

**THE EFFECTS OF SCHOOL BELONGING AND PEER INFLUENCES ON
THE ACHIEVEMENT OF HIGH SCHOOL IMMIGRANT STUDENTS**

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ABSTRACT

This study examines the effect of race/ethnicity, immigrant status and the role of school belonging on the academic achievement of Mexican, Filipino, and white students. We focus on school belonging and peer influences in concert with immigrant generational status and family income to predict students' academic achievement at the end of 9th grade. Using data from the High School Longitudinal Study of 2009 (HSL:09), we examine the effects of school belonging as well as other student and school context factors for immigrant and non-immigrant students in secondary schools. Our findings show that school belonging is a statistically significant predictor of academic achievement, and this relationship differs for second-generation immigrant Filipino and Mexican-origin students. Our results indicate that establishing school environments that foster a strong sense of school belonging can help mitigate the academic disparities associated with students' ethnic background, immigrant generational status, and family socioeconomic status (SES) on their academic achievement.

Keywords: school belonging, high school immigrant education, ethnic disparities

Introduction

The diversity of the immigrant population in the U.S. has shifted significantly over the past half-century as a result of the passage of the Immigration Act of 1965, which eliminated quotas for immigrants arriving from foreign countries (Portes & Rumbaut, 2001). Immigrants who arrived in the U.S. post-1965, also regarded as the “new” wave of immigrants, were more likely to be from non-European descent and to be People of Color (Foner, 2005). A long-standing study affirmed that, “never before has the U.S. received immigrants from so many countries, from such different social and economic backgrounds” (Portes & Rumbaut, 1996, p. 7). Immigrants from both the “new” and “old” immigration waves have resulted in the settlement of immigrants in urban destinations and in port cities, and a disproportionate number are employed in low-wage, labor-intensive jobs (Portes & Rumbaut, 2001). The diversity of the new immigrants has raised important questions about this group's mobility and job prospects because of how race, ethnicity, social class, and English proficiency play an important role in their adaptation and incorporation into the U.S. mainstream. In particular, much attention has been paid to the educational and career opportunities of the U.S.-born children of immigrants, or the second-generation, because their social mobility will undoubtedly be influenced by their opportunities, access and success in school.

Research examining the relationship between immigrant generational status and academic achievement has identified an inter-generational effect. Such research has shown that second-generation immigrants (the U.S.-born children of foreign-born parents) often outperform their first- and third-generation immigrant counterparts on several measures associated with higher educational performance. For example, second-generation immigrants are reported to have both higher educational aspirations and achievement motivation than their first and third-generation co-ethnics (Portes & Rumbaut, 2001; Suárez-Orozco & Suárez-Orozco, 2001). Although aspirations and motivation are important individual student attributes, we expand on immigration-related student characteristics and analyze the role of school belonging, their experiences with teachers and peers, on their achievement outcomes.

This study examines patterns in school belonging of Filipino and Mexican immigrant students relative to white peers, while accounting for peer influences as well as other student and school context factors. We hypothesize that school belonging is a more important predictor of the academic achievement for immigrant Mexican and Filipino students relative to their non-immigrant co-ethnics as well as white students, as measured by their overall grade point average (GPA) at the end of 9th grade. Although little is known about the complex interplay of school belonging, and the experiences of immigrant students with teachers and peers on their early high school achievement, we are interested in how the effects of school belonging as characterized by features of inclusion, adult support, school safety, and engagement, along with student and school context factors for immigrant and non-immigrant students in secondary schools affect educational equity.

School belonging has long been identified as a central feature of the academic experiences of students in schools (Glasser, 1986). Several corroborating studies have demonstrated that favorable perceptions of belonging in schools were associated with increased academic motivation

and achievement (Anderman, 1999; Goodenow, 1993a; Goodenow & Grady, 1993; Roeser et al., 1996; Wentzel, 1993, 1997). School belonging has also been correlated with increased academic motivation and effort (Sánchez et al., 2005) and improved help-seeking behaviors and higher participation in the social life of school (Gibson et al., 2004). In a review of literature examining students' sense of belonging, Osterman (2000) found that students who experience inclusion and acceptance within schools are more engaged, motivated, and invested in their academic experiences.

Students' relationships with their peers and access to teachers with high expectations, have also been shown to mediate experiences of belonging in school (Goodenow, 1993a). The relationship between belonging and academic achievement has been well established in the extant literature. However, little is understood about the contextual features that mitigate the achievement of students in secondary schools. We argue that immigrant students who build quality social relationships with peers and teachers are better positioned to navigate the day-to-day challenges of schools. Specifically, we examine whether second-generation immigrants benefit more from the effect of belonging on academic achievement relative to their first- and third-generation counterparts. Endeavors aimed at redressing the enduring disparities in immigrant student achievement outcomes (Dabach et al., 2017; Mosqueda & Maldonado, 2013; Portes & Rumbaut, 2001) must address inequities in the institutional context. For instance, school environments that cultivate quality social relationships between peers and their teachers will more likely promote emotional support, guidance, role modeling, positive feedback, tangible assistance, access to information, and a sense of belonging for immigrant students (Gibson et al., 2004; Suárez-Orozco et al., 2008). This suggests that optimizing immigrant students' school belonging may be critical for promoting their success in U.S. schools.

To better understand the interrelationship between immigration status, school belonging, and academic achievement, this study will compare Filipino immigrant students' experiences and those of Mexican descent students, with their white counterparts. Using the High School Longitudinal Study of 2009 (HSLS:09), this analysis explores the effects of peers, teachers, and belonging on the academic achievement of low-income minoritized immigrant and non-immigrant students. We are guided by the following research question: Do immigrant and non-immigrant Mexican and Filipino students' perceptions of sense of belonging mediate their academic achievement outcomes as measured by their overall grade point average (GPA) relative to their white counterparts?

Mexican and Filipino Student School Experiences

Filipino and Mexican students are ideal comparison groups because of their historical and cultural similarities. Filipinos have been described as the "Latinos of Asia" (Ocampo, 2016). Moreover, like Mexico, the Philippines was under Spanish rule for more than 300 years. As a result, Filipinos and Mexicans often share similarities across cultural, historical, religious, and linguistic elements of their lives (Ocampo, 2016). Throughout the colonial period, Spanish was the official language of government, education, and trade. For this reason, some Spanish words

were integrated into Tagalog, the native language of the Philippines. Interestingly, indigenous Mexican words of Nahuatl origin have also made their way to the Philippines. However, U.S. colonization, which resulted in governance from 1898 to 1902, had a profound influence on language in the Philippines, leading schools to adopt English as the primary language of instruction.

Despite their historical and cultural parallels, immigrants from both nations are minoritized in the U.S. As such, their language background is an important difference between both groups. Speaking English is an important language skill that Filipinos often develop prior to leaving their home country. Thus, Filipino children tend to be better positioned to navigate English dominant schools in ways that their Mexican-origin counterparts are not. Filipinos are among the most English competent Asian immigrants. Ocampo (2016) has found that nine in ten Filipinos are reported to speak English proficiently and that second-generation Filipinos prefer speaking English instead of native dialects like Tagalog. English proficiency may buffer Filipino students from the adverse experiences often faced by immigrant children who are marginalized by language, and labeled English Learners (ELs), and are often overrepresented in under-resourced schools.

Filipino immigrant students may then experience patterns of adaptation and incorporation that are distinct from students who arrive in the U.S. from a non-English-speaking country (Espiritu & Wolf, 2001; Wolf, 1997). However, Filipinos share similar cultural and historical backgrounds with immigrants from Mexico. Mexican-origin immigrants, as a group, have been described as the “textbook example” of immigrants destined toward downward assimilation because of their: (a) disproportionate poverty, (b) sheer size, (c) historical depth, and (d) the racist stereotypes experienced by this group (Lopez & Stanton-Salazar, 2002). Lopez and Stanton-Salazar (2002) have argued that although Mexicans have historically, at times, been perceived as “white,” they have continuously faced racialization and discrimination in the U.S. In addition, the concentration of Mexican immigrant students in low-income, segregated schools and communities that are often described as “overlooked and underserved” has also contributed to their diminished academic achievement (Mosqueda & Téllez, 2016, Ruiz-de-Velasco, & Fix, 2000).

There are important differences across both groups in terms of parents’ education, socioeconomic status, and citizenship status. The parents and guardians of Filipino children, relative to Mexican children are more likely to be college educated, to become naturalized U.S. citizens, to have higher family income, and are less likely to be medically uninsured (McNamara & Batalova, 2015). The historical similarities as well as other pre- and post-migration differences that immigrant students from both nations bring with them are useful for understanding their immigrant experiences.

The purpose of this study is to examine the role of school belonging in addition to other important individual and school context factors during the first year of high school. We specifically study the role of belonging in improving academic achievement of immigrant and nonimmigrant students and complicate this relationship by examining the effects of generational status while accounting for the effect that peers and teachers may also have on their experiences in 9th grade.

Conceptual Framework

Expanding on research that has shown how students benefit from connections with teachers and peers to maximize their academic performance (Allen et al., 2016; Goodenow & Grady, 1993; Osterman, 2000), we analyze the relationship between school sense of belonging and the achievement of minoritized immigrant students. We define school belonging as “the extent to which [students] feel personally accepted, respected, included, and supported by others—especially teachers and other adults in the school and social environment” (Goodenow & Grady, 1993, p. 60-61). In this study, we examine the role of school belonging (Baumeister & Leary, 1995; Goodenow, 1993b) that encompasses features of inclusion, adult support, school safety, and engagement, and we account for peer influences (Gibson et al., 2004; Osterman, 2000), teachers’ expectations and sense of responsibility for students (Lee & Smith, 1996), and their interrelationship with the generational status of immigrant and non-immigrant Mexican-origin and Filipino students relative to white students, at the end of 9th grade.

Literature Review

Immigrant Generational Status and Achievement in School

Sociologists have identified a significant relationship between immigrant generational status and school success and failure (Kao & Tienda, 1995; Lopez & Stanton-Salazar, 2001; Portes & Rumbaut, 2001; Suárez-Orozco & Suárez-Orozco, 1995). This research has described distinct patterns among recent (post-1965) waves of immigrants, and has argued that post-1965 immigrants do not follow the traditional assimilation pathway of past immigrant groups. Instead, they are said to follow a paradoxical pattern because the second-generation has higher academic performance than first- and third-generation co-ethnics (Portes & Rumbaut, 2001). These outcomes have also been linked to higher levels of academic aspirations and optimism (Kao & Tienda, 1995) and to pro-academic achievement motivation (Suárez-Orozco & Suárez-Orozco, 2001). Kao and Tienda (1995) conclude, “the native-born children of immigrant parents are best suited to perform academically due to both their mother’s higher aspirations for their [student] and the [student’s] English skills” (p. 97). Although second-generation immigrants generally outperform their first- and third-generation co-ethnics, this study investigates whether the second-generation immigrant advantage is mediated by students’ perceptions of school belonging and school context factors.

Belonging in School

Sense of belonging has been long established in the scholarly literature and is often defined as a fundamental human need (Baumeister & Leary, 1995) that has been understood through a number of conceptual perspectives. For example, some researchers have understood belonging as an experience that is directly tied to the environment where individuals seek memberships (Hagerty et al., 1992). The school environment has been shown to influence students’ sense of belonging and their academic achievement (Loukas et al., 2010; Slaten et al., 2016).

Studies of belonging in schools have identified multiple dimensions of this construct. We turn to two seminal pieces of literature to define belonging. First, Hagerty et al. (1992) integrate

psychological and sociological perspectives and acknowledge the significance of the “internal affective or evaluative feeling or perception” in “relation to various external referents” (p. 174). Second, we follow Goodenow’s (1993b) definition of belonging which focuses on students’ feelings of acceptance, respect, inclusion, and support in schools.

This study examines the relationship between belonging and academic outcomes among immigrant students in schools. Belonging measures often capture the degree to which social relationships play a key role in students’ well-being (Korpershoek et al., 2020; Walton & Cohen, 2011). When students are not successful in forming positive connections, negative consequences associated with exclusion and rejection could result in diminished educational outcomes for students (Allen et al., 2016). Suárez-Orozco et al. (2008) emphasized the relational engagement that immigrant students develop with peers, teachers, and others in schools as central to developing feelings of school belonging and for students’ adaptation in school. Research has suggested that schools are places where the quality of relationships and social connections with peers and teachers have consequential effects on academic engagement and outcomes for immigrant and non-immigrant students (Furrer & Skinner, 2003; Goodenow, 1992; Oseguera et al., 2010; Sancho & Cline, 2012; Yeager & Walton, 2011). These findings suggest that the school context, where social relationships are developed, may help us better understand the effects of belonging for those who have trouble forming relationships.

Overall, research on belonging in schools has been described as “students’ sense of being accepted, valued, included and encouraged by others (teachers and peers) in the academic classroom setting and of feeling oneself to be an important part of the life and activity of the class” (Goodenow, 1993a, p. 25). School belonging can depend on the inclusive experiences that evoke feelings of respect and value by the teachers and peers with whom students come in contact (Goodenow, 1993a). Additionally, students may need to believe that they are accepted members of an academic community where their presence and contributions are recognized and valued (Good et al., 2012). Other research on school belonging has found correlations with students’ level of school engagement (Faircloth & Hamm, 2005; Libbey, 2004; Osterman, 2000). Lastly, studies have documented a relationship between environmental and school safety with school belonging (Allen et al., 2016).

Immigrant Students and Belonging in Schools

Researchers have dedicated considerable attention to investigating the effect of school belonging on minoritized students from economically disadvantaged communities (Becker & Luthar, 2002). This study examines immigrant students because they are disproportionately vulnerable to underachievement and school failure because of the variability in their patterns of adaptation and incorporation into not only the mainstream culture but the culture of U.S. schools (Gibson, 1998). This has profound consequences for immigrant students who may experience schooling distinct from their non-immigrant counterparts. The extent to which immigrant students feel accepted, respected, included, and supported by others in schools may inform their perceptions

of belonging. However, these experiences are most likely to be premised on their generational experiences.

Belonging has previously been identified as an influential factor in the resettlement of immigrant children (Cartmell & Bond, 2015; Ozer et al., 2008). Because patterns of adaptation and incorporation vary for immigrant students, research on school belonging and achievement should account for the relationships that students develop in schools. According to Cartmell and Bond (2015), immigrant students face unique challenges related to acculturation and integration with domestic students. Ethnic identification, perceptions, feelings, and expectations of daily experiences seem to be related to how immigrant children relate with the host society (Zhou, 2001).

Because typical American classrooms are characterized by practices reflecting the dominant culture, school belonging may be a critical point of intervention for promoting the academic achievement of immigrant students (Delpit, 1995; Ryan & Patrick, 2001). However, multiple studies have affirmed that there is a limited understanding of belonging among culturally and ethnically diverse students in schools (Anderman & Anderman, 1999; Connell & Wellborn, 1991). Thus, overlooking the cultural and ethnic diversity of students could result in a limited understanding of the experiences that undergird belonging in diverse schools (Faircloth & Hamm, 2005).

Researchers have argued that “there is a lack of clarity regarding what constitutes belonging and the role it plays in students’ motivation and achievement for diverse groups” (Faircloth & Hamm, 2005, p. 293). As a result, it is critical that researchers examine and account for differences among immigrant students. A study of Latino immigrant students and school belonging found that adolescents’ perceptions of parental academic importance was associated with students’ perception of connectedness, as well as academic aspirations and expectations, but these effects were more moderate for students with undocumented parents (Giano et al., 2018). This reaffirms the possibility that school belonging among immigrant students who are also culturally, ethnically and linguistically diverse may be challenging if they are unable to build relationships with peers and teachers that can help foster a sense of inclusion, acceptance, and support.

School and Classroom Context: Peer influences and Teachers’ Expectations

In addition, we also wanted to account for important school context factors that have been shown to influence students’ feelings of belonging (Gibson et al., 2004; Osterman, 2000). Peers can influence each other’s engagement and performance in positive ways in schools (Gándara et al., 2004). However, peer influences can also have a negative effect on student engagement (Allen et al., 2016; Mosqueda & Téllez, 2016). Peers play an integral role in the lives of students and can potentially mitigate students’ feelings of isolation in school (Gibson et al., 2004; Sancho & Cline, 2012). Peer effects have been linked to levels of comfort that students experience as well as their overall feeling of belonging in school (Gibson et al., 2004; Sancho & Cline, 2012). Faircloth and Hamm (2005) posited that school belonging may be derived via a network of positive friends through which students feel recognized.

Peers can also serve as important conduits of information (Gibson et al., 2004; Suárez-Orozco et al., 2008). This suggests that the affinity to others is important for the solidification of relationships. Faircloth and Hamm (2005) used the number of friendships as an indicator of school-based social integration and hypothesized that students with more friends would report a greater sense of belonging. They also argued that across ethnic groups, school friendships carry different levels of intimacy and support, and the contribution of friendship networks to school belonging may vary across groups.

The emphasis on peer relationships assumes that “if ethnic minority youth lack intimacy in school-based friendships, these relationships may not serve to psychologically bond teens to their schools” (Faircloth & Hamm, 2005, p. 305). Students’ ability to bond with peers can foster opportunities to gain access to resources and information that may contribute to an increase in school belonging and academic achievement. In situations where bonding with peers occurs, students themselves can provide a source of social capital for each other, which in turn may strengthen their experiences of belonging (Gibson et al., 2004). The effect of peers may bolster perceptions of belonging for both Filipino and Mexican immigrant students. Peer social capital is defined “as adolescents’ connections to peers and peer networks that can provide the resources and other nontangible forms of support, including pro-academic norms and identities that facilitate academic performance” (Gibson et al., 2004, pp. 130-131).

Stanton-Salazar (2001, 2004) has argued that minoritized youth often access social capital from their peer networks, but this is thought to be less effective than social capital derived from middle class networks. According to Suárez-Orozco (2001), immigrant students are more likely to have friends who think that academic achievement is important. The relationship between peer influences and belonging with achievement may also be complicated by gender such that immigrant girls have been found to be more likely to have friends with higher school orientation (Suárez-Orozco et al., 2008).

The effects of individual teacher expectations as well as teachers’ collective responsibility for the entire school and their relationship to the academic achievement of minoritized students have been established in the literature (Conchas, 2007; Conchas & Hinga, 2016; Ferguson 2003). In a longstanding research study, Ferguson (2003) argued that teachers’ “perceptions, expectations, and behaviors” are biased by racial stereotypes and found that they “... probably do help to sustain, and perhaps even to expand, the Black-White test score gap. The magnitude of the effect is uncertain, but it may be quite substantial if effects accumulate from kindergarten through high school” (p. 495). A meta-analysis of four studies found (in three of the four studies) teachers held higher expectations for white (European American) students relative to Latino and African American students (Tenenbaum & Ruck, 2007). These studies make it clear that the academic achievement of minoritized students is often diminished by low teacher expectations, and related research has found similar perspectives held by teachers toward Latino immigrant students. In a study of teachers’ expectations of their Latino immigrant students’ postsecondary futures, Dabach et al. (2017) found:

Three-quarters of the teachers who provided projections of their Latino immigrant's students' futures described college as unlikely, although most of the students were still in elementary or middle school at the time. Teachers projected a wide and sometimes overlapping range of non-college options, including business management, technical trades, retail sale, restaurant work, manual or unspecified labor, and childbearing and rearing. Some projected more negative outcomes such as unemployment, welfare, and gang involvement, although this was much less common. (p. 47)

This research illustrates the profoundly low expectations some teachers can hold for Latino immigrant students' post-secondary prospects, which are often projected onto students early in their academic trajectories. For some immigrant students, as this research reports, messaging of low expectations begins as early as elementary school.

Beyond individual teacher expectations, when teachers at a school collectively have both low expectations and a low sense of responsibility for student learning, such group perspectives also have a negative effect on academic achievement. A study examining teachers' expectations and collective responsibility for student learning at the school level found that students showed significant gains in achievement in four academic subjects over the first two years of high school in schools characterized by higher levels of collective responsibility and more uniformity among teachers in the same school that shared such attitudes (Lee & Smith, 1996). A study of elementary schools in Chicago by Lee and Loeb (2000) also found that "teachers' collective responsibility, as an organizational property of schools, has a positive influence on student learning" (p. 24). Taken together, these studies suggest that understanding the effect of individual teachers' expectations is necessary, but that studies must also account for the sense of collective responsibility for student learning within each school.

This review of the literature positions us to empirically investigate whether immigrant and non-immigrant Mexican and Filipino students' perceptions of school belonging, accounting for peer influences, teachers' expectations and collective responsibility for students, and their relationship with the immigrant generational status of immigrant and non-immigrant Mexican-origin and Filipino students has a notable effect on their academic performance at the end of 9th grade. Their experiences are compared to their white counterparts who by and large are least likely to encounter acculturative difficulties to U.S. schools. Taken together, the scholarly literature has not fully established how school belonging, along with other school connectedness factors, can impact the educational outcomes of the most vulnerable immigrant and non-immigrant students--Filipino and Mexican students. This work offers insight into the complex interrelationship between these factors.

Method

The data for this study were drawn from the first wave of the restricted sample for High School Longitudinal Study of 2009 (HSLs:09), a large nationally representative data set provided by the National Center for Education Statistics (NCES). The restricted sample allowed us to

disaggregate the data among ethnic and racial subgroups (i.e., Mexican and Filipino). The HSLs dataset provides policy-relevant trend data about critical transitions experienced by a national sample of students as they proceed through high school and into college or their careers. The data set includes a sample of high school students who were in the ninth grade in 2009, as well as survey data from teachers, counselors, parents, and administrators. The original HSLs sample includes data for 25,206 students who were sampled from 944 schools.

This analysis examined a subsample of 16,368 students in the HSLs:09 data set. Our analytic sample is comprised of 1,849 students who are Mexican-origin, 142 Filipinos, and 14,377 whites. This data set is ideal for investigating the effect of individual student characteristics and school context measures on 9th grade achievement as measured by overall grade point average (GPA). The NCES used a complex sampling design to increase the efficiency in selecting specific subsamples from a population. In the base-year of the survey, students were sampled through a two-stage process. First, a stratified random sample of all eligible schools were identified, and in the second stage, students were randomly sampled from school ninth-grade enrollment lists (Ingels et al., 2011). The NCES uses sample weights to indicate the relative contribution of each observation in order to produce adequate population-level estimates (Mosqueda & Maldonado, 2020). Thus, if a student is assigned a weight of 1,050 in a dataset, this means that this specific participant represents 1,050 students in the sampling population who have similar characteristics, such as racial-ethnic background and grade level.

We used STATA to fit linear regression models and additionally utilized the cluster-robust command to make the required standard errors adjustments that result from students being clustered within schools in the dataset. We used sample weights to account for the sample selection processes. The design of our study is correlational, so our findings do not support causal inferences regarding the impact of high school students' school belonging on high school GPA at the end of 9th grade.

Variables

The variables included in this analysis are supported by the literature guiding this study. The outcome variable represents the overall grade point average (GPA) at the end of 9th grade. In addition, the HSLs:09 provides a reliable composite for each student's perceived sense of school belonging that will be used as the main question predictor in this study. For transparency, all of the variables and any scaling or transformations are presented by variable type along with descriptive statistics and coding for the analytic sample in Table 1.

Table 1

Descriptive Statistics of the Variables in the Analytic Sample

Variable	Description	<i>n</i>	Mean	<i>SD</i>	Min.	Max.
Control variables						
SES	Composite variable used to measure a construct for socioeconomic status	14,136	0.08	0.77	-1.93	2.88

FEMALE	Students who are female	14,377	0.48	0.49	0	1
Generational status						
GEN1	First generation	10,725	0.03	0.19	0	1
GEN2	Second generation	10,725	0.11	0.32	0	1
GEN3	Third generation	10,725	0.84	0.36	0	1
Race/ethnicity						
MEXICAN	Student is Mexican	1,849	0.13	0.34	0	1
FILIPINO	Student is Filipino	142	0.01	0.12	0	1
WHITE	Student is White	14,377	0.85	0.35	0	1
Peer variables						
PEEREFF	Closest friends gets good grades	13,643	0.87	0.33	0	1
HRFRIENDS	Hours spent socializing with friends	13,471	3.14	1.71	1	6
Teacher commitment composite						
TEACHERCOM	Teacher commitment composite	9,749	7.7	1.09	2.43	9.7
Measure of student achievement						
SCHOOLBEL		13,452	0.64	0.785	-4.35	1.59
GPA	GPA at ninth grade	14,377	2.72	0.92	0.25	4

Outcome Variables. The primary outcome variable for this study was GPA at the end of ninth grade (GPA9TH). The GPA variable is a composite measure based on a traditional 4-point scale.

Question Predictors. Our primary predictor, school belonging, is based on a composite variable (SCHOOLBEL) in HSLs:09 and is a scaled-measure of students' perception of belonging in school, where low values represent a lower sense of school belonging and higher values represent a greater sense of belonging. The school belonging variable was created by the NCES using principal components analysis and was standardized to a mean of 0 and a standard deviation of 1. The school belonging scale was comprised of the following five HSLs:09 variables and student survey questions:

- SAFE: Do you feel safe at school?
- PROUD: Do you feel proud of being part of this school?
- TALKPROB: Are there always teachers or other adults in your school that you can talk to if you have a problem?
- SCHWASTE: Is school often a waste of time?
- GOODGRADES: Is getting good grades in school important for you?

A seminal study of school belonging defined this construct as having the following four components: feeling personally accepted, respected, included, and supported by teachers and other adults (Goodenow & Grady, 1993). In this study, school belonging is operationalized in the HSLS:09 student survey as a construct comprised of similar dimensions such as inclusion and adult support (Goodenow & Grady, 1993), but it also integrates other elements such as school engagement (Libbey, 2004; Osterman, 2000) and school safety (Allen et al., 2016). Only students who provided a full set of responses for the variable SCHOOLBEL were assigned a scale value. The coefficient of reliability (alpha) for the school belonging scale is 0.65.

We also account for additional variables identified in the aforementioned research literature. A secondary predictor captured peer influences (academically oriented friends and hours spent socializing with friends). The three peer influence variables that were used in this study included friends' class attendance (FRNDCLASS), whether friends received good grades (FRNDGRADES), and hours spent socializing with friends (HRFRIENDS). In HSLS:09, the academically oriented peer influences variable representing friends' class attendance (FRNDCLASS) was a response to a survey question asking students whether they believed that their closest friends attended classes regularly. The variable representing whether students' friends received good grades (FRNDGRADES) was a response to a survey question that asked whether students believed that their closest friend received good grades. The two variables FRNDCLASS and FRNDGRADES were found to be highly correlated with one another, so a composite variable for academically oriented peer influences (PEER_EFF) was created that integrated both responses into a single variable. The final peer influences variable included in this analysis was hours spent socializing with friends (HRFRIENDS) and was drawn from a survey question that asked students the number of hours they spent socializing with their friends during a typical weekday. The responses to the variable HRFRIENDS were coded in the following hourly increments: 1 = "less than 1 hour," 2 = "1-2 hours," 3 = "2-3 hours," 4 = "3-4 hours," 5 = "4-5 hours," and 6 = "5 or more hours."

The teacher expectations and collective responsibility variable is a composite derived from six variables in the HSLS:09 mathematics teacher survey and included: teacher sets high standards (TEACHING), teachers maintain discipline (TSCHDISC), teachers take responsibility for improving the school (TIMPROVE), teachers felt responsible for developing student self-control (MITSETSTDS), teachers set high standards for themselves (TSELFDEV), and whether teachers felt responsible that all students learn (TALLLEARN). In the HSLS:09, the variable TEACHING assessed whether math teachers at the school set high standards for teaching, the variable TSCHDISC assessed whether teachers at the school help maintain discipline in the entire school, and TIMPROVE assessed whether teachers at the school take responsibility for improving the school; the variable TSETSTDS assessed whether teachers at the school set high standards for themselves, TSELFDEV assessed whether teachers at the school felt responsible for developing student self-control, and TALLLEARN assessed whether teachers at the school felt responsible that all students learn. Each of the teacher expectations items were measured on a 4-point scale

ranging from 1 = “strongly agree,” 2 = “agree,” 3 = “disagree,” and 4 = “strongly disagree.” To simplify the interpretation of these variables in the analysis, all responses were reverse coded so that higher scores on the reverse-coded scale represented higher agreement (“strongly agree”) and lower scores represented lower agreement (“strongly disagree”). Principal components analysis using STATA was used to compute eigenvalues and eigenvectors. The eigenvalues were then used to generate a composite variable named TEACHEREXP that captured teachers’ commitment and expectations.

Student Characteristics. This study includes variables that account for race/ethnicity, socioeconomic status (SES), gender, and students’ immigrant generational status. Students’ race/ethnicity was captured using the RACE variable in the dataset. We included students that self-identified as white, and we also used the two variables, HISPTYPE and ASIANTYPE, to code the subpopulation of students who self-identified as MEXICAN and FILIPINO in the sample. The variable SES is a composite variable that includes parent/guardian’s education, occupation, and family income. The gender variable was coded from each student’s gender. For ease of interpretation, we created a new variable labeled FEMALE, which is the binary indicator of all students who identified as female and male.

In addition, three variables were used to code students’ immigrant generational status: P1USBORN9 (Country in which the student was born), P1USBORN1 (Country in which Parent 1 was born) and P1USBORN2 (Country in which Parent 2 was born). Using P1USBORN9, P1USBORN1, and P1USBORN2 data, three dichotomous variables were created: GEN1, GEN2 and GEN3. GEN1 indicates students that were born in another country and had at least one parent also born in another country. GEN2 indicates students were born in the U.S. and had at least one foreign-born parent. GEN3 students were born in the U.S. and at least one parent indicated they were also born in the U.S.. Descriptive statistics for the variables in the study are shown in Table 1, and coding for the variables is outlined in Table 1.

Results

In response to the research question: Do immigrant and non-immigrant Mexican and Filipino students’ perceptions of school belonging mediate their academic achievement outcomes as measured by their overall grade point average (GPA) relative to their white counterparts? Two fitted multiple linear regression models were used to predict ninth-grade GPA based on students’ perceptions of school belonging, controlling for peer influences, teacher expectations and collective responsibility, and other student characteristics such as race/ethnicity, family SES, gender and immigrant generational status.

Model 1, in Table 2 presents a main effects model that includes all of the question and control predictors. The results outlined in Model 1 show that students’ characteristics were statistically significant predictors of achievement. Predictors included race/ethnicity, SES, and gender. In addition, belonging and peer influences (i.e., having academically oriented peers and hours spent socializing with peers) were also statistically significant predictors of ninth-grade

GPA. However, immigrant generational status and teacher expectations and collective responsibility for students were not statistically significant predictors of ninth-grade achievement. The variables representing SES and gender were significant predictors of ninth-grade GPA such that an additional unit difference in SES was associated with a .323-unit positive difference in ninth-grade GPA, ($\beta = 0.323$, $p < .001$), and females (relative to males) scored higher, a higher difference of 0.28 points in ninth-grade GPA ($\beta = 0.282$, $p < .001$), on average. Lastly, self-identifying as Mexican had an inverse but statistically significant relationship with ninth grade GPA such that Mexican students, on average, scored .228 points lower on ninth-grade GPA ($\beta = -.228$, $p < .001$) relative to white students.

Table 2

Ninth-Grade Grade Point Average and School Sense of Belonging

	Coefficient (SE)	
	Model 1	Model 2
Fixed effects		
Intercept	2.59***	2.59***
	-0.096	-0.096
Individual student measures		
SES	.323***	.324***
	-0.013	-0.013
Female ^a	.281***	.282***
	-0.018	-0.018
Peer and teacher variables		
Positive peers influences	.201***	.201***
	-0.027	-0.027
Hours socializing with peers	-.075***	-.075***
	-0.006	-0.006
Teacher responsibility	-.003	-.003
	-0.01	-0.01
Race/ethnicity ^b		
Mexican	-.228***	-.231***
	-0.039	-0.052
Filipino	0.05	-.476
	-0.073	-0.067
Generational status ^c		

First generation	0.061	0.067
	-0.065	-0.093
Second generation	0.012	-.005
	-0.037	-0.044
School sense of belonging	.158***	.158***
	-0.01	-0.01
Interaction effects		
Mexican × First generation		0.031
		-0.138
Mexican × Second generation		0.011
		-0.081
Filipino × First generation		0.391
		-0.314
Filipino × Second generation		.669*
		-0.279

Note. Regression weighted by W1STUDENT clustered by school ID.

Regression model fitting control predictor on outcome in relation to the research.

SES = socioeconomic status.

^aMale is omitted. ^bWhite is omitted. ^cThird generation is omitted.

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

In response to the students' perceptions of school belonging as a mediating factor on their academic achievement outcomes as measured by their overall grade point average (GPA), the results showed that school belonging was a statistically significant predictor of GPA. The analysis revealed that an additional unit difference in students' perceptions of school belonging was associated with a 0.158 positive difference in ninth-grade GPA, ($\beta = 0.158$, $p < .001$). This suggests that a student with a low degree of school belonging (SCHOOLBEL = 1) would improve their GPA by 0.16 points, while a student with a high degree of sense of belonging (SCHOOLBEL = 4) would improve their 9th-grade GPA by 0.63 points, on average. In addition, the peer influences measures revealed that the effect of socializing with academically oriented peers had a positive effect and was associated with a .201 difference in ninth-grade GPA, ($\beta = 0.201$, $p < .001$), on average. However, the number of hours spent socializing with friends had a negative and statistically significant effect such that every additional unit of time¹ spent socializing with peers was associated with a - 0.075 difference in ninth-grade GPA ($\beta = -0.075$, $p < .001$). The results

also showed that teacher expectations and collective responsibility measures were not statistically significant predictors of academic achievement.

Model 2 in Table 2, includes all of the measures from Model 1 and also incorporates the interaction effects between race/ethnicity and immigrant generational status. In Model 2, we found, consistent with Model 1, SES, gender, and ethnic background were statistically significant predictors of GPA. The results show that a one-unit difference in SES was associated with a .324 positive difference in ninth-grade GPA ($\beta = 0.324$, $p < .001$), and girls (compared to boys) scored 0.282 points higher in ninth-grade GPA ($\beta = 0.282$, $p < .001$). Mexican-origin students had a lower average GPA relative to white students such that Mexican students' GPAs were .231 points lower on their ninth-grade GPA ($\beta = -0.231$, $p < .001$). Similar to Model 1, teacher expectations and collective responsibility and generational status were not statistically significant predictors of achievement.

The results in Model 2 revealed that an additional unit difference in a student's school belonging was associated with a 0.158 positive difference in ninth-grade GPA ($\beta = 0.158$, $p < .001$). A student with a low degree of sense of belonging (SCHOOLBEL = 1) would slightly improve their GPA by 0.16 points, while a student with a high sense of belonging (SCHOOLBEL = 4) would improve their 9th-grade GPA by about 0.63 points, on average. The peer influences measures revealed that the effect of socializing with academically oriented peers was positively associated with a .201 difference in ninth-grade GPA ($\beta = 0.201$, $p < .001$). However, the number of hours spent socializing with friends had a negative and statistically significant effect and every additional unit of time spent socializing with peers was associated with a - 0.075 difference in ninth-grade GPA ($\beta = -0.075$, $p < .001$). The results also showed that teacher expectations and collective responsibility measures were not statistically significant.

In Model 2, the interaction effects between ethnicity and generational status allowed us to examine whether these effects differed between Mexicans and Filipinos relative to white students. We found statistically significant interaction effects for Filipino students but not for Mexican-origin students. The statistically significant interaction effect for second generation Filipino students suggests that they academically outperform their first and third-generation co-ethnic peers by .669 GPA-points ($\beta = 0.669$, $p < .001$), on average. All other interaction effects we tested were not statistically significant.

Discussion

The immigrant and non-immigrant Mexican-origin and Filipino students in this study provided ideal comparison groups because their past experiences and similarities in their mode of incorporation into the United States mainstream culture overlap in multiple ways. As a result of these similarities, both groups provided an opportunity to test whether the second-generation immigrant student advantage documented in the aforementioned literature (Kao & Tienda, 1995; Portes & Rumbaut, 2001) is influenced and perhaps amplified by students' degree of perceived school belonging. In this study, students' school belonging was a strong and statistically significant indicator of academic achievement (as measured by GPA) at the end of 9th grade. We found that

students benefited more from higher levels of perceived belonging relative to those with lower sense of school belonging. Specifically, we found that students with a lower level of school belonging only scored 0.15 GPA-points higher, while students with a higher sense of belonging scored 0.632 GPA points higher, on average. Although Mexican-origin students, on average, scored -0.228 lower GPA points than white students, having a high sense of belonging helped students overcome the disparities in achievement associated with Mexican-origin students' overall 9th grade GPA.

The relationship between school belonging and ninth-grade GPA is consistent with prior research arguing that having a strong sense of school belonging is predictive of higher academic achievement at various grade levels and among diverse students (Anderman, 2002; Buote, 2001; Sari, 2012; Taylor, 1999; Walton & Cohen, 2011). These findings suggest that in order to maximize the effect of belonging, school leaders and teachers must work to foster school environments that help build an inclusive community where students are able to develop quality relationships with adults and peers. This is consistent with other studies of immigrants that have highlighted the critical need for building community within schools, particularly for marginalized students who “do better academically in school settings where they are respected and accepted as equal members of the larger school community” (Gibson et al., 2004, p. 145).

Peer influences were also related to academic achievement in complex ways. The effect of having academically oriented peers was associated with a 0.201 positive difference in ninth-grade GPA. This finding suggests that students benefit from peers who are engaged in school. However, the findings also showed that the number of hours spent socializing with friends had a smaller yet negative and statistically significant effect on achievement. Every hourly increment of time spent socializing with peers (i.e., less than 1 hour, 1-2 hours, 2-3 hours, 3-4 hours, 4-5 hours and 5 or more hours) was each associated with a 0.075 negative difference in ninth-grade GPA. This finding suggests that schools should maximize activities with academically oriented peers while minimizing non-academically focused peer-to-peer social activities.

Our study also revealed that academic achievement of immigrant students differed for second-generation immigrant Filipino and Mexican students in relation to white students. Our results showed a statistically significant second-generation academic advantage for Filipino students, but there were no intergenerational differences for Mexican-origin students. These results are not surprising given prior research showing that Mexican-origin students, regardless of their immigrant generational status, persistently and disproportionately underperform in school relative to their white peers (Lopez & Stanton-Salazar, 2001; Mosqueda & Maldonado, 2013). To this point, Gibson (1998) has stated, “we cannot assume a linear relation between generation in the United States, years of school attendance, and economic and social mobility—with second-generation immigrants doing better than the first and the third surpassing the second” (p. 627). While our findings suggest that generational status is an important predictor of academic achievement for Filipino students, our results show that while the second-generation effect did not result in improved achievement for Mexican-origin students, the impact of belonging remained a significant predictor.

Conclusion

The findings in this study showed that immigrant high school Filipino and Mexican-origin students' perception of school belonging and peer influences play a strong role in shaping their academic achievement at the start of high school. The results also reveal that school belonging was a strong predictor of ninth grade GPA and that the effects of having a high sense of belonging were large enough to mitigate the negative effect associated with disparities in the achievement outcomes of Mexican-origin students. These findings contribute empirical evidence to the achievement-belonging relationship literature on immigrant students who have persistently under performed in U.S. schools.

While *Plyler v. Doe* protects immigrant students' access to a free K-12 public education, it does not guarantee equitable access to the resources needed to thrive in U.S. schools (Gonzales, 2011). This study captures how belonging influences the achievement of immigrant students as they navigate the social and academic dimensions of schools. While Mexican-origin immigrants face challenging prospects--their overwhelming poverty and their segregation in low-income communities (Lopez & Stanton-Salazar, 2001; Portes & Rumbaut, 2001)--the findings from this study suggest that supporting immigrant students in schools may require more than promoting inclusive school cultures. In addition to fostering a higher sense of school belonging, administrators and teachers must work to provide equitable access to social supports, learning opportunities, and teachers who can help students develop English proficiency (Gibson et al., 2004).

These findings have important implications for research, policy, and practice. First, it is important that teachers avoid viewing immigrant students from deficit perspectives and instead capitalize on opportunities to promote a sense of belonging in school to improve school engagement. Given that teachers spend the largest amount of time with students, they are better positioned to improve student engagement, support students' needs, and help them navigate the schooling system. A critical step toward sustaining supportive and engaging school environments would be to provide teachers with ongoing professional development and the resources necessary to foster their students' sense of school belonging.

Future research should investigate how the English proficiency of immigrant students can facilitate access to a more welcoming experience in school as well as access to networks of peer support. Gibson and Hidalgo (2009) remind us that for immigrant youth:

what stands out as most important is having an individual who can develop a caring relationship with the students, who understands where the students are coming from and the challenges they face, who speaks the home language of the students...and who can either directly provide, or connect students with, the resources they need. (p. 703)

In this study, investing time and resources in activities that foster feelings of school belonging for immigrant and non-immigrant students at the start of their high school experience is critical. In particular, establishing a school culture that emphasizes a sense of inclusion, teacher and administrator support, increases academic engagement, and helps students feel safe, will

undoubtedly provide a strong academic foundation to build on throughout the remainder of their experience in high school.

NOTES

¹ Recall that the number of hours socializing with friends (HRFRIENDS) was coded in the following hourly increments: 1 = "less than 1 hour," 2= "1-2 hours," 3= "2-3 hours," 4 = "3-4 hours," 5 = "4-5 hours," and 6 = "5 or more hours."

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