 1994; Roscigno 1998; Zhou and Bankston 1994; also see Portes and MacLeod 1996).

Due to limited applicability of all assimilation hypotheses, the issue of whether a particular theoretical explanation of the assimilation paths can be extended to include all immigrant groups is not clear. Nevertheless, all theoretical studies of educational assimilation stress the importance of structural and cultural conditions of the host society that, albeit external to the process of assimilation, may produce considerable variations in the direction and tempo of assimilation. Thus, the contexts of reception are viewed as often determining which path of assimilation into a host society will prevail. Further, unlike straight-forward assimilation, a selective or delayed assimilation path outlined by segmented assimilation hypothesis stresses the importance of bonding social capital, i.e. ties that are based on social cohesion and similarity. Not surprisingly, the bourgeoning sociological literature uses the social capital approach to examine how and why educational, occupational, economic, and health outcomes of most recent waves of immigration diverge in the contemporary American society (e.g., Crusnoe et al. 2003; Fernandez-Kelly 1995; McNeal 1999; Stanton-Salazar 1997; Stanton-Salazar et al. 2000).

Research Hypotheses

The main hypothesis of the study is that adolescents' educational achievement and attainment are affected by peer social capital after controlling for student- and school-level variables. In particular, we expect to find differences by nativity status in the amount and

kinds of peer social capital (bonding vs. bridging) that are conducive to adolescent educational progress. This is expected because a number of studies show that immigrant youths are less vulnerable to the peer influences than native youths (Waters 1997; White and Kaufman 1997). Hence there is good reason to test interaction terms between peer social capital and generational status.

With respect to *the amount of social capital* available to individual students via peer network, we expect to find a direct relationship between individual students' achievement and attainment and his or her peers' achievement. Given the results of previous studies showing that immigrant adolescents are more likely than natives to be homophilic (e.g., Stanton-Salazar and Spino, 2001; Zhou and Bankston, 1994), we also expect that this relationship will be stronger for immigrant than for native adolescents.

With respect to *network structur*e, two basic scenarios are likely to occur. First, if bonding social capital is more valuable to immigrant youths, then it is reasonable to expect a strong and positive association between their educational outcomes and homogeneity and density of their peer networks. In this case, family social capital will also have a positive effect on immigrant youths' educational outcomes, and generational differences in educational achievement and attainment will be partially explained by the effect of family social capital. Second, if bridging social capital is more valuable, then we would expect homogeneity and density of peer networks will be negatively associated with educational outcomes. In this case, family social capital will hardly have a significant effect on educational outcomes. It is important to not here that a high level of one type of capital does not imply a low level of the other. Indeed, as Schuller (2007) points out, individuals could have high or low levels of bonding capital and high or low levels of bridging capital. Based

on the results of earlier studies (e.g., Fernandez–Kelly, 1995; Zhou, 1997), we hypothesize here that one type of capital (bonding vs. bridging) is more important predictor of either family or peer influences.

Relatedly, we expect to find a strong and positive influence of *family social capital* on achievement and attainment of native adolescents after controlling for student-level and school-level variables. This is expected because a large body of research documents the academic success of most students is intrinsically interwoven with family social capital (Conger et al., 1994; Dornbusch et al., 1987; Morgan and Sorensen, 1999; Steinberg, 1996; Thomson et al., 1994).

We also hypothesize that there is a relationship between *immigrant generational status* of adolescents and their educational achievement and attainment and this relationship will persist after controlling for student-level and school-level predictors of achievement and attainment, including both peer-based and family-based forms of social capital. Our reasoning is based on the fact that, regardless of the assimilation path predicted by Portes and Zhou (1993), immigrants and natives are likely to have different academic outcomes. Notice that it is difficult to predict whether immigrant adolescents will have significantly higher or lower achievement and attainment than native adolescents on the basis of the contradictory empirical evidence in the file of immigration studies (Hirschman, 2001; Ogbu, 1981; Rong and Brown, 2001; Tillman et al., 2006; White and Kauffman, 1997; Wojtkiewicz and Donato, 1995; Zsembik and Lanes, 1996; Velez, 1989). The lack of compelling empirical studies in favor or against immigrant advantage over natives is partially reflected in the fact that Portes and Zhou (1993) do not insist that any of the three pathways predicted by them will have a higher probability to occur, given historical circumstances of post-1965 America.

Data and method

Sample

Details regarding the Add Health survey used in the present study are described elsewhere (Bearman et al., 1997). In brief, this survey is based on a multistage probability sample design, had a response rate of 79%, and resulted in a nationally representative sample of adolescents between the ages of 12 and 21 years. The data are drawn from both Wave 1 and Wave 3, administered in 1995 and 2001, respectively. Since educational achievement, one of the dependent variables, contained 14 cases with missing values, these cases were excluded from further analyses (final N = 14,322 from 129 schools). Note that missing values of all other variables were imputed using the Monte-Carlo technique (the SAS' *proc mi*), with the efficiency of the resulting estimates within 95% confidence interval (for more information on Monte-Carlo imputation see Rubin (1987, 1996)). All students registered at participating schools were eligible for selection. The sample includes all former students, including those who did not finish the school. Each school was stratified by sex and grade, with students randomly chosen within each stratum.

Method

Our analyses employ multilevel modeling, a technique that encourages a systematic analysis of how variables measured at different levels of a hierarchical structure affect the outcome variable. Treating individuals as level-one units and schools as level-two units, the research model can be conceptualized as a two-level model. The Hierarchical Linear Models (HLM) was used as an appropriate statistical package for multilevel analyses in this study. As

a HLM stipulation, all individual-level continuous variables were school-mean centered in order to avoid multicollinearity between individual and school characteristics. When regressing individual- and school-level predictors on academic achievement, we estimated fixed-effects, random-intercept model, while in the case of academic attainment logistic regression (Bernoulli model) was used.

School effects on academic achievement are small compared to individual effects in the Add Health sample. An analysis of the intraclass correlations (not shown) reveals that 11.8 and 12.5% of the variance in educational achievement and attainment, correspondingly, is accounted for by differences in the characteristics of the schools that students attend. It also means that, owing to lack of statistical power, only few predictor variables could be entered into the school-level equation while controlling for demographic and family background variables. Because the exploratory analyses indicated that the most significant factors at the school level are sector (public vs. private) and average economic status (results are not shown), these were included in the multilevel models as the school-level variables.

Measures

Dependent Variables. The dependent variables of this study are educational achievement, operationalized as GPA in Wave 1, and educational attainment, operationalized as a dichotomy of college education vs. no college education in Wave 3. As seen through the lens of assimilation theory, these concepts describe different aspects of educational outcomes. For immigrant youths, educational achievement captures a degree of educational adjustment to the U.S. school system as a whole and a particular school and/or class, while educational attainment is an important outcome with respect to labor market transition.

The indicator of educational attainment called from the Wave 3 results, which helps to

address concerns about causal ordering. Respondents, who are young adults in Wave 3 (ages 18–26), were asked about the highest grade or year of regular school they have completed. Their answers were recorded to generate a 17-category variable ranging from "6th grade" (the lowest score) to "5 or more years of graduate school" (the highest score), and provides an indication of whether the student dropped out of school, went to college and so on. Because the Add Health measure is censored in time from above and below, the attainment is cohort-specific. For example, even the most motivated and best intentioned Wave 3 18-year-old will not likely have a college degree or graduate school experience. Given the ages in the sample and the fact that the Add Health study has a school-based design, few if any will report not completing 6th grade. Therefore, we transformed the original Add Health attainment measure into a binary outcome (0: never attended college, 1: attended college). Our choice of entering college as the threshold for attainment is guided by the following facts. First, going to college is one of the most important life transitions, and, second, chances of attending college nationwide are lower for immigrant youths than for native youths (Vernez and Abrahamse, 1996).

Independent Measures. We focus on three most important structural dimensions of the peer social capital: relative density, racial/ethnic heterogeneity and average achievement of peer network, measured as GPA in Wave 1.[2] Due to the high degree of autonomy that individual-level peer networks exhibit in relation to school-level network (Blau, 1997, 1994) and the fact that the aforementioned peer social capital variables are correlated with other school-level variables described below, we operationalized all three peer social capital

[2] Although we realize that network size is one of the key dimensions of social network, we do not use this measure in this study. Our decision was due to the Add Health methodological limitation which relates to fact that, although adolescents in the Add Health could nominate 5 best friends of each sex, about two thirds of respondents nominated only one friend. Hence, because underreporting of actual number of friends is likely to occur, the sample estimate of the network size is significantly biased.

variables at individual level. The choice of network density and heterogeneity as the structural network measures in the present study is motivated not only by the fact these measures are commonly accepted in the social science (for more on structural network measures, read Wasserman and Faust, 1994) but, more importantly, by methodological considerations of measuring the relative effects of bonding and bridging social capital.

The first measure, peer network density, represents the degree to which network members know each other. The relative density was calculated as a ratio of observed density to maximum possible density.[3] It is a better measure of network density than just observed density because it accounts for the size of a network. Indeed, our exploratory analysis showed that observed density increases with network size. The race-ethnic heterogeneity of a network was calculated as the proportion of all traits present in the school which are represented in a network. As an individual-level variable, it represents racial-ethnic heterogeneity of an individual network *given* the racial-ethnic make-up of the school. Finally, average GPA in a network was calculated as an arithmetic mean of the GPA scores of any alters with valid values on this variable. It is worth noting that, due to additional correlation between predictor and dependent variable, the average GPA of the peer network in Wave 1 does not include the GPA of the respondent in Wave 1.

Immigrant generational status is one of the key independent variables in the study. We divided all adolescents into five categories: first-, 1.5-, second-, 2.5-, and third- and higher-generation immigrant youth. Because preliminary analyses showed that arrival by age six is associated with a markedly different schooling, the six-year threshold was chosen to distinguish 1 and 1.5 generations. Adolescents who are foreign-born and who were less than 6

[3] The observed network density can be expressed as the number of actual ties in the total friendship network divided by the number of possible ties in the total friendship network.

years of age in Wave 1 are coded as first-and-half generation immigrants. Six-year olds and older foreign-born adolescents are coded as first-generation immigrants. Among U.S.-born children of immigrants, we distinguish the second generation – those with two foreign-born parents – and generation 2.5" – those with one native-born parent and one foreign-born parent. The third- and higher generation group consists of cases where both adolescents and their parents are U.S.-born. For all of our analyses, the "third-plus" immigrant generation is the reference group. Adolescents included in this category have grandparents or great grandparents who were immigrants, but because the immigration experience is much farther removed from the social context of their childhood and adolescent development, this category is considered the native population and the fundamental comparison group for immigrant children and the children of immigrants.

Schools with a higher concentration of students from middle- and upper-class families are more likely to achieve better learning outcomes (Coleman et al., 1966; Bankston and Caldas, 2002; Longshore and Prager, 1985; Mahard and Crain, 1983; Hoxby, 2000; Ryabov and van Hook, 2007). Hence, we control for the effect of socioeconomic status both at the individual and at the school levels. In doing so, we examine three variables that respectively measure particular economic, social, and educational characteristics of the student bodies' families. These are family income, parents' education and occupational prestige. We consider it important for the purposes of the present study to measure and analyze them separately at the individual level, because some immigrant groups, especially Latinos (who are by far the largest), report very low levels of educational attainment, and in part because the jobs (and therefore income) available to immigrants often do not correspond well to their educational attainment. At the school level, however, these variables were strongly intercorrelated

(Cronbach's alpha = 0.90). Thus we constructed aggregate school-level SES measure as an average of the standardized scores of family income, parents' education and occupational prestige.

At the school level we also control for the sector (private/public) because this structural feature of schools has commanded considerable attention in the literature (e.g., Bridge et al., 1979; Coleman and Hoffer, 1987). Private schools seem to generate greater interest in learning, probably due to smaller size and more student-teacher contact. With everything else equal, graduates of private versus public schools are more likely to complete college and enter high-paying occupations (Coleman and Hoffer, 1987).

The data allowed controlling for the influence of other factors that have been documented to impact educational outcomes. With respect to individual characteristics, these included sex, age, and race-ethnicity. Race-ethnicity was defined using the respondent's self-reported racial and ethnic identity by a set of dummy variables: Non-Hispanic White, Latino, Asian, and African-American. We combined the multiple race options and Hispanic origin into a single race-ethnicity variable.

In our examination of possible factors that may help to explain any association between adolescent immigrant generation status and academic outcomes, we focus on factors related to family social capital. In this study we use Coleman's (1988) and Teachman's et al. (1996) operationalization of family social capital. Particularly, we conceptualize family structure by a set of dummy variables obtained from the household roster that contrasts youth who live with both parents (reference), single parent, and other relatives (guardian or non-parent families). The number of siblings living in the household is also included as a control measure. The measures of family process – parents' educational expectations, parent-child

interactions and family social support – are constructed as average scores of its components. The measure of parent-child interactions is drawn from the study of Bankston and Zhou (2002) that used the Add Health data. Our conceptualization of the other two measures of family process is the same as that which is frequently used by researchers who study immigrant adaptation (e.g., Harker, 2001; Harris, 1999; Hirschman, 2001; Kao, 1999). Table 1 details the scales used for the analysis, how they were derived, and their Cronbach's alpha coefficient.

(Insert Table 1 about here)

Analytic Plan

We first estimate a baseline model (model 1) that includes only the immigrant generation status variables. Model 2 adds the individual- and school-level controls, including race, ethnicity, and socioeconomic status measures. It tests whether immigrant generation effects hold after controlling for individual- and school-level measures. Model 3 incorporates the family-related predictors into the analysis and tests whether family social capital helps explain any association between generational status and achievement and attainment. Models 4, 5 and 6 add, respectively, average achievement, density and heterogeneity of the peer network. Observe that these variables are not included altogether in one model because they are strongly correlated with each other (for the sake of parsimony, the results are not presented). Thus models 4, 5 and 6 each add one more predictor to model 3. It is worth noting that models 4, 5, 6 are nested within model 3, while models 3 and 2 are nested, respectively, within models 2 and 1. [4]

[4] In order to test whether the nested models show improved fit over the baseline models, the test similar to the nested F-test for OLS regression models will be used. The test is based on the Bayesian information criterion (for

The regression models presented in Tables 4 and 5 contain a random intercept for educational achievement and attainment, respectfully. The predictors of achievement were estimated first and then the very same procedure was repeated for the predictors of attainment. The exception is that Wave 1 GPA was included as a control variable in Models 6, 7, and 8 while age at Wave 1 interview was dropped because change in GPA over time measured in these models already incorporates the age/time aspect.

Empirical Analyses

Exploratory Results

Weighted means and standard deviations of the study variables across generational status groups are presented in Table 2. Note that the means for African-American, Asian, Latino, and non-Hispanic white add up to much more than 1 (to 1.8 for example among native youths) because Table 2 shows weighted means, not simple means. It is evident from the results presented in Table 2 that immigrant adolescents, for the conspicuous exception of generation 2.5, have higher achievement than natives. However, the largest absolute differences in mean achievement are found among immigrant generations, with generation 1.5 having the highest achievement and generation 2.5 having the lowest. Again, as with achievement, the largest differences are found not between native and immigrant youths, but among immigrant generations. The highest attainment is among generation 1.5, while the lowest is among generation 1. The differences in academic outcomes between immigrant generations highlight necessity for examining the generational status effects further using

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more on Bayesian statistics see Bryk and Raudenbush (1992)).

regression analyses. [5]

(Insert Table 2 about here)

Table 2 also sheds light on some of the group-level similarities/differences in the availability of social capital across immigrant status groups. The descriptive results reveal that the network GPA is the highest among generation 2, while network GPA of 1-generation immigrants matches that of the natives. Likewise, network GPA of 1.5 generation immigrants matches that of 2.5 generation and this is the lowest network GPA among generational status groups. Importantly, the distribution of network GPA across generational status groups does not match the distribution of actual GPA. Hence, although actual GPA among second generation adolescents is lower than among generation 1.5, their network GPA is higher than that of generation 1.5. These statistics seem to indicate that availability of peer social capital is higher in second generation than in generation 1.5. With respect to network density, the general pattern of change across immigrant generation suggests that more recent arrivals have higher density than later immigrant waves, with generation 1 having the highest network density and generation 2.5 having the lowest. The exception is that network density for native adolescents is the same as for generation 2. The straight-line pattern of change across immigrant generations, although observable in case of network density, is not characteristic for network heterogeneity. To what extent average network GPA and network density and heterogeneity are linked to achievement and attainment via generational status will be determined in the next section revealing the multivariate results.

Multilevel Regression Results

[5] These results ate confirmed by two-sample t-tests (results are not shown).

Contrary to the prediction of the classical assimilation theory, the analyses presented in Tables 3 and 4 show that the native-parentage adolescents do not have an advantage in academic achievement and attainment over more recent immigrant generations. Consistent with the selective immigration path, children of immigrants and particularly those who are immigrants themselves have an educational advantage over the native youth. Whether controlling for individual- and school-level variables or not, the multilevel results are consistent. It is the 1.5 generation that turns out to have the highest educational achievement and attainment in all regression models.[6]

(Insert Table 3 about here)

When regressed on achievement and attainment, the regression coefficients for all immigrant generations, except one for the second-and-half generations (which was not significant in any case), were positive, thus indicating a considerable "immigrant advantage" over the natives. It should be noted, nevertheless, that educational outcomes of generation 2.5 (children of one native and one immigrant parent) and native adolescents do not differ significantly from each other. Thus, the "immigrant advantage" is shared by those youths who have both parents born outside of the U.S. This advantage in the case of generation 1.5 (that follows from the way this generation was defined in this study) seems to be a cumulative effect of having immigrant parents and arriving in this country before the school age. The earlier arrival explains why generation 1, also being foreign-born as generation 1.5 but unlike them coming to the U.S. at 6 years of age or older, have a lower educational achievement and attainment than generation 1.5. Thus, educational attainment was affected by both factors that define immigrant generation in this study: age at arrival and immigrant status of parents.

[6] Regression analyses that duplicate models 1-6 of Tables 4 and 5 where generation 1.5 was used as a reference category (not shown) confirm that this generation has the highest educational achievement and attainment among other immigrant youth.

Notice that incorporating the individual- and school-level control variables substantially alter the baseline immigrant generation coefficients, thus indicating that school characteristics, demographic and family background effects are independent of the social capital (both family- and school-based) variables used in the analysis. Particularly, in Tables 3 and 4, the generational status effects increase in model 2 as compared to model 1 (baseline model). Model 2 adds school- and individual-level controls among which there is a number of significant effects. In Table 4 these include school sector (private), average school SES, variables for African-American and Latino, family income, parents' educational attainment, age and sex. In Table 5 all control variables were significant in model 2, except age. Not surprisingly, the model comparison tests indicate that model 2 gives a significantly improved fit over model 1 in both Tables 3 and 4. From the above it follows that association between immigrant generation and school outcomes is more pronounced when the aforementioned effects are accounted for. It is important to mention that educational outcomes in private schools, on average, are better than in public schools. Likewise, students attending schools where the majority of students come from middle- and upper class families were found to have better academic outcomes than students attending low-SES schools. These effects, i.e. "better schools – better outcomes" were predicted from earlier studies of school context (e.g., Bridge et al., 1979; Coleman and Hoffer, 1987; Portes and MacLeod, 1996; Ryabov and Van Hook, 2007). In terms of the individual characteristics of the adolescent, Asian-American and Non-Hispanic white students perform better in school than African-Americans and Hispanics. This is expected because lower levels of achievement and attainment among Blacks and Hispanics than among whites and Asians have been documented in the majority of studies that included indications of adolescents' race or ethnic background in their examination of

predictors of educational outcomes (e.g., Kao et al., 1996; McNeal, 1999). Furthermore, the SES measures were found to be positively associated with academic outcomes. This finding is in agreement with previous research as well (e.g., McNeal, 2001). We also found that boys tend to have higher academic achievement and attainment than girls. This is a surprising finding because the literature usually (e.g., Carlson and Corcoran, 2001) asserts a learning gap in favor of girls, owing to higher probability of problem behaviors among boys than girls.

The multilevel regression results confirm the validity of the correlation analysis even after the effects of individual and family factors have been taken into account (see Tables 4 and 5). As expected, average achievement of a peer network in Wave 1 has a positive effect on both educational achievement in Wave 1 and attainment in Wave 3. Interestingly, with the addition of only one significant predictor in model 4 of Tables 3 and 4, an improved fit over model 3 is apparent. The effects of network density and heterogeneity, however, are both insignificant. Aside from the effects of easily observed socioeconomic characteristics of families (race, immigrant generational status, SES, and family social capital) and schools (pubic/private sector, Average SES), the average achievement of a peer network in Wave 1 appears to be one of the strongest determinants of academic achievement in Wave 1 and attainment in Wave 3.[7] It also happens to explain some of the association between immigrant generation and academic achievement. The differences in educational achievement and attainment generally decrease between the generations when the average achievement of a peer network is controlled for. Turning to models 5 and 6 of Tables 3 and 4, we observe that the lesser change in the same direction accompanies the introduction of the other two peer

[7] It is important to emphasize here that when quantifying the effect of peer achievement (Wave 1) on attainment (Wave 3), among other controlled effects, the one of prior achievement (Wave 1) is strongly positive and significant.

social capital factors, network density and heterogeneity. Therefore, it is important to further examine the interaction effects of generational status and peer social capital.

(Insert Table 4 about here)

With respect to family social capital effects, our results differ depending on whether achievement or attainment was used as a dependent variable. Several, but not all family-related predictors of academic achievement were found to be significant. These include living in a single-parent family, the number of siblings and parent's educational expectations. At the same time, all measures of family social capital, except the number of siblings, were found to be related to educational attainment. As expected, adolescents living in single-parent families and/or with large numbers of siblings were found to perform worse academically than adolescents from two-parent families and/or with few siblings. Although living in families headed by other relatives than parents did not have a significant impact on attainment, it did on achievement in model 4 of Table 3, which controls for the average achievement of a peer network, and this impact was, unexpectedly, positive. Thus, the adolescents coming from non-parent (guardian) families, in fact, perform better in school when peer social capital and all other factors are controlled for. Noteworthy, although not all family social capital measures were significant in model 3 of both Tables 3 and 4, their addition result in model 3 being a significant improvement over model 2. Further, after introducing the effects of the family capital measures, the absolute values of the regression coefficients of immigrant generation status on achievement and, especially, attainment decline, suggesting a presence of certain mediating effects of family factors on academic achievement. This finding is fairly consistent with the previously established association between family social capital and educational assimilation (Fuligni, 1997; Foner, 1997; Oropesa and Landale, 1997; Rumbaut, 1997; Portes

and MacLeod, 1996).

As stated at the outset, in order to investigate the relative importance of bridging and bonding types of peer social capital, we examine interaction effects between generational status and social capital measures in Table 5. The interaction effects of immigrant generational status and peer network factors on educational achievement and attainment are all significant and positive with the exception of the effect of generational status and network heterogeneity, which is not significant in the case of achievement and negative in the case of attainment. As expected from the multivariate analyses shown in Tables 3 and 4, it is the main effect of the average achievement of the peer network that remains significant in all regression models. The main effects of network density and heterogeneity are not significant, despite the fact that some if their interaction effects mentioned above are. Thus, although average GPA of the peer network is positively associated with educational outcomes for all adolescents, immigrant youths are predicted to have even better educational achievement and attainment than their native peers in schools where average achievement of the peer networks is higher. Similarly, network density is associated with better achievement and attainment for immigrant youths. However, native youths are predicted to have better educational outcomes than immigrant youths wherever peer networks are more heterogeneous with respect to race and ethnicity.

(Insert Table 5 about here)

Discussion

This study links the emergent literature on peer social capital, underconceptualized and underinvestigated variable in sociological literature, with research on educational

assimilation to show that: (1) after taking into account competing influences of sociodemographic characteristics, family social capital and school context, educational achievement and attainment are higher among immigrant youths[8] than native youths; (2) better educational outcomes of immigrant youth are at least in part the result of structural features of peer networks that they attend. Three dimensions of peer social capital embedded in peer relationships were examined in this study, of which average academic achievement of peer network and network density were positively associated with immigrant youths' academic achievement and attainment, and network heterogeneity was negatively associated with their attainment. It is worth noting that all of these factors were less beneficial for native adolescents than for immigrant adolescents. Native adolescents, members of peer networks of different levels of heterogeneity and density have statistically similar educational outcomes, suggesting that structure of peer networks is not related to their educational success. Further, several measures of family social capital were found to be related to both educational achievement and attainment. Even stronger influences on educational achievement and attainment of all adolescents (regardless of their nativity status), according to our analyses, are attributable to socio-demographic factors, such as ethnicity, age, sex, and SES. These and family social capital factors were also found to explain some of the advantage in educational achievement and attainment that immigrant youths have over native youths. It should also be mentioned that the findings described above were obtained while controlling for between-school differences in socioeconomic composition and sector (public/private). This means that peer network effects were not confounded with school effects, as it was, arguably, the case with the Coleman report (Coleman et al., 1966).

[8] It is important to mention the exceptional case of generation 2.5 whose educational outcomes, according to our analyses, approximate those of native youth.

We reasoned that, in the broadest sense, assimilation could be seen as a process in which the social networks of members of an immigrant group become less dense and more connected to the host society over successive generations, with each generation benefiting to a greater degree from the "strength of weak ties" - i.e. indirect connections to a large number of people (bridging social capital). Alternatively, assimilation can be seen as a process in which members of an immigrant come to rely increasingly on close-knit ties to other immigrants and family members (bonding social capital). Considered together, our findings do not support the validity of "strength of weak ties" argument (e.g., Granovetter, 1983; Lin, 2001). The evidence presented in this study shows that it was not bridging but bonding social ties that are more conducive to educational success of immigrant youths. Those immigrant youths embedded in dense and homogeneous networks were more likely to have better educational outcomes than native youths.[9] By the same token, this indicates that the favorable impact of bonding social capital on academic achievement and attainment appears to level off for native youths. This finding is consistent with the expectations of segmented assimilation hypothesis that social capital is an important resource for social mobility of immigrant youth. Specifically, the results of this study strongly suggest that the selective or delayed assimilation pathway proposed by segmented assimilation hypothesis is the most likely outcome for the majority of immigrant generations (Portes and Zhou, 1993).

On the practical plain, our results are open to a variety of readings. Firstly, we do not argue that immigrant generational status is conducive to higher GPA and better chances of college education, even after controlling for school context and other socio-demographic factors. Although we did find superior academic performance of 1-2 generations in

[9] We found a statistically significant effect of peer network heterogeneity on academic attainment of immigrant youths but no effect on achievement.

comparison to natives, the "immigrant advantage" is counterbalanced by other factors, including ethnicity, family SES and social capital. Concerning race-ethnicity, we found, for example, that Asians would have better academic outcomes than Latinos. Thus, story regarding the influence of immigration status differs across the race/ethnic classifications – Asians versus Latinos. That said, we do not argue against or in favor of policies that address the educational deficits, if such exist, of immigrant children. Secondly, and most importantly, our findings emphasize the role of close-knit, segregated peer networks on academic outcomes of immigrant youths in school environments, which may or may not be conducive to academic success (e.g., socioeconomic segregation, public vs. private sector, etc.). Evidently, with all other conditions equal, these networks and social capital available through them enable immigrant youths to successfully compete with native youths on academic plain. Hence, our analysis has novel implications about the relative importance of peer effects for immigrant and native youths. In practical terms, our results suggest that educators should pay more attention to peer networks and create environments in which learners, immigrants and natives alike, could benefit from social capital present in these networks.

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Table 1
Scales with Items Representing Family Social Capital and Their Reliability (N=14,322)

Scale Name	Questions	Cronbach's Alpha
	Family Relationships Scales	
Parent-Child Interactions	Gone shopping? Played a sport? Attended a religious service or related event? Talked about life? Talked about a date or party attended? Attended a movie, sports event, concert, play, or museum? Talked about a personal problem? Discussed grades or school work? Worked on a school project? Talked about other school activities?	0.72
Parents' Expectations for Education	How disappointed would your mother/father be: if you didn't graduate from college? if you didn't graduate from high school?	0.82
Family Social Support	Parents care about you? People in the family understand you? Family has fun together? Family pays attention to you?	0.77

Table 2
Weighted Means and Standard Deviations of All Variables by Immigrant Generational Status (N=14,322) [a]

	Immigrant Generation Status									
	1		**1.5**		**2**		**2.5**		**3+**	
N=14,322	1,060		490		1,777		1,105		9,890	
	Mean	**St. Dev.**	**Mean**	**St. Dev.**	**Mean**	**St. Dev.**	**Mean**	**St. Dev.**	**Mean**	**St. Dev.**
Dependent Variables										
Educational Achievement	2.67	0.67	2.91	0.72	2.68	0.68	2.51	0.70	2.64	0.73
Educational Attainment	0.50	0.50	0.60	0.48	0.53	0.50	0.51	0.50	0.53	0.48
Peer social capital										
Network GPA	2.83	0.47	2.72	0.55	2.90	0.45	2.72	0.46	2.83	0.46
Network Density	0.32	0.07	0.31	0.09	0.30	0.09	0.28	0.07	0.30	0.08
Network Heterogeneity	0.25	0.16	0.21	0.20	0.22	0.19	0.28	0.19	0.25	0.18
School-Level Controls										
Private School	0.08	0.10	0.11	0.16	0.14	0.16	0.11	0.14	0.18	0.13
Average SES[1]	0.27	0.08	0.29	0.11	0.31	0.11	0.36	0.11	0.34	0.09
Individual-Level Controls										
African-American	0.09	0.29	0.04	0.20	0.12	0.33	0.12	0.33	0.87	0.38
Asian	0.35	0.48	0.49	0.50	0.24	0.42	0.13	0.36	0.02	0.14
Latino	0.58	0.49	0.42	0.49	0.57	0.50	0.37	0.48	0.08	0.27
Non-Hispanic White	0.17	0.50	0.21	0.49	0.40	0.47	0.13	0.37	0.83	0.39
Family Income[b]	4.28	1.34	4.85	1.42	4.92	1.42	5.32	1.47	5.32	1.47
Parents' Education[b]	4.09	2.64	4.32	2.77	3.95	2.66	5.45	2.38	5.53	2.11
Parents' Occupational Prestige	1.52	1.06	1.54	0.90	1.60	0.90	2.04	0.90	1.88	1.09
Age	16.10	1.80	15.46	1.89	15.47	1.07	15.20	1.17	15.32	1.81
Male	0.52	0.43	0.48	0.47	0.53	0.42	0.53	0.47	0.50	0.48
Family Social Capital										
Two-Parent Household	0.57	0.11	0.62	0.15	0.57	0.13	0.50	0.15	0.59	0.16
Single-Parent Household	0.24	0.38	0.24	0.42	0.25	0.42	0.27	0.44	0.23	0.42
Non-Parent Household	0.18	0.36	0.14	0.36	0.18	0.37	0.22	0.39	0.17	0.38
Number of Siblings	0.44	0.35	0.37	0.41	0.37	0.47	0.25	0.43	0.17	0.36
Parents' Educational Expectations	4.49	0.84	4.37	0.84	4.09	0.84	4.40	1.04	4.32	0.87
Parent-Child Interactions	0.37	0.23	0.36	0.23	0.47	0.26	0.37	0.31	0.44	0.29
Family Social Support	3.98	1.17	3.94	1.23	4.03	1.05	4.03	1.28	3.99	1.32

[a] All variables are from Wave I except for educational attainment, which is from Wave III.
[b] These variables were transformed by the Box-Cox method in order to satisfy the multilevel normality condition of HLM (see more on HLM in Raudenbush and Bryk 2002).

Table 3
HLM Regression Coefficients of School- and Individual-Level Predictors of Educational Achievement, Measured as GPA in Wave 1 (N=14,322)

	Models					
	1	**2**	**3**	**4**	**5**	**6**
Immigrant Generation Status [A]						
Generation 1 [a]	0.12***	0.08***	0.06***	0.03*	0.05***	0.07***
Generation 1.5 [a]	0.07***	0.11***	0.11***	0.07***	0.11***	0.11***
Generation 2 [a]	-0.02	0.08***	0.07***	0.04*	0.04*	0.07***
Generation 2.5 [a]	-0.07*	-0.04	-0.03	0.04	0.02	0.00
School-Level Controls [B]						
Private School		0.31**	0.29***	0.13	0.22***	0.24***
Average SES		0.12***	0.15***	0.12**	0.16***	0.18***
Individual-Level Controls [A]						
African-American [b]		-0.14***	-0.10***	-0.12***	-0.13***	-0.11***
Asian [b]		0.01	0.04	0.02	0.03	0.04
Latino [b]		-0.22***	-0.13***	-0.14***	-0.17***	-0.16***
Family Income		0.12***	0.08***	0.06***	0.07***	0.07***
Parents' Education		0.07***	0.04**	0.02	0.04**	0.04**
Parents' Occupational Prestige		0.01	0.02	0.01	0.00	0.02
Age		-0.10***	-0.04**	-0.02	-0.05**	-0.04**
Male [c]		0.25***	0.17***	0.12*	0.16*	0.16***
Family Social Capital [A]						
Single-Parent Household [d]			-0.10***	-0.06***	-0.06***	-0.08***
Non-Parent Household [d]			-0.02	0.05*	0.04	0.03
Number of Siblings			-0.11***	-0.16***	-0.07	-0.09*
Parents' Educational Expectations			0.16***	0.11*	0.16***	0.17***
Parent-Child Interactions			0.02	0.02	0.01	0.03
Family Social Support			-0.06	-0.06	-0.04	-0.03
Peer Social Capital [B]						
Network GPA				0.42***		
Network Density					-0.01	
Network Heterogeneity						-0.03
Constant [A]	2.98***	3.07***	2.94***	2.32***	2.88***	2.96***
Model Comparison Test		1,135***	379**	162***	47	81
models compared		1 and 2	2 and 3	4 and 3	5 and 3	6 and 3

Note: 1. ***p<0.001; **p<0.01; *p<0.05.
2. A – individual-level indicators; B – school-level indicators.
3. Reference Categories: a – generation 3+ (i.e., native-parentage adolescents); b – non-Hispanic white; c – female; d – two-parent household; c – household of up to four residents; e – native-parentage adolescents.

Table 4

HLM Logistic Regression Coefficients of School- and Individual-Level Predictors of Educational Attainment, Measured as Some College Education in Wave 3 (N=14,322)

	Models					
	1	**2**	**3**	**4**	**5**	**6**
Immigrant Generation Status [A]						
Generation 1 [a]	-0.04	0.91 ***	0.89 ***	0.40 **	0.73 ***	0.67 ***
Generation 1.5 [a]	0.31 ***	1.02 ***	1.25 ***	0.94 ***	1.07 ***	1.02 ***
Generation 2 [a]	0.05	0.59 ***	0.49 *	0.41 *	0.37 *	0.44 **
Generation 2.5 [a]	-0.08	-0.23	-0.17	-0.08	-0.09	-0.11
School-Level Controls [B]						
Private School		0.51 ***	0.41 ***	0.17 *	0.27 ***	0.35 ***
Average SES		0.27 ***	0.25 ***	0.18 ***	0.23 ***	0.22 ***
Individual-Level Controls [A]						
African-American [b]		-0.46 ***	-0.40 ***	-0.12	-0.18	-0.24 *
Asian [b]		0.43 ***	0.46 ***	0.34 *	0.39 **	0.37 ***
Latino [b]		-0.62 ***	-0.50 ***	-0.32 *	-0.53 ***	-0.51 ***
Family Income		0.32 ***	0.26 ***	0.19 ***	0.26 ***	0.25 ***
Parents' Education		0.17 **	0.16 **	0.10	0.17 **	0.15 **
Parents' Occupational Prestige		0.20 **	0.20 *	0.14	0.09	0.17
Age		-0.18	-0.15	-0.08	-0.11	-0.06
Male [c]		0.59 ***	0.42 ***	0.31 ***	0.25 ***	0.43 ***
Ed. Achievement (Wave 1)		2.73 ***	2.35 ***	1.54 ***	1.68 ***	1.72 ***
Family Social Capital [A]						
Single-Parent Household [d]			-0.31 ***	-0.21 ***	-0.33 ***	-0.34 ***
Non-Parent Household [d]			-0.33 ***	-0.30 ***	-0.34 ***	-0.28 ***
Number of Siblings			-0.11 +	-0.05	-0.06	-0.09
Parents' Educational Expectations			0.23 ***	0.23 ***	0.22 ***	0.24 ***
Parent-Child Interactions			0.22 ***	0.11 *	0.20 ***	0.27 ***
Family Social Support			0.60 **	0.59 **	0.34 **	0.31 *
Peer Social Capital [B]						
Network GPA				0.43 ***		
Network Density					-0.03	
Network Heterogeneity						-0.13
Constant [A]	-0.89 ***	-3.97 ***	-6.25 ***	-7.57 ***	-8.69 ***	10.31 ***
Model Comparison Test		1,645 ***	811 ***	365 ***	41	70
models compared		1 and 2	2 and 3	4 and 3	5 and 3	6 and 3

Note: 1. ***p<0.001; **p<0.01; *p<0.05.

2. A – individual-level indicators; B – school-level indicators.

3. Reference Categories: a – generation 3+ (i.e., native-parentage adolescents); b – non-Hispanic white; c – female; d – two-parent household; c – household of up to four residents; e – native-parentage adolescents.

Table 5

HLM regression coefficients of peer social capital factors, nativity status and their interactions (N=14,322)

	Models			
	Educational Achievement (GPA, Wave 1)		Educational Attainment (Going to College)	
	1	2	1	2
Part A. Interaction Effect of Immigrant Generational Status and Network GPA				
Peer Social Capital				
Network GPA	0.37***	0.43***	0.65***	0.61***
Immigrant Generation Status				
Generations 1-2.5 [a]	0.08***	-0.00	0.21*	0.02
Interactions of Immigrant Generation Status and Network GPA				
Generations 1-2.5 [a] Network GPA		0.24***		1.00***
Model Comparison Test		317***		511***
models compared		1 and 2		1 and 2
Part B. Interaction Effect of Immigrant Generational Status and Network Density				
Peer Social Capital				
Network Density	0.03	-0.04	0.07	-0.10
Immigrant Generation Status				
Generations 1-2.5 [a]	0.06*	-0.09	0.39***	0.22*
Interactions of Immigrant Generation Status and Network Density				
Generations 1-2.5 [a] Network Density		0.19*		0.41*
Model Comparison Test		263***		302***
models compared		1 and 2		1 and 2
Part A. Interaction Effect of Immigrant Generational Status and Network Heterogeneity				
Peer Social Capital				
Network Heterogeneity	-0.04	0.08	-0.15	-0.07
Immigrant Generation Status				
Generations 1-2.5 [a]	0.12***	0.08***	0.46***	0.60*
Interaction of Immigrant Generation Status and Network Heterogeneity				
Generations 1-2.5 [a] Network Heterogeneity		-0.07		-0.22*
Model Comparison Test		97		199**
models compared		1 and 2		1 and 2

Note: 1. ***p<0.001; **p<0.01; *p<0.05. 2. Dependent variables are educational achievement (Wave 1) and educational attainment (Wave 3). 3. Regression coefficients of the control variables are not shown for the sake of the space. 4. Reference Categories: a – generation 3+ (i.e., native-parentage adolescents).