The Role of Immigrant Generation and Mentors in Educational Attainment

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Social capital, including engagement with mentors, facilitates educational attainment. However, engagement with mentors differs significantly across groups of adolescents with different backgrounds, including immigrant background. We investigate how immigrant generation predicts adolescents' engagement with mentors and different types of mentors (i.e., school-based and non-school-based), the association of mentors with educational attainment, and these estimates' heterogeneity based on the immigrant generation. We analyzed nationally representative Add Health data from N = 11,242 adolescents by using school fixed-effect linear probability models. Results show that adolescents from immigrant generations 1 and 2 were less likely than those from generation 3+ to have a mentor, but there were no significant differences in engaging with school-based mentors. Mentors predicted educational attainment; school-based mentor effects were larger than non-school-based mentor effects. The associations between mentors and college attendance and graduation were largest for first-generation immigrants. Our findings indicate the importance of structures supporting relationship-building and mentorship in schools and wider communities.

Keywords: *adolescence, educational attainment, higher education, immigrant generation, immigration/immigrants, mentoring, mentors, regression analyses, school-based mentors, survey research*

Immigrant-origin individuals, including foreign-born individuals and their U.S.-born children, are an integral part of U.S. society, including approximately 85.7 million people, or 26%, of the U.S. population (Batalova et al., 2021). Consequently, immigrant-origin children and youth are constitutive of U.S. schools. In fact, 17.8 million children under age 18 lived in families with at least one foreign-born parent in 2019, which equals 26% of all children under age 18 (Batalova et al., 2021). Of those, 15.6 million were second-generation and 2.2 million were first-generation immigrants (Batalova et al., 2021).

Immigrant-origin students bring remarkable strengths, including strong aspirations and optimism for the future (Kao & Tienda, 1995; Suárez-Orozco et al., 2009). Despite these resources, immigrant-origin adolescents might have to confront further challenges. These challenges include racism, xenophobia, and discrimination (Prado, 2008; Rogers et al., 2017), which have been related to lower self-esteem (Greene et al., 2006), psychological distress, feelings of depression (Greene et al., 2006; Yip et al., 2008), more school absences, and lower school grades (Benner & Graham, 2011). Additionally, approximately 46% of all foreign-born immigrants were Limited English Proficient[1] in 2019 (Batalova et al., 2021), which creates, *inter alia*, linguistic barriers to school engagement for parents (Carreón et al., 2005). Furthermore, immigrant-origin children were more likely to live in low-income families and poverty than were children of U.S.-born parents (Batalova et al., 2021), which results in limited opportunities due to financial constraints.

Despite these challenges, several studies have reported that immigrant-origin students often outperform their peers in native-born families (Callahan & Humphries, 2016; Duong et al., 2016; Feliciano & Lanuza, 2017; Kao & Tienda, 1995). Even with cultural differences between schools and immigrant families, potential language barriers,

and unfamiliarity with the educational system, children of immigrants (generations 1.5 and 2), on average, attain more education than their peers with U.S.-born parents. To describe these patterns, the term *immigrant paradox* has emerged. In a meta-analytic review, Duong and colleagues (2016) found that there was indeed a second-generation immigrant advantage, even though it was small and varied by immigrant population and study characteristics. These patterns have been explained through immigrant optimism instilled into children by parents (Kao & Tienda, 1995) and contextual attainment (i.e., immigrant parents' education levels attained before migration; Feliciano & Lanuza, 2017).

In addition to the immigrant paradox, the *segmented assimilation theory* helps explain the integration of children of immigrants (often measured as educational attainment) and differences between racial-ethnic groups (Portes & Zhou, 1993). Segmented assimilation scholars have posited that the process of assimilation has become segmented in the United States: Although some immigrant groups are acculturating and integrating into the White middle class, others are preserving their ethnic groups' values and solidarity while also economically advancing, and again others are ending up in marginalized segments of society (Portes & Zhou, 1993; Rumbaut, 1994; Zhou, 1997). Reasons for downward mobility include racism toward people of color, socioeconomic disadvantages, spatial segregation, and inferior schools (Portes & Zhou, 1993).

Social capital, or enabling human connections, facilitates educational engagement and advancement, particularly among immigrants (Dika & Singh, 2002; Portes & Rumbaut, 2014).[2] In particular, Portes and Rumbaut (2014) emphasized the value of social capital in the form of "a *really* significant other" (p. 299, emphasis in original)—someone non-parental who supports youth in multiple ways. Similarly, *mentors* are defined as "non-parental adults who take a special interest in the lives of youths. They step outside their normal social roles as teachers, relatives, . . . and employers by helping to guide young people in the transition to adulthood" (Erickson et al., 2009, p. 344). They do so by providing advice and emotional support and by serving as role models (Erickson et al., 2009). Notably, this article focuses on naturally occurring mentors, as opposed to formal mentoring programs (e.g., Big Brothers Big Sisters; Rhodes, 2020).

Grounded in the social capital literature, this study seeks to contribute to the knowledge base on the value of mentors for immigrant-origin adolescents by exploring the relationships between immigrant generation, mentoring relationships, and educational attainment, measured as college entry and graduation. We examined general mentoring relationships and school-based versus non-school-based mentors. Using nationally representative data on 11,242 participants from The National Longitudinal Study of Adolescent to Adult Health (Add Health), we investigated whether immigrant generation predicted engagement with (a) a mentor and (b) different types of mentors (i.e., school-based and non-school-based), as well as whether an immigrant generation by mentor interaction predicted educational attainment.

Research has suggested that engagement with mentors and the nature of these relationships differ significantly across groups of adolescents with different backgrounds (e.g., Ahrens et al., 2008; Raposa et al., 2018; Zimmerman et al., 2002), including immigrant background (Stanton-Salazar & Spina, 2003). However, to our knowledge, no study has examined differences in mentoring relationships based on immigrant generation. Furthermore, social capital, including in the form of mentors, has been shown to be positively related to immigrant-origin adolescents' educational attainment (e.g., Dika & Singh, 2002; Jaffe-Walter & Lee, 2011; Stanton-Salazar & Spina, 2003), with differences in effects across immigrant generations (Kao & Rutherford, 2007; Ryan & Ream, 2016). Whether mentors, including school-based mentors, predict college attendance or graduation and whether the effects differ across immigrant generations, however, remain open questions.

The scarcity of information on differences across immigrant generations in mentor engagement and effects of different types of mentors is regrettable because it is the sort of evidence educators and policymakers need. Such evidence could help us better understand the benefits of school agents' mentoring immigrant-origin students (e.g., increased likelihood of going to college) but also its limits (e.g., no increased likelihood of graduating from college). Also, it could clarify how to build upon young people's wide array of social capital drawn from their extended families, friends, and community members. This may be particularly true for adolescents, as academic stress and peer influence increase in their lives and immigrant parents may be less abreast of academic and peer contexts in the United States.

Theoretical Framework and Literature

This study is grounded in the social capital literature (Bourdieu, 1986; Coleman, 1988), which focuses on resources rooted in social relationships instead of centering on individual characteristics to explain outcomes (Bankston, 2014). There is not one single definition of social capital agreed upon by various scholars and disciplines (Dika & Singh, 2002; Lin, 2001; Son, 2020). For this article, we borrowed Fisher and Fisher's (2018) social capital definition: "young people's access to and ability to mobilize human connections that might help them further their potential and their goals" (p. 37). In a review of social capital studies in education, Dika and Singh (2002) synthesized evidence that access to social capital was associated with increased educational attainment and achievement. More importantly, social capital has been found to be an essential means of defying obstacles to success for immigrant-origin

adolescents, including potential language barriers, discrimination, and parents' unfamiliarity with the educational system (Portes & Rumbaut, 2014).

Access to social capital has been found to be associated with immigrant background. For example, Portes and Rumbaut (2014) emphasized how social capital grounded in co-ethnic communities was related to solidarity and provided immigrants a resource in confronting obstacles. Further, Straubhaar (2013) coined the term *linguistic social capital*, defined as "linguistic social networks upon which immigrant students . . . can rely when they need academic and social support" (p. 96). He found that Mexican-origin students had access to a large academic support network due to linguistic solidarity. Kao and Rutherford (2007) examined the relationship between social capital—measured as intergenerational closure (i.e., parents know their children's friends' parents) and parent-school involvement—and being a student of color and/or of immigrant origin. Their analyses showed that first- and second-generation immigrant students possessed less social capital than did their native-born counterparts. Although differences in intergenerational closure and parent-school involvement among immigrant generations have been established, differences in engagement with mentors—another form of social capital—have not yet been analyzed, to our knowledge.

Therefore, this article focuses on mentors as one human connection that might help youth further their goals (i.e., a form of social capital). Further, we examine engagement with school-based and non-school-based mentors, allowing us to highlight the value of different forms of mentoring relationships and come up with implications for education policy and practice.

Mentors as a Form of Social Capital

Portes and Rumbaut (2014) emphasized the importance of social capital in the community, including the "appearance of a *really* significant other" (p. 299, emphasis in original) in adolescents' lives—someone non-parental who supports youth in multiple ways. Mentors are resourceful and authentically caring institutional agents and other non-parental community members (Stanton-Salazar & Spina, 2003), who go beyond their regular social roles as, for example, teachers, doctors, and social workers to offer advice and emotional support and to serve as role models to help guide young people (Erickson et al., 2009). Mentors are interested in students and familiar with the system to motivate and help them navigate and achieve their goals (Portes & Rumbaut, 2014). Additionally, they may provide opportunities, information, advice, and support to adolescents (Fisher & Fisher, 2018). It is noteworthy that this article focuses on naturally occurring mentors instead of formal mentoring programs, such as Big Brothers Big Sisters (Rhodes, 2020). These naturally occurring mentoring relationships have larger effects

on academic and vocational, social-emotional, physical health, and psychosocial outcomes than does formal mentoring (Van Dam et al., 2018).

Various studies have demonstrated the positive impacts of mentors on youth's educational and professional trajectories, including graduating from high school and participating in higher education (Ahrens et al., 2008; Klaw et al., 2003; Rivera et al., 2016; Stanton-Salazar & Spina, 2003; Zimmerman et al., 2002). Therefore, we hypothesize that having a mentor positively predicts attending any and graduating from college for immigrant-origin youth.

School Agents as Loci for Social Capital

Stanton-Salazar's (1997, 2011) social capital framework for economically vulnerable youth of color posited that institutional agents (e.g., teachers and counselors) might reproduce inequality based on race, class, and gender. On the one hand, they are pedagogues and advocates for their students. On the other hand, the system's structures require teachers to distribute scarce resources, such as placements in gifted classes or extra help with homework (Stanton-Salazar, 1997). As such, institutional agents' multiple roles might be inconsistent and contradictory (Stanton-Salazar, 1997), as they often cannot provide all students the same opportunities. We hypothesize that mentoring, too, is a scarce resource in schools; hence, not all students may have the opportunity to engage with school-based mentors. Therefore, we posit that immigrant generation predicts engagement with school-based mentors.

Differences in Engagement With and Characteristics of Mentoring Relationships

Research has suggested that engagement with and the nature of mentoring relationships differ depending on the youth's demographics and backgrounds. For example, Ahrens et al.'s (2008) study of the Add Health data indicated that youth in foster care were less likely to have naturally occurring mentors. Also, adolescents from low socioeconomic backgrounds (Raposa et al., 2018) and youth living in urban centers (Zimmerman et al., 2002) had reduced engagement with nonfamilial adult mentors. Raposa et al.'s (2018) analysis of Add Health data indicated that low-income adolescents' mentoring relationships tended to be "close and supportive bonds with adults in their family or family friend networks, rather than ties with caring adults outside the family" (p. 198). Additionally, these relationships' focus was more likely on practical support, such as finances, and less likely to be sources of role modeling and work-related support, such as career advice (Raposa et al., 2018). These quantitative studies of nationally representative data have provided evidence for differences in mentoring relationships for adolescents of different backgrounds. However, there

has not been any examination of the relationship between having a mentor and immigrant generation.

Furthermore, a few studies have provided evidence for immigrant-origin adolescents being disadvantaged regarding mentoring relationships. Stanton-Salazar and Spina (2003) conducted a critical ethnography to examine Mexican-origin adolescents' help-seeking practices in urban neighborhoods. They found that mentors were rare among the participating adolescents. Resourceful and caring adults in low-resource urban areas found "themselves in an environment where the need [for mentors] is overwhelming and institutional support is lacking" (p. 251). Conversely, wealthier communities provided structures that allowed actors to improve students' opportunities to succeed. Although this study provided evidence for the scarcity of mentors in urban neighborhoods for Mexican-origin adolescents, the degree of the immigrant generation's impact on engagement with mentors, particularly school-based mentors, has remained unexplored.

Differences in Effects of Social Capital

Research has suggested positive effects of social capital, including in the form of mentors, on educational achievement and attainment for immigrant-origin youth (Dika & Singh, 2002; Kao & Rutherford, 2007; Stanton-Salazar & Spina, 2003). Additionally, Jaffe-Walter and Lee (2011) conducted an ethnographic study in two high schools. They found that schools provided students with the social capital necessary for college access. In particular, they described teachers, guidance counselors, and school leadership as essential sources of support for immigrant-origin adolescents regarding the college admissions process, potentially contradicting Stanton-Salazar's (1997, 2011) theory. Whether mentors and specifically school-based mentors are associated with attending any college or graduating from college for immigrant-origin adolescents has remained an open question.

Broadly, social capital seems to be positively associated with educational, social, and emotional outcomes (Dika & Singh, 2002). However, the literature suggests variations in returns to social capital across groups and contexts. For example, Ryan and Ream's (2016) results indicate that the association between parents' college-relevant social capital (e.g., school involvement) and college enrollment was positive and significant for adolescents from the immigrant generation 3+, but not 1 and 2. Ryabov (2009) found that peer social capital's effects on grade point average (GPA) and college attendance were stronger among immigrant-origin adolescents than among their peers from U.S.-born parents. Kao and Rutherford (2007) found that parent-school involvement mattered slightly less for the GPA for first-generation Asian students than for third-generation White students.

Whether differences in mentors' effect between different immigrant generations exist has not yet been explored.

Research Questions

Building upon the scholarship on social capital, this cross-sectional analysis aims to contribute to a more nuanced understanding of engagement with and mentors' effects on educational attainment for students from different immigrant generations. Toward this end, we investigated how immigrant generation might be associated with adolescents' engagement with mentors and different types of mentors (i.e., school-based and non-school-based), the effects of mentors on educational attainment, and the heterogeneity in a mentor's impact on the educational attainment based on the immigrant generation, while controlling for other student-level data and school fixed effects. In other words, the research questions were as follows:

1. Does the immigrant generation predict engagement with a mentor in adolescence and educational attainment, defined as college entry and graduation? Secondarily, is there an immigrant generation by mentor engagement interaction effect on educational attainment?
2. Does the immigrant generation predict the type of mentor engagement in adolescence, defined as school-based or non-school-based? Secondarily, is there an immigrant generation by mentor type interaction effect on educational attainment?

Methods

Data and Participants

Participants were drawn from Add Health, a school-based longitudinal study of a nationally representative sample of adolescents from 80 high schools and 52 middle schools. Sampled students were interviewed in 1994–1995 (Wave I of the survey) and then followed up for five more survey rounds until 2016. Data used in this study were drawn from the Add Health study Waves I, III, and IV, administered in 1994–1995, 2001–2002, and 2008–2009, respectively. There was a response rate of 79% and a sample size of $n = 20,745$ at Wave I, 77.4% and $n = 15,197$ at Wave III, and 80.3% and $n = 15,701$ at Wave IV (Harris et al., 2009). We used data from the in-home administered surveys.

Consistent with the Add Health data analysis guidelines, we included only participants with valid sampling weights, cluster variables, and complete data on all study variables (Chen & Harris, 2020). This approach was consistent with previous mentoring studies using Add Health data (e.g., Hagler & Rhodes, 2018). Excluding participants with missing sampling weights on either Wave I, III, or IV reduced

the sample to 12,288 observations. After excluding participants with missing data for any of the dependent, independent, or control variables, the unweighted analytic sample included $n = 11,242$ participants.

We examined the distribution of relevant sociodemographic characteristics across the eligible and the excluded sample and ran Chi-square and *t*-tests to test differences between the samples. Results indicated no differences by sex, race-ethnicity, the quality of family relationships, parental education, parental expectations, average GPA, college beliefs, and immigrant generation (see Appendix A), indicating that the analytic sample probably was nationally representative.

Measures

Outcome Variables

Educational Attainment. Two dependent variables were constructed for the measurement of educational attainment. First, based on the Wave IV questionnaire item about the highest level of education the participants had completed, we created a dichotomous variable of *any college*, including everyone who attended and/or graduated from a 4-year college (1 = *any college education*, 0 = *no college education*). The same variable was used for Wave III data by Ryabov (2009). Second, we created a dichotomous variable of *college graduation* (1 = *bachelor's degree or more*, 0 = *less than bachelor's degree*). Thus, the group of "college graduate" participants was a subgroup of the "any college" participants.

Mentor. At Wave III, participants were asked, "Other than your parents or step-parents, has an adult made an important positive difference in your life at any time since you were 14 years old?" Additionally, participants were asked their age when this mentor first became important in their life. Based on these questionnaire items, we constructed a dichotomous variable *mentor* that measured whether a mentor was present at or before age 18 (1 = *mentor*, 0 = *no mentor*). It is important to note that participants might have had several mentors, but the data captured only their most influential mentor.

To answer our second research question and better understand the types of mentoring relationships, we created a variable for school-based versus non-school-based mentors. Adolescents who indicated having had a mentor were asked a set of close-ended questions about the mentoring relationship. Based on these questionnaire items, a categorical variable *type of mentor* was constructed, which consisted of three values (1 = *no mentor*, 2 = *non-school-based mentor*, 3 = *school-based mentor*). "No mentor" was the reference category for all analyses. School-based mentors included teachers and guidance counselors. Non-school-based mentors were grandparents, uncles, aunts, neighbors, friends, spouses or partners, ministers/

priests/rabbis/religious leaders, coaches/athletic directors, employers, coworkers, friend's parents, doctors/therapists/social workers, and others (see Appendix B for an overview of mentors). Again, because the data only captured the most influential mentor, participants might have had school-based mentors but chose a non-school-based mentor as their most influential mentor. Younger family members were not counted as mentors, following previous literature (Rhodes & Roffman, 2003; Zimmerman et al., 2002) and because mentors, by definition, are adults (Erickson et al., 2009; Stanton-Salazar & Spina, 2003); thus, participants who indicated having their younger sibling as a mentor were coded as 0 for the *mentor* variable.

It should be noted that most adults in these roles were in positions expected to guide young people in the transition to adulthood (e.g., teachers, counselors, coaches). However, the adolescents' perception of them having made an important positive difference in their lives let us assume that they had mentoring relationships with the participants that went beyond the support that was part of their roles.

Primary Independent Variable: Immigrant Generation

We used five categories for the key independent variable, immigrant generation:

a) 1: participants born outside the United States who moved to the United States after age 6 years
b) 1.5: participants born outside the United States but residing in the United States prior to or at age 6 years
c) 2: participants with both parents born outside the United States
d) 2.5: participants with one U.S.-born and one foreign-born parent
e) 3+: participants born to U.S.-born parents

The terminology for these dummy variables was developed in prior research (Landale et al., 1998; Portes & Rumbaut, 2014; Ramakrishnan, 2004). For example, among foreign-born individuals (i.e., generations 1 and 1.5), those who moved to the United States at different developmental stages encountered other challenges (Landale et al., 1998). Youth who migrated to the United States as preschoolers (i.e., generation 1.5) had earlier exposure to the English language and uninterrupted schooling in U.S. schools; they differed in terms of high school dropout rates, work patterns, and English fluency from those who migrated to the United States at or after age 6 (Landale et al., 1998). Also, Ramakrishnan (2004) argued for differentiating between generations 2 and 2.5 because individuals from generation 2.5 were significantly different from those of generation 2 regarding educational attainment (i.e., fewer high school dropouts and more college graduates). Finally, this categorization followed a similar approach previously used with Add Health data (e.g., Perreira et al., 2006; Ryabov, 2009). The

immigrant generation 3+ was used as the reference category in the analyses.

To determine the respondents' immigrant generation, we used the answers to the following survey questions in the in-home administered surveys from Wave I: (a) whether the adolescents were foreign-born, (b) what year the adolescents moved to the United States, (c) what year they were born to determine the age of arrival in the United States, and (d) whether either of the participants' parents were foreign-born. If the data on both resident parents' nativity were missing, we considered the biological parents' country of birth to determine the difference between immigrant generations 2, 2.5, and 3+. Based on these survey items, a categorical variable was constructed.

Individual-Level Control Variables

We controlled for a set of factors that have been documented to influence educational outcomes. For instance, Portes and Rumbaut (2014) found in the Children of Immigrants Longitudinal Study that male immigrants educationally and occupationally achieved less than did female immigrants. This remained true even after controlling for other variables (Portes & Rumbaut, 2014). The variable sex was coded as a dichotomous variable 1 (male) and 0 (female).

Additionally, Portes and Rumbaut (2014) found that race and ethnicity were "barrier[s] in the path of occupational mobility and social acceptance" (p. 274), which affected immigrants' ethnic identities, aspirations, and academic performance accordingly. Therefore, we used race and ethnicity as another key independent variable. Respondents self-reported their racial and ethnic identity; we used these categories to create a set of five *race-ethnicity* dummy variables: Hispanic/Latinx; Black/African American; Asian/Pacific Islander; American Indian/Native American/Non-Hispanic Other; and Non-Hispanic White. Toward this end, we used the code provided by Harris et al. (2009) to construct these variables and then combined American Indian/Native American with Non-Hispanic Other due to these two groups' small sample sizes. Non-Hispanic White was used as the reference category in the analyses.

Furthermore, Portes and Rumbaut (2014) asserted that family context affected immigrant adolescents' likelihood of graduating from school. To capture the family context, we looked at items on the *parents' education, family relationship quality*, and *parents' expectations for education*—factors that have been shown to affect educational attainment (Ou & Reynolds, 2008). Other researchers have also used these scales to analyze the Add Health data (e.g., Crosnoe & Elder, 2004; Goldberg, 2018; Ryabov, 2009). Respondents reported their parents' educational attainment, which we coded into a variable with four categories (1 = *less than high school*; 2 = *high school diploma*; 3 = *more than high school and less than bachelor's degree*; 4 = *college graduate and more*; used as the reference category). If data for both parents were available, the higher value was used for

the analyses. Moreover, respondents at Wave I indicated their feelings on the extent to which their family members understood them, they had fun together, the family paid attention to them, and their parents cared about them. Each item was rated on a Likert scale from 1 (*not at all*) to 5 (*very much*). The four items' mean was used for the family relationship quality score (α = .77). The scale for parents' expectations for education ranged from 1 to 5, where 1 indicated *low expectations* and 5 *high expectations*. The scale was created based on four items on how disappointed the parents would be if the participant did not graduate from college or high school. Again, the four items' mean was used for the parents' expectation for education score (α = .81).

Finally, students' previous academic achievements and college beliefs predict educational attainment (Hoffman & Lowitzki, 2005; Ou & Reynolds, 2008). Therefore, we controlled for these two variables. The Add Health survey asked participants in Wave I about their most recent grades in English/English language arts, mathematics, history/social science, and science, self-reported as *D or lower* through *A*, which we coded into 1 (=*D or lower*) through 4 (=*A*). Based on these four items, we calculated the GPA (continuous variable ranging from 1 to 4). Further, participants were asked to indicate, on a scale of 1 to 5, (a) how much they wanted to go to college and (b) how likely it was that they would go to college. We averaged these two items to the continuous variable *college beliefs*, ranging from 1 (=*low*) to 5 (=*high*).

Analytic Procedures

All analyses were conducted in Stata/SE 16.1 (StataCorp, 2019). We used the sampling and stratification weights, which Chen and Harris (2020) suggested in the *Guidelines for Analyzing Add Health Data*, to obtain unbiased estimates of the population parameters and standard errors from our analysis. We ran weighted descriptives for all variables per immigrant generation and the F or χ^2 statistics to indicate the association between immigrant generation and respective variables. Chi-square tests were used for categorical variables, and Wald tests for continuous variables.

We conducted a series of school fixed-effect linear probability models to estimate the probability of having a mentor (i.e., dichotomous variable: *0* = no mentor; *1* = mentor) and the two educational attainment outcomes (i.e., dichotomous variables: any college and college graduate) for participants from different immigrant generations, controlling for demographics (i.e., race/ethnicity, sex, family characteristics, GPA, college beliefs). Also, we estimated the two educational attainment outcomes based on the participants' immigrant generation, mentoring relationships (i.e., mentor and type of mentor), their interaction, and various control variables.

We used linear models because they are better suited for interpreting interaction effects with fixed effects than are nonlinear models (Ai & Norton, 2003), and we wanted to be

consistent throughout the paper. Angrist and Pischke (2009) provided evidence that linear regression models were legitimate for estimating the probability of binary outcome variables.[3]

We estimated the effects by using the following linear model (Equation 1):

$$Y_{is} = \alpha + G_{is}\gamma_1 + M_{is}^{a,b}\gamma_2 + X_{is}\beta + \mu_s + \varepsilon_{is} \tag{1}$$

where Y_{is} was an outcome for individual *i* controlled for the school fixed effects *s*. G_{is} represented the dummy variables for immigrant generation (e.g., first generation), and $M_{is}^{a,b}$ represented the mentor variable (i.e., *(a)* mentor engagement or *(b)* type of mentor). Also, we included additional controls (X_{is}) and school fixed effects (μ_s), as described above.

The following model was used when the immigrant generation and mentor interaction effects were included (Equation 2):

$$Y_{is} = \alpha + G_{is}\gamma_1 + M_{is}^{a,b}\gamma_2 + GM_{is}^{a,b}\gamma_3 + X_{is}\beta + \mu_s + \varepsilon_{is} \tag{2}$$

where $GM_{is}^{a,b}$ represented the interaction effects between immigrant generation and the mentor variable.

Additionally, we conducted a multinominal logistic regression with the dependent variable *type of mentor*. We chose *no mentor* as our base category. Hence, we obtained two vectors of parameters: one associated with *school-based mentors* and one associated with *non-school-based mentors*. Toward this end, we displayed the relative risk ratios estimating the immigrant generations' association with having no mentor, a mentor outside school, or a school-based mentor.

Furthermore, we graphically displayed the differences in effect size for mentors, including the confidence intervals, for different immigrant generations. To analyze the differences of effects across the immigrant generations, we computed the point estimates, standard errors, *t* statistics, *p* values, and confidence intervals for linear combinations of coefficients.[4]

Results

Participants

Descriptive analyses presented in Table 1 show that immigrant generation 3+ was the largest group in the analytic sample (86.0%), followed by generations 2.5 (5.2%), 2 (4.2%), 1 (2.5%), and 1.5 (2.1%). The majority attended college (67.1%), but only a minority had graduated from college by Wave IV (33.5%). Almost two-thirds of participants indicated having a mentor at or before age 18 (62.7%). Mentors were mostly not connected to the participants' schools; only 13.3% of all participants reported having a school-based mentor, which means that they were either

teachers or guidance counselors. Among all participants, 69.3% identified as Non-Hispanic White, 14.1% as African American or Black, 10.3% as Hispanic or Latinx, 3.5% as Asian or Pacific Islander, and 2.8% as Native American/ Indian or other races and ethnicities. Most participants were female (52.9%).

Bivariate Associations Between Immigrant Generation and Covariates

In general, the five immigrant generations' makeup differed from the overall makeup (see Table 1). Significant differences were observed across immigrant generations with respect to race-ethnicity, parental education expectation, parents' highest education, and the presence of a mentor. For example, first-generation immigrants were more likely to be Hispanic or Latinx (58.8%), have parents with less than high school education (39.1%), and have higher scores with regard to parental expectations for education (*M* = 4.51, *SE* = .074). In contrast, those who reported as belonging to immigrant generation 3+ were more likely to be non-Hispanic White (76.4%), have parents who graduated from college (35.6%), and have lower scores with regard to parental expectations (*M* = 4.34, *SE* = .019).

Bivariate Associations Between Immigrant Generation and (a) Mentoring and (b) Educational Attainment

Descriptive analyses presented in Table 1 show that participants from immigrant generation 1.5 had the highest rate of educational attainment in the two outcome variables (e.g., 43.1% had completed a bachelor's degree), followed by generation 2 (37.6% had completed a bachelor's degree). With 32.1% and 65.0%, respectively, first-generation immigrants had the lowest rate of graduating from college and attending any college. The rate of mentor engagement was highest among generation 3+, followed by generation 2.5 (63.8% and 59.3%, respectively). With 52.5%, first-generation immigrants reported having a mentor the least often.

First-generation immigrants reported having a school-based mentor (i.e., teacher, guidance counselor) at an 18.5% rate, the highest rate among all immigrant generations. Third-generation adolescents reported having a school-based mentor at the lowest rate (13.0%). Conversely, only 33.9% of first-generation immigrants reported having a non-school-based mentor, which was the lowest rate. With 50.8%, adolescents from generation 3+ most often reported having a mentor outside school. Overall, respondents reported more often having a mentoring relationship with someone outside their school than with someone inside their school.

Chi-square tests of independence were performed to examine the association between immigrant generation and mentoring and the two educational outcomes "any college" and "college graduate." Chi-square statistics suggested no

TABLE 1

Weighted Percentages and Means (Standard Error) by Immigrant Generation, With Unweighted Counts

	Immigrant generation					Total	Test statistics
	1	1.5	2	2.5	3+		
	448 (2.54%)	372 (2.14%)	862 (4.20%)	648 (5.15%)	8,912 (85.96%)	N = 11,242	
Control variables							
Male	53.6%	46.0%	49.1%	47.7%	46.8%	47.1%	$\chi^2(4) = 6.6$, $p = 0.447$
Race-Ethnicity							
Non-Hispanic White	7.5%	25.1%	11.8%	46.6%	76.4%	69.3%	$\chi^2(4) = 2005.6$, $p < 0.001$
Non-Hispanic Black	3.0%	5.1%	3.0%	7.6%	15.6%	14.1%	$\chi^2(4) = 143.0$, $p < 0.001$
Hispanic or Latinx	58.8%	36.0%	57.5%	29.9%	4.7%	10.3%	$\chi^2(4) = 2848.5$, $p < 0.001$
Asian or Pacific Islander	27.2%	32.3%	22.9%	10.9%	0.7%	3.5%	$\chi^2(4) = 2076.1$, $p < 0.001$
American Indian and Other	3.6%	1.5%	4.8%	5.1%	2.6%	2.8%	$\chi^2(4) = 22.8$, $p = 0.058$
Quality family relationships	4.13* (.050)	4.01 (.059)	4.01 (.053)	3.97 (.042)	4.02 (.016)	4.02 (.015)	$F(4, 125) = 1.99$, $p = 0.100$
Parents' educational expectation	4.51* (.074)	4.38 (.081)	4.46** (.043)	4.27 (.055)	4.34 (.019)	4.35 (.018)	$F(4, 125) = 3.59$, $p = 0.008$
Parent education							
Less than high school	39.1%	25.4%	36.3%	10.1%	8.9%	11.2%	$\chi^2(4) = 681.2$, $p < 0.001$
High school diploma	19.4%	18.6%	19.1%	28.2%	33.0%	31.5%	$\chi^2(4) = 92.2$, $p < 0.001$
More than high school	13.6%	21.0%	16.7%	17.0%	22.6%	21.8%	$\chi^2(4) = 32.5$, $p = 0.012$
College graduate and more	27.8%	35.0%	28.0%	44.6%	35.6%	35.5%	$\chi^2(4) = 43.9$, $p = 0.018$
GPA	2.87 (.076)	2.96 (.063)	2.85 (.047)	2.86 (.056)	2.84 (.023)	2.84 (.021)	$F(4, 125) = 0.84$, $p = 0.500$
College beliefs	4.33 (.094)	4.32 (.080)	4.36 (.061)	4.41 (.057)	4.33 (.028)	4.33 (.027)	$F(4, 125) = 0.80$, $p = 0.527$
Dependent variables							
Any college	65.0%	75.5%	72.1%	69.4%	66.6%	67.1%	$\chi^2(4) = 18.4$, $p = 0.208$
Completed college	32.1%	43.1%	37.6%	36.1%	32.9%	33.5%	$\chi^2(4) = 19.2$, $p = 0.231$
Mentor	52.5%	58.5%	52.6%	59.3%	63.8%	62.7%	$\chi^2(4) = 49.4$, $p < 0.001$
	n = 230	n = 209	n = 456	n = 387	n = 5,640	n = 6,922	
School-based	18.5%	16.5%	13.3%	14.0%	13.0%	13.3%	$\chi^2(4) = 11.2$, $p = 0.260$
Non-school-based	33.9%	42.0%	39.3%	45.3%	50.8%	49.4%	$\chi^2(4) = 72.2$, $p < 0.001$

Note. All estimates were calculated by using survey weights from Waves I, III, or IV, as recommended by the Add Health statistical guidelines. For continuous variables, Wald tests were used to determine whether the means differed across immigrant generations. For postestimation analysis, lincom was run to estimate the difference between two subpopulations (*t* statistic). GPA = grade point average.

*p < .05. **p < .01. ***p < .001. – comparison with generation 3+ (reference group).

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statistically significant differences in the educational outcome variables across different immigrant generations. However, the percentages of participants having a mentor differed significantly by immigrant generation (χ^2 (4) = 49.4, $p < .001$), as did the percentages of participants having a non-school-based mentor (χ^2 (4) = 72.2, $p < .001$).

Multivariate Associations Between Immigrant Generation and (a) Mentoring and (b) Educational Attainment, Adjusting for Demographics and School Fixed Effects

The results from school fixed-effect linear regression analyses suggest that, compared to their peers from generation 3+, being a second-generation immigrant predicted a decrease in the likelihood of acquiring a mentor ($b = -.098$, $SE = .036$, $p < .01$; see Table 2). In the model covarying for control variables, being a second-generation immigrant did not remain a significant predictor of a lower likelihood of acquiring a mentor.

Without controlling for demographic variables, being from immigrant generation 1.5 was significantly positively associated with attending any and graduating from college ($b = .087$, $SE = .037$, $p < .05$ and $b = .107$, $SE = .035$, $p < .01$, respectively). When controlling for demographic variables, participants from generations 1.5 and 2 were more likely to attend any college than were their peers from generation 3+ ($b = .084$, $SE = .035$, $p < .05$ and $b = .080$, $SE = .024$, $p < .01$, respectively).

These results provide suggestive evidence of different likelihoods for engaging with a mentor and educational attainment based on youth demographics. Although it is important to know that some adolescents with specific demographic characteristics are more likely to engage with a mentor and acquire a particular educational degree, it is also important to evaluate a mentor's association with educational attainment—which we discuss in the following sections.

Multivariate Associations Between Immigrant Generation and Educational Outcomes, Adjusting for Mentoring, Demographics, and School Fixed Effects

As a first cut at the analysis of mentors' effects in conjunction with immigrant generation, Table 3 shows the relationship between immigrant generation, having a mentor, and the education outcome variables using school fixed-effect linear regression models.

The findings of Model 1 suggest that belonging to immigrant generations 1.5 and 2 was significantly and positively associated with an increase in the outcome "any college," confirming the estimates from Table 2. Additionally, Model 1 shows that adolescents who reported mentor engagement were 3.3 percentage points more likely to have attended any college than were respondents

without a mentor ($b = .033$, $SE = .010$, $p < .01$). In Model 2, we did not observe any significant difference between students from immigrant generations 1 through 2.5 and students from generation 3+ if they did not engage with mentors. Participants from generation 3+ with a mentor were significantly more likely to attend some college than were participants from generation 3+ without a mentor ($b = 0.030$, $SE = .012$, $p < .05$). Further, we observed that first-generation immigrants with a mentor were significantly more likely to have attended some college than were their peers of generation 3+ without a mentor ($b = .115$).

For graduating from college, we observed different results. The findings suggest that there was no significant increase in the likelihood of graduating from college for immigrant-origin adolescents compared to that of immigrant generation 3+ participants when not including the interaction effects (Model 1). Further, the association of a mentor with graduating from college was insignificant. When controlling for the interaction effects of immigrant generation and mentor (Model 2), the findings suggest that adolescents from immigrant generation 1.5 without a mentor were 10.3 percentage points more likely to graduate with a bachelor's degree or more than were their peers from generation 3+ without a mentor ($b = .103$, $SE = .047$, $p < .05$). Conversely, being from immigrant generation 1 without a mentor significantly decreased the likelihood of graduating from college—by 9.2 percentage points—compared to that of their peers from generation 3+ without a mentor ($b = -.092$, $SE = .045$, $p < .05$). We observed significant positive interaction effects for first-generation immigrants and having a mentor. In particular, first-generation immigrants with a mentor were significantly more likely to have graduated from college than were their peers belonging to generation 3+ without a mentor ($b = .052$).

Finally, we investigated and visualized the effect heterogeneity across immigrant generations. In particular, we examined the impact of a mentor on the probability of educational outcomes within each immigrant generation, still controlling for covarying variables, as described above. In other words, we estimated the increase in the two academic outcomes' likelihood for each immigrant generation by comparing adolescents who reported having had a mentor with adolescents who reported no mentor. Figure 1 shows that a mentor's effects on the education outcomes (a) any college and (b) college graduation differed across immigrant generations. Specifically, the findings suggest that the probability of the two educational attainment outcomes for first-generation adolescents significantly increased when they reported having a mentor compared to that of adolescents from the same immigrant generation without a mentor. For first-generation adolescents, mentors' association with "any college" was larger than with "college graduate." First-generation immigrant students with a mentor were 18.5 percentage

TABLE 2

Regression Results for Mentor at Wave III and Any College and College Graduate at Wave IV

	Mentor		Any college		College graduate	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Immigrant generation						
Generation 1	−.082 (.045)	−.044 (.049)	−.027 (.054)	.008 (.044)	−.002 (.039)	−.024 (.038)
Generation 1.5	−.026 (.042)	−.003 (.043)	.087* (.037)	.084* (.035)	.107** (.035)	.058 (.034)
Generation 2	−.098** (.036)	−.064 (.039)	.041 (.028)	.080** (.024)	.043 (.027)	.047 (.026)
Generation 2.5	−.047 (.035)	−.031 (.034)	−.002 (.023)	.002 (.022)	−.002 (.027)	−.011 (.023)
Generation 3+	reference					
Control variables						
Male		−.036** (.013)		−.048*** (.012)		−.024* (.011)
Race-Ethnicity						
Hispanic/Latinx		−.035 (.026)		−.027 (.022)		−.027 (.022)
Black/African American		.008 (.018)		.014 (.019)		−.020 (.017)
Asian American/Pacific Islander		−.082* (.034)		−.017 (.025)		.049 (.033)
American Indian and Other		−.028 (.042)		−.040 (.031)		−.027 (.037)
Non-Hispanic White		reference				
Quality of family relationships		-.004 (.009)		−.023** (.007)		.016 (.009)
Parents' educational expectation		.005 (.008)		.012 (.006)		.013* (.006)
Parental education						
Less than high school		−.039 (.028)		−.226*** (.021)		−.200*** (.018)
High school diploma		−.019 (.017)		−.159*** (.013)		−.197*** (.015)
More than high school		.005 (.017)		−.045** (.015)		−.126*** (.017)
College graduate and more		reference				
GPA		.050*** (.009)		.143*** (.010)		.201*** (.008)
College beliefs		.004 (.008)		.104*** (.008)		.051*** (.005)
Constant	.568***	.441***	.164***	−.260***	−.007	−.688***
N	11,242	11,242	11,242	11,242	11,242	11,242
R-squared	.048	.060	.127	.322	.151	.356

Note. All regressions included school fixed effects (not reported). Linearized standard errors are in parentheses. All estimates were calculated by using the respective Wave's sampling weight. GPA = grade point average.

*$p < .05$. **$p < .01$. ***$p < .001$.

points more likely to have attended some college than were first-generation immigrants without a mentor ($b = .185$, $SE = .057$, $p < .01$). This effect size decreased to 14.4 percentage points for graduating with a bachelor's degree or more ($b = .144$, $SE = .055$, $p < .05$).

Further, respondents from immigrant generation 3+ with a mentor were 3.0 percentage points more likely to have attended some college than were their peers from immigrant generation 3+ without a mentor ($b = .030$, $SE = .012$, $p < .05$). Second-generation immigrant students with a mentor were 8.8 percentage points more likely to graduate from college than were second-generation immigrants without a mentor ($b = .088$, $SE = .040$, $p < .05$). The likelihood of the education outcomes was not significantly different for respondents with a mentor compared to that of peers without a mentor in the other immigrant generations.

Although these models provided an overview of mentors' and immigrant generations' heterogeneous associations with educational attainment, they did not offer a nuanced picture of the associations between different mentor types and educational attainment. Thus, a closer investigation of school-based mentoring versus other forms of mentoring was warranted.

Multivariate Models to Assess Associations Between Immigrant Generation and the Most Influential Type of Mentoring, Adjusting for Demographics and School Fixed Effects

To better understand the most influential type of mentoring relationships related to differences in immigrant generation, we conducted multinominal regressions (see Table 4). We observed that first-generation immigrant adolescents were significantly less likely than were adolescents from generation 3+ to report that their most influential mentor was non-school-based instead of having no mentor. Their relative risk for reporting having had a non-school-based mentor relative to no

TABLE 3

Regression Results for Any College and College Graduate at Wave IV With Mentor as Independent Variable

	Any college		College graduate	
	Model 1	Model 2	Model 1	Model 2
Immigrant generation				
Generation 1	.009 (.043)	−.070 (.061)	−.023 (.038)	−.092* (.045)
Generation 1.5	.084* (.035)	.094 (.050)	.058 (.034)	.103* (.047)
Generation 2	.081** (.024)	.075 (.039)	.048 (.026)	.006 (.028)
Generation 2.5	.003 (.022)	.025 (.036)	−.010 (.023)	−.027 (.031)
Generation 3+	reference			
Mentor	.033** (.010)	.030* (.012)	.018 (.010)	.011 (.010)
Interaction effects				
Generation 1 # mentor engagement		.155* (.059)		.133* (.055)
Generation 1.5 # mentor engagement		−.016 (.062)		−.077 (.065)
Generation 2 # mentor engagement		.012 (.046)		.078 (.040)
Generation 2.5 # mentor engagement		−.036 (.048)		.027 (.041)
Control variables				
Male	−.047*** (.012)	−.047*** (.012)	−.024* (.011)	−.024* (.011)
Race-Ethnicity				
Hispanic/Latinx	−.026 (.022)	−.027 (.022)	−.026 (.022)	−.027 (.022)
Black/African American	.013 (.019)	.013 (.019)	−.020 (.017)	−.020 (.017)
Asian American/Pacific Islander	−.014 (.025)	−.017 (.025)	.051 (.033)	.048 (.034)
American Indian and Other	−.038 (.031)	−.040 (.031)	−.027 (.037)	−.027 (.037)
Non-Hispanic White	reference			
Quality of family relationships	−.023** (.007)	−.023** (.007)	.017 (.009)	.016 (.009)
Parents' educational expectation	.011 (.006)	.011 (.006)	.013* (.006)	.012* (.006)
Parental education				
Less than high school	−.225*** (.021)	−.225*** (.021)	−.200*** (.018)	−.200*** (.018)
High school diploma	−.159*** (.013)	−.159*** (.013)	−.197*** (.015)	−.197*** (.015)
More than high school	−.045** (.015)	−.045** (.015)	−.126*** (.017)	−.126*** (.017)
College graduate and more	reference			
GPA	.142*** (.010)	.142*** (.010)	.200*** (.008)	.200*** (.008)
College beliefs	.104*** (.007)	.104*** (.007)	.051*** (.005)	.051*** (.005)
Constant	−.274***	−.273***	−.697***	−.698***
N	11,242	11,242	11,242	11,242
R-squared	0.323	0.324	0.356	0.357

Note. All regressions included school fixed effects (not reported). Linearized standard errors are in parentheses. All estimates were calculated by using survey weights for Wave IV, as recommended by Add Health statistical guidelines. GPA = grade point average.
*$p < .05$; **$p < .01$; ***$p < .001$.

mentor was estimated to be 0.604 smaller compared to that of adolescents from immigrant generation 3+ when not controlling for covariates ($RRR = 0.604$, $SE = .119$, $p < .05$), but non-significant when controlling for covariates. Second-generation immigrant adolescents were also significantly less likely than were adolescents from generation 3+ to report having had a non-school-based mentor versus no mentor. Their relative risk for having had a non-school-based mentor as the most influential mentor relative to no mentor was 0.646 smaller compared to that of adolescents from generation 3+ when not controlling for covariates ($RRR = 0.646$, $SE = .102$, $p < .01$). None of the other immigrant generations had a significantly changed relative risk of having had a non-school-based mentor as the most

influential mentor instead of had no mentor. Additionally, we found no significant change in relative risk for reporting school-based mentors instead of no mentor for any immigrant generation.

Multivariate Models to Assess Associations Between Immigrant Generation and Educational Outcomes, Adjusting for the Most Influential Type of Mentoring, Demographics, and School Fixed Effects

As a next cut at the analysis of mentors' associations with the immigrant generation, Table 5 shows the relationship between immigrant generation, reporting a school-based or
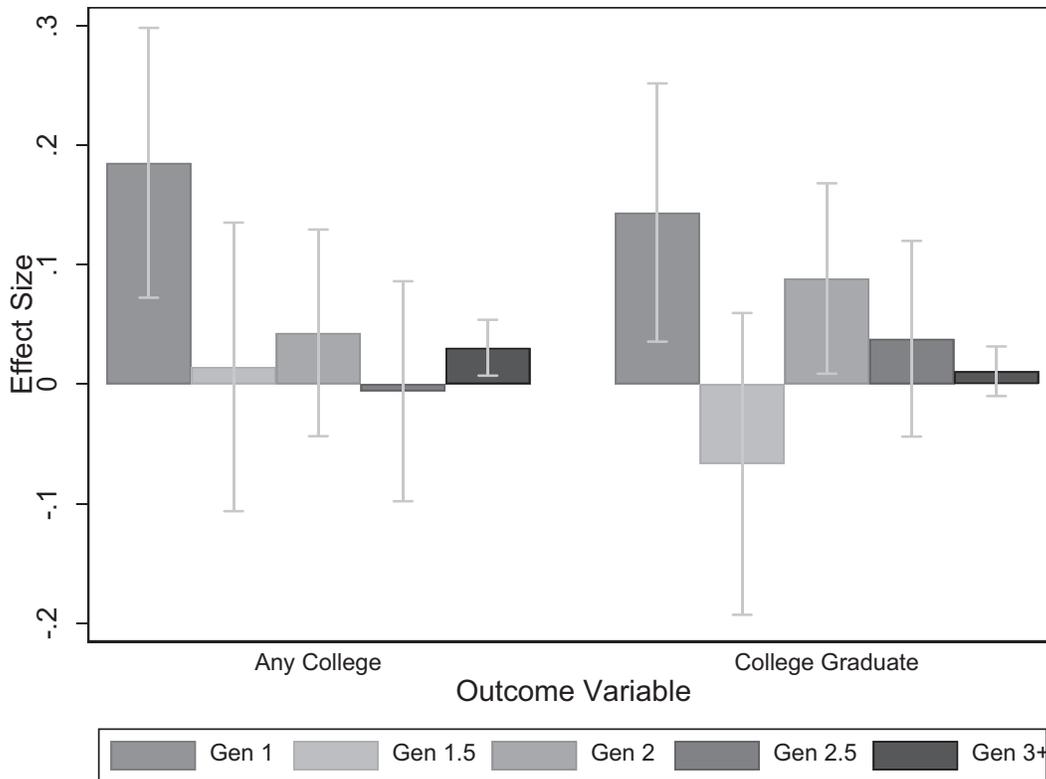
FIGURE 1. *Effect size [95% confidence interval] of having a mentor versus no mentor on college attendance and college graduation by immigrant generation.*

Note. Effect sizes were based on linear regressions controlling for demographics and school fixed effects (not reported). All estimates were calculated by using survey weights for Wave IV, as recommended by Add Health statistical guidelines. Add Health data, $N = 11,242$.

non-school-based mentor as the most influential mentor, and the education outcome variables, using school fixed-effect linear regression models.

The estimates confirmed the previous section's findings: Belonging to immigrant generations 1.5 and 2 was significantly and positively associated with an increase in attending any college when not including the interaction effects (Model 1). Additionally, Model 1 shows that adolescents with a non-school-based and school-based mentor were 2.3 and 7.4 percentage points, respectively, more likely to have attended some college than were students without a mentor ($b = .023$, $SE = .011$, $p < .05$ and $b = .074$, $SE = .018$, $p < .001$, respectively). When including the interaction effects (Model 2), students from generation 2 without a mentor were 7.7 percentage points more likely to attend any college than were students from generation 3+ without a mentor ($b = .077$, $SE = .039$, $p < .05$). We also observed significant positive interaction effects for first-generation immigrants who reported a school-based mentor as the most influential mentor (Model 2). In particular, first-generation immigrants with a school-based mentor were 22.7 percentage points more likely to have attended some college than were their peers from immigrant generation 3+ without a mentor ($b = .227$).

For the outcome "college graduate," we could not observe significant differences between participants from immigrant generations 1 through 2.5 and immigrant generation 3+ (Model 1). There was also no significant effect for any of the two mentor types. When including the interaction effects (Model 2), participants from immigrant generation 1 without a mentor were 9.2 percentage points less likely to graduate from college than were participants from generation 3+ without a mentor ($b = -.092$, $SE = .045$, $p < .05$). Conversely, participants from generation 1.5 without a mentor were 10.4 percentage points more likely to graduate from college than were participants from generation 3+ without a mentor ($b = .104$, $SE = .046$, $p < .05$). We also observed significant positive interaction effects for first-generation immigrants reporting a non-school-based mentor as the most influential mentor. First-generation immigrants with a non-school-based mentor were 3.6 percentage points more likely to graduate from college than were their peers from generation 3+ without a mentor ($b = .036$). Second-generation immigrants with a school-based mentor were 14.8 percentage points more likely to graduate from college than were their peers from generation 3+ without a mentor ($b = .148$).

In brief, the results confirm significant positive interaction effects of immigrant generations 1 and 2 and school-based and non-school-based mentors on educational attainment

TABLE 4

Relative Risk Ratio From School Fixed-Effect Multinominal Regression Models, With No Mentor as the Base Category

	Model 1		Model 2	
	Non-school-based mentor	School-based mentor	Non-school-based mentor	School-based mentor
Immigrant generation				
Generation 1	0.604* (.119)	1.023 (.266)	0.724 (.159)	1.151 (.318)
Generation 1.5	0.812 (.153)	1.155 (.313)	0.943 (.193)	1.173 (.340)
Generation 2	0.646** (.102)	0.686 (.135)	0.766 (.131)	0.742 (.172)
Generation 2.5	0.801 (.126)	0.852 (.177)	0.868 (.138)	0.886 (.182)
Generation 3+	reference			
Control Variables				
Male			0.874* (.054)	0.758** (.061)
Race-Ethnicity				
Hispanic/Latinx			0.869 (.113)	0.808 (.147)
Black/African American			1.078 (.096)	0.866 (.121)
Asian American/Pacific Islanders			0.622** (.109)	0.880 (.187)
American Indian and Other			0.801 (.157)	1.178 (.309)
Non-Hispanic White			reference	
Quality of family relationships			1.011 (.046)	0.873* (.055)
Parents' educational expectation			1.027 (.038)	1.007 (.060)
Parental education				
Less than high school			0.849 (.104)	0.781 (.147)
High school diploma			0.905 (.072)	0.940 (.103)
More than high school			0.968 (.077)	1.227 (.155)
College graduate and more			reference	
GPA			1.200*** (.055)	1.490*** (.100)
College beliefs			0.995 (.036)	1.127 (.074)
Constant	0.989 (.022)	0.330*** (.009)	0.576 (.161)	0.169*** (.075)
N	11,242		11,242	

Note. Relative Risk Ratio (linearized standard error). All regressions included school fixed effects (not reported) and were weighted with the Wave III's sampling weight, as recommended by Add Health statistical guidelines. Participants reported their relationships to their mentors only on the most influential mentor; they might have had several mentors who were school-based and non-school-based. GPA = grade point average.
*$p < .05$. **$p < .01$. ***$p < .001$.

compared to those of participants from generation 3+ without a mentor: School-based mentors increased the likelihood of going to college for first-generation immigrants and college graduation for second-generation immigrants. Conversely, non-school-based mentors increased the likelihood of graduating from college for first-generation immigrants.

Discussion

Recognizing the value of social capital for education, this study aimed to contribute to a more nuanced understanding of engagement with mentors and their associations with educational attainment for students from different immigrant generations. We analyzed representative Add Health data of 11,242 participants by using linear probability and multinominal regression models to investigate whether immigrant generation predicted engagement with a mentor, the type of mentor, and educational attainment, defined as college entry and graduation. Additionally, we examined the immigrant generation by mentor engagement interaction effect on educational attainment.

We found that second-generation immigrant adolescents were less likely than were adolescents from generation 3+ to have a mentor (RQ 1). However, these correlations became nonsignificant when controlling for other demographics, potentially indicating omitted variable bias. Additionally, our results suggest that participants from immigrant generations 1.5 and 2 were more likely to enter and/or graduate from college than were participants from generation 3+. Furthermore, we observed that mentors predicted entering college but not graduating.

Accounting for the type of mentor engagement (i.e., school-based versus non-school-based), we found that participants from generations 1 and 2 were less likely than were participants from generation 3+ to have a non-school-based mentor (RQ 2). However, immigrant generation was not associated with having a school-based mentor. Furthermore, school-based mentors predicted educational attainment more

TABLE 5

Linear Regression Coefficients for Any College and College Graduate at Wave IV, With Type of Mentor as the Independent Variable

	Any college		College graduate	
	Model 1	Model 2	Model 1	Model 2
Immigrant generation				
Generation 1	.007 (.043)	−.068 (.061)	−.024 (.038)	−.092* (.045)
Generation 1.5	.083* (.035)	.097 (.050)	.058 (.034)	.104* (.046)
Generation 2	.082** (.024)	.077* (.039)	.049 (.026)	.007 (.028)
Generation 2.5	.003 (.022)	.026 (.036)	−.010 (.023)	−.027 (.031)
Generation 3+	reference			
Mentor				
Non-school-based mentor	.023* (.011)	.021 (.012)	.016 (.011)	.010 (.011)
School-based mentor	.074*** (.018)	.069** (.021)	.028 (.017)	.012 (.018)
No mentor	reference			
Interaction effects				
Generation 1 # non-school-based mentor		.105 (.062)		.118* (.058)
Generation 1 # school-based mentor		.226** (.076)		.161 (.087)
Generation 1.5 # non-school-based mentor		−.006 (.068)		−.111 (.065)
Generation 1.5 # school-based mentor		−.056 (.099)		.009 (.110)
Generation 2 # non-school-based mentor		.011 (.052)		.061 (.050)
Generation 2 # school-based mentor		.007 (.051)		.129* (.054)
Generation 2.5 # non-school-based mentor		−.033 (.052)		.016 (.045)
Generation 2.5 # school-based mentor		−.052 (.069)		.062 (.070)
Control variables				
Male	−.046*** (.012)	−.047*** (.012)	−.024* (.011)	−.024* (.011)
Race-ethnicity				
Hispanic/Latinx	−.026 (.022)	−.026 (.022)	−.026 (.022)	−.026 (.022)
Black/African American	.014 (.019)	.013 (.019)	−.020 (.017)	−.021 (.017)
Asian American/Pacific Islanders	−.016 (.025)	−.024 (.025)	.050 (.033)	.046 (.033)
American Indian and Other	−.040 (.031)	−.040 (.031)	−.027 (.037)	−.027 (.037)
Non-Hispanic White	reference			
Quality of family relationships	-.022** (.007)	−.022** (.007)	.017 (.009)	.016 (.009)
Parents' educational expectation	.011 (.006)	.011 (.006)	.013* (.006)	.013* (.006)
Parental education				
Less than high school	−.225*** (.021)	−.225*** (.021)	−.200*** (.018)	−.199*** (.018)
High school diploma	−.160*** (.013)	−.159*** (.013)	−.197*** (.015)	−.197*** (.014)
More than high school	−.046** (.015)	−.046** (.015)	−.127*** (.017)	−.126*** (.017)
College graduate and more	reference			
GPA	.141*** (.010)	.141*** (.010)	.200*** (.008)	.200*** (.008)
College beliefs	.104*** (.007)	.104*** (.007)	.051*** (.005)	.051*** (.005)
Constant	−.273***	−.273***	−.697***	−.694***
N	11,242	11,242	11,242	11,242
R-squared	0.324	0.325	0.356	0.357

Note. All regressions included school fixed effects (not reported). Linearized standard errors are in parentheses. All estimates were calculated by using survey weights for Wave IV, as recommended by Add Health statistical guidelines. Participants reported their relationships to their mentors only on the most influential mentor; they might have had several mentors who were school-based and non-school-based. GPA = grade point average.
*$p < .05$. **$p < .01$. ***$p < .001$.

strongly than did non-school-based mentors. Again, correlations between school-based and non-school-based mentors and educational attainment were significant for first-generation immigrants, reinforcing the value of mentorship for this population and the utility of schools in providing time and space for mentorship.

This study's findings align with and add nuance to earlier research on immigrant-origin youth and social capital. For example, earlier research has shown that adolescents' demographics were associated with access to social capital

(e.g., Cherng, 2017; Perreira et al., 2006, Stanton-Salazar & Spina, 2003); this study has added immigrant generation as a characteristic likely associated with engagement with mentors, particularly non-school-based mentors. Given that immigrants more often experience financial constraints (Batalova et al., 2021), we hypothesized that the lower likelihood of having a non-school-based mentor for participants from generations 1 and 2 might be related to the availability of resources, opportunities, and mentors in communities (Stanton-Salazar & Spina, 2003). Furthermore, the estimates

align with results from previous studies showing that adolescents from generations 2 and 1.5 were more likely to attend college and graduate (e.g., Chiswick & DebBurman, 2004; Kao, 2004) and are consistent with the immigrant paradox literature. Previous research showing that relationships with mentors can positively affect education and employment (Ahrens et al., 2008; Klaw et al., 2003; Stanton-Salazar & Spina, 2003; Zimmerman et al., 2002) was confirmed by the small regression coefficients for mentors predicting entering college. However, the non-significant results for mentors predicting graduating from college also demonstrated mentors' limited influence related to educational attainment. Further, our study adds to this literature by highlighting differing correlation coefficients across immigrant generations, with them being the largest and a major contributor to educational attainment for first-generation immigrants. Taken together, these findings suggest that immigration origin may promote educational goals but require social capital; mentoring can offer that social capital for first-generation immigrant adolescents.

This study's results should be interpreted with some limitations in mind. First, our analyses are correlational and cannot be interpreted to indicate causality. Second, the survey asked participants about only one influential adult. It is possible that students received support and advice from additional adults who were not captured in the data. Consequently, it is possible that students had a school-based mentor, but the survey captured only the non-school-based mentor. Third, although our results present a nuanced picture of mentors' differing accessibility and correlations for students from different immigrant generations, the mechanisms for these results are not clear based on our analyses. Ream (2003) provided an explanation for differences in returns from social capital between Mexican-American and non-Hispanic White students: He posited that Mexican-American youth might possess counterfeit school-based social capital, a "patronizing form of social support directed less toward . . . academic achievement than toward . . . social expediency in the classroom" (p. 252). Also, Stanton-Salazar and Spina (2003) found that access to caring institutional agents and mentors for immigrant adolescents was scarce; only a few participants in their study could identify such a person. Conversely, a majority of participants in our study reported having a mentor. We cannot rule out that the Add Health survey measured not only the engagement with mentors providing the youth with *real* social capital but also counterfeit social capital. Thus, future research may shed light on the mechanisms that result in divergent effects of mentors across immigrant generations. For instance, in future analyses, including measures on the support received by the mentors (e.g., college-going advice, advice on financial issues) would allow us to better understand the relationship between mentoring and college, and the types of support and information that have value in educational institutions. Furthermore, in another analysis of

the data, the measurement of mentoring relationships might be expanded by including the frequency of phone calls/meetings, feelings of closeness, and the number of years the mentor has been critical in the respondent's life. Finally, future research should look at interactions between immigrant generation and race/ethnicity as well as socioeconomic status. Although race/ethnicity was not a significant contributor in most of our models, parental education (i.e., a measure for socioeconomic status) and GPA stood out as significant and strong predictors for educational attainment. More nuanced analyses would probably provide a deeper understanding of how experiences and outcomes among youth differ based on race and ethnicity as well as socioeconomic status. Small cell sizes precluded a more comprehensive intersectional analysis of these issues.

Despite these limitations, examining the associations between immigrant generation, mentors, their interaction effects, and educational attainment identifies differences across immigrant generations with implications for education policy and practice. Schools must prioritize supports and structures dedicated to relationship building and mentorship with youth, with consideration of their family context, including that related to immigrant origin. Providing resources to schools and raising awareness among educators for mentoring's potential impact on various outcomes may further increase the reach and depth of their provided social capital. Towards this end, educators should be trained to mentor youth and serve as role models, and be provided with education on the experience of immigrant youth to increase awareness and understanding.

Not only were school-based mentors associated with adolescents' educational attainment, but also the mentorship of their extended families and community members. Supporting neighborhoods and communities financially and with the know-how to establish structures and institutions for adolescents to connect with caring community members beyond their parents might increase the likelihood of adolescents to meet mentors and, in turn, access support to further their education. Knowing that school-based mentors are associated only with going to college but not graduating for first-generation immigrants makes this recommendation even more salient. Furthermore, policymakers and educators need to pay close attention to and communicate with various members of youth's social networks. Our estimates indicate that all contacts providing mentoring potentially increase the likelihood of youth going to and graduating from college. Also, previous research has shown that immigrant-origin adolescents use a wide array of social capital drawn from their extended families, friends, and institutional agents (Portes & Rumbaut, 2014; Wilkinson et al., 2017)—this diversity should be considered when supporting youth and writing policy. Focusing on only a narrow set of adolescents' social connections and/or dismissing others as not beneficial for youth's trajectories (i.e., holding deficit views) might

deprive youth of opportunities. Finally, our study indicates that first-generation immigrant adolescents benefit from mentoring relationships as it relates to college-going and graduating the most, suggesting mentoring is an essential means to support them in their educational trajectories. This finding is significant as first-generation immigrant adolescents, on average, are less likely to graduate from college (Portes & Rumbaut, 2014). Given that immigrant-origin youth are so essential to our society's and educational institutions' fabric, it is critical to identify effective ways to draw on their social capital to ensure academic success for all.

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Open Practices

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. The term *Limited English Proficient* refers to people who reported speaking English "well," "not well," or "not at all." "Only English" and speaking English "very well" are considered English Proficient (Batalova et al., 2021).

2. We recognize that social capital is not the only relevant form of capital. Additionally, cultural, aspirational, navigational, linguistic, familial, and resistant capital all can play a role in adolescents' and their communities' education, social and emotional well-being, and empowerment (Bourdieu, 1986; Yosso, 2005). It is noteworthy that the forms of capital held by communities of color are not always valued by privileged groups in society and/or carry "any capital in the school context" (Yosso, 2005, p. 76).

3. Although we included only the results from the linear probability models in the manuscript, we also ran the logistic regression analyses to estimate the probability of the dichotomous outcomes (see Appendix C). The logistic analyses indicated estimates very similar to those of the linear analyses.

4. Because Hispanic/Latinx youth were the majority of child immigrants, we estimated explorative models by using a sample with only Hispanic/Latinx youth. Further, we estimated explorative models by sex, given differences in educational attainment (Portes & Rumbaut, 2014). See Appendix D for these explorative estimates.

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